Essential Components Catalog

Allen-Bradley

Get the right components, at the right price, right when you need them.





Power



Logic



Operator Interface



Connectivity



Safety



Sensors

LISTEN. THINK. SOLVE.®

Allen-Bradley • Rockwell Software

Rockwell Automation

Why Choose Rockwell Automation?

Get the right components, at the right price, right when you need them.



Rockwell Automation offers quality Allen-Bradley® industrial components with 110 years of time-tested quality and durability. This catalog is your initial guide to selecting the best components to meet your specific application requirements. Throughout the book we have included resources to help you learn more and contact our local experts.

With Allen-Bradley components, you will find the highest quality at a fair price, an intuitive product selection, quick turnaround time and fast delivery. Additionally, you will get components that perform to your specifications, with the services and support you demand.

Looking for More?

This catalog highlights only our most essential components. For a complete product selection, visit our online product directory at http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Choose Innovation and Excellence

Rely on Award-Winning Products

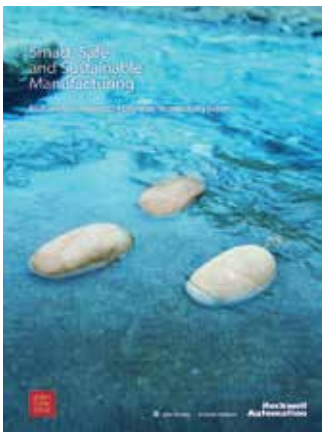
Order and install with confidence. Don't just take our word for it. Year after year, Allen-Bradley industrial component products are ranked best in category by your peers.
Our 23 first-place categories include:

- Controller, Motion
- Controller, PAC
- Controller, PLC
- Industrial Electric Motor Drive
- Industrial Network Components, Wired
- Industrial-Grade Computer
- Machine Safety Components
- Input/Output Systems
- Input/Output, Machine-Mount
- Motor Starter
- Operator Interface
- Motor, Servo
- Presence Sensing
- Programmable Safety Controller
- Software, Integrated Development Platform
- Relay
- Software, HMI
- Safety Network Components
- Software, Motion Control
- Safety Relay
- Software, PC-Based Machine Control
- Software, PLC Programming
- Stack Light Tower

World's Most Ethical Companies List

For the sixth time, the Ethisphere Institute has named Rockwell Automation as one of the "World's Most Ethical (WME) Companies," a recognition that honors organizations that continue to raise the bar on ethical leadership and corporate behavior.

The Ethisphere Institute is an independent center of research promoting best practices in corporate ethics and governance. World's Most Ethical Company honorees understand the correlation between ethics, reputation and daily interactions.



Taking a Global Approach to Meet Your Needs

In keeping with our mission of environmental stewardship, Rockwell Automation complies fully with regional, national and local regulations restricting the use of certain hazardous substances in electrical and electronic equipment. And to support your compliance programs, we strive to provide easy access to the documentation you and your customers require.





Services and Support

At Rockwell Automation we help our customers to minimize risks and maximize productivity in a sustainable environment around the globe.

Services Expertise

- Responsive, knowledgeable network of local professionals, available globally in more than 80 countries
- Local field service professionals to make installation and integration easier
- Post-sale support to keep operation and maintenance optimal

Technical Support Center

As your manufacturing lifecycle changes, so does your need for technical support. Rockwell Automation gives you the flexibility to choose the level of electronic and phone support you need, when you need it – helping you become more productive.

Support Services

We provide the right mix of services to help increase productivity, optimize plant assets and improve financial performance across your enterprise.

- Maintenance and Repair
- On-site Services
- Migration Solutions
- Online and Phone Support

Sales Offices and Distributors

We offer you exceptional knowledge and service to help you design, implement and support your automation investment.

To find an office near you, please visit: www.rockwellautomation.com/sales-partners/overview.page



Support

Visit the Rockwell Automation support website for more information on all our offerings. http://www.rockwellautomation.com/global/support/overview.page

Online Resources

Rockwell Automation offers a wide range of online tools to assist you in selecting and configuring your application.



Broad Selection of Quality Products

- Optimize machine performance with the right product
- Compliant with international standards
- Quality components designed for your critical applications

Select, Design and Configure

Browse our diverse collection of tools designed to help you choose the right products, and plan and configure a system to support your business needs.

- Accelerator Toolkits
- Product Drawings
- Product Selection
- System Configuration
- Product Certifications

Flexible, Hassle-Free Ordering

Product Selection Toolbox™ allows you to select and configure the products you need with confidence.

Save Time and Reduce Costs

- Increase quality, productivity and flexibility, while reducing costs
- Competitive prices and local service and support keep your project within budget and on schedule
- Extensive selection for single-source convenience and supply chain efficiencies

Drivers, Software and Downloads

Get access to all the latest resources to support your application.

- Drivers
- Firmware Updates
- Network Resources
- Software Downloads
- Software Activations and Transfers

Product Catalog iPad App

Available on the App Store

The Rockwell Automation Product Catalog iPad app allows you the convenience to browse or search our comprehensive product offering from your iPad.

For more details and to download the free app, visit the iTunes app store.

Looking for More?

This catalog highlights only our most essential components. For a complete product selection, visit our online product directory at http://ab.rockwellautomation.com/allenbradley/productdirectory.page

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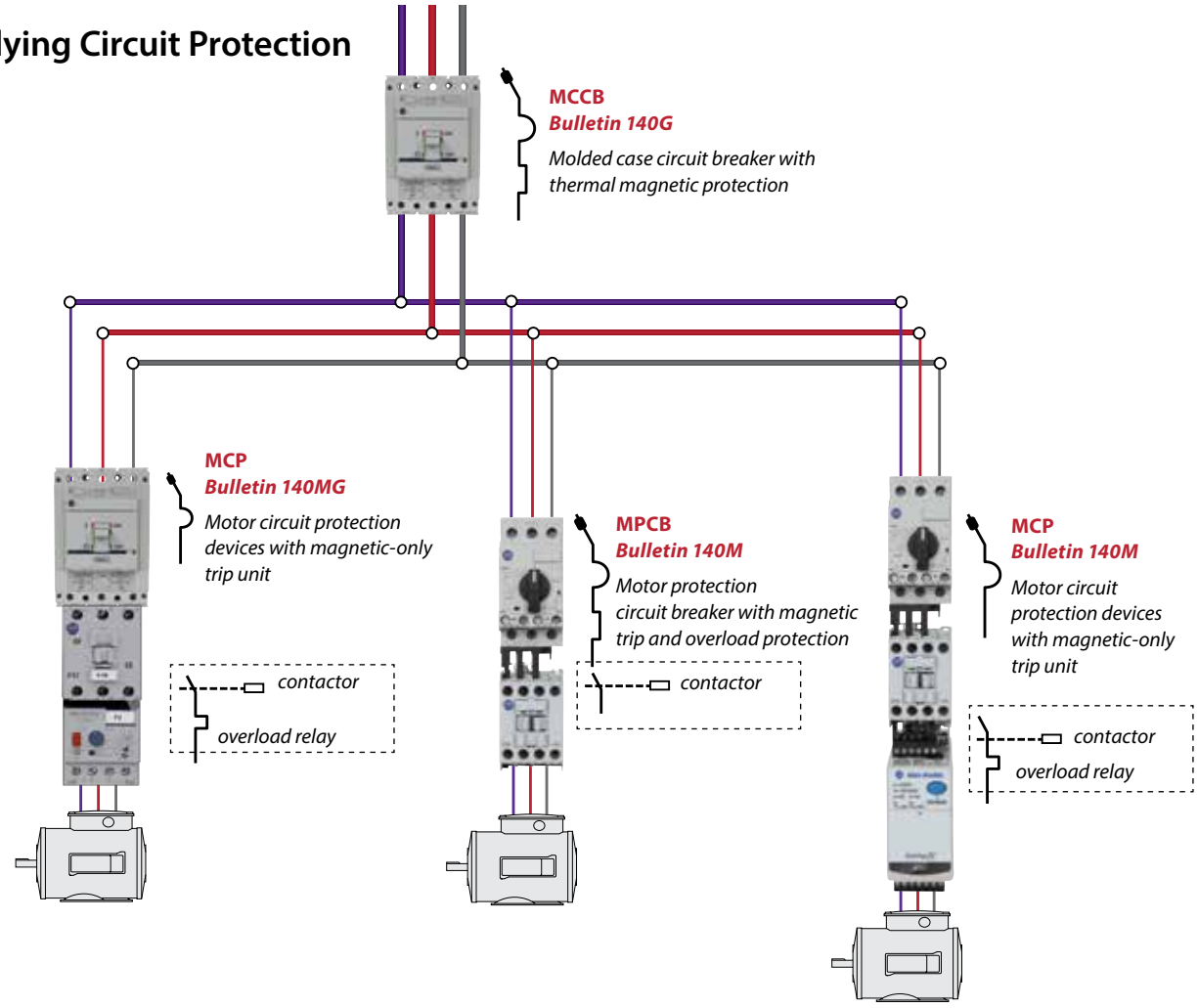
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Circuit Breakers

Applying Circuit Protection



Molded Case Circuit Breakers (MCCB) are designed to protect an electrical circuit from damage caused by overload or short circuit. Their basic function is to detect a fault condition and interrupt current flow. An MCCB can be reset (either manually or automatically) to resume normal operation.

Motor Circuit Protectors (MCP) are designed to provide short circuit (magnetic) protection and disconnect for a motor circuit. They are designed to be used with a contactor (to start/stop the motor) and an overload relay (to protect against overcurrent).

Motor Protection Circuit Breakers (MPCB) are designed to provide short circuit (magnetic) protection, a disconnect for motor circuit, and overload protection for the motor, all in one device.

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Motor Circuit Protector (MCP)
Motor Protection Circuit Breakers (MPCB)
140M

- Available with and without motor overload protection
- UL Listed for motor loads
- 0.1…90 A (motor overload protection included)
- 0.16…45 A (motor overload protection provided separately)
- Visible trip indication
- High current limiting

* Product Selection starts on page 1-4.





Motor Circuit Protector (MCP)
Motor Protection Circuit Breakers (MPCB)
140MG

- Available with and without motor overload protection
- UL Listed for motor loads
- High current limiting and high switching capacity
- 10…150 A (motor overload protection included)
- 3…1200 A (motor overload protection provided separately)

* Product Selection starts on page 1-6.

Molded Case Circuit Breakers (MCCB)
140G

- Thermal-magnetic protection
- Eight frame sizes with a range of 15…3000 A
- Interrupting capacities from 25…150 kA support many applications
- Electronic trip unit available from 25…3000 A
- Wide range of operating mechanisms to fit with a variety of panel configurations
- 3- and 4-pole configurations

* Product Selection starts on page 1-8.



Drives



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For more information on our complete family of circuit protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Circuit Breakers



Product Selection

140M Motor Circuit Protectors

Rated Operational Current (I_e) [A]	Magnetic Trip Current [A]	Ultimate Interrupting Current [kA]		Max. 3-phase Hp Ratings *				Max. kW, 3-Phase – AC-3 *				Cat. No.
		400V (I_{cu})	480V (group motor)	200V	230V	460V	575V	230V	400/415V	500V	690V	
C-Frame												
0.16	2.1	100	65	–	–	–	–	–	0.02	0.06	0.06	140M-C2N-A16
0.25	3.3	100	65	–	–	–	–	–	0.04	0.09	0.09	140M-C2N-A25
0.4	5.2	100	65	–	–	–	0.25	0.06	0.09	0.12	0.18	140M-C2N-A40
0.63	8.2	100	65	–	–	0.25	0.33	0.09	0.18	0.18	0.25	140M-C2N-A63
1	13	100	65	–	–	0.5	0.75	0.18	0.25	0.37	0.55	140M-C2N-B10
1.6	21	100	65	0.25	0.33	1	1	0.25	0.55	0.75	1.1	140M-C2N-B16
2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-C2N-B25
D-Frame												
2.5	33	100	65	0.5	0.75	1.5	2	0.37	0.75	1.1	1.8	140M-D8N-B25
4	52	100	65	1	1	3	3	0.75	1.5	2.2	3	140M-D8N-B40
6.3	82	100	65	1.5	2	5	5	1.5	2.2	3	4	140M-D8N-B63
10	130	100	65	3	3	7.5	10	2.2	4	6.3	7.5	140M-D8N-C10
16	208	100	65	5	5	10	15	4	7.5	10	13	140M-D8N-C16
25	325	65	30	7.5	7.5	20	20	5.5	11	15	22	140M-D8N-C25
32	448	50	30	7.5	10	25	30	7.5	15	20	25	140M-D8N-C32
F-Frame												
25	325	100	65	7.5	10	20	25	6.3	11	15	22	140M-F8N-C25
32	416	65	65	7.5	10	25	30	7.5	15	20	30	140M-F8N-C32
45	585	65	65	10	15	30	40	13	22	30	40	140M-F8N-C45

* Horsepower/kW ratings shown in the tables above are for reference. The final selection of the manual starter depends on the actual motor full load current.



Global Short Circuit Current Ratings Selection Tool

Try out the Global SCCR Selection Tool, providing coordinated high fault branch circuit solutions for motor starters, soft starters and component drives.

www.rockwellautomation.com/support/global-sccr.page



Product Selection

140M Motor Protection Circuit Breakers

Rated Operational Current (I_e) [A]	Motor Current Adjustment Range [A]	Max. Short Circuit Current [kA]		Max. kW, 3-Phase – AC-3 *				Standard Magnetic Trip Cat. No.	High Magnetic Trip Cat. No.
		400V (I_{cu})	480V (group motor)	200V	575V	230V	690V		
C-Frame									
0.16	0.10…0.16	100	65	–	–	–	0.02	140M-C2E-A16	140M-C2T-A16
0.25	0.16…0.25	100	65	–	–	–	0.04	140M-C2E-A25	140M-C2T-A25
0.4	0.25…0.40	100	65	–	–	0.06	0.09	140M-C2E-A40	140M-C2T-A40
0.63	0.40…0.63	100	65	–	0.25	0.09	0.18	140M-C2E-A63	140M-C2T-A63
1	0.63…1.0	100	65	–	0.5	0.18	0.25	140M-C2E-B10	140M-C2T-B10
1.6	1.0…1.6	100	65	0.33	1	0.25	0.55	140M-C2E-B16	140M-C2T-B16
2.5	1.6…2.5	100	65	0.75	1.5	0.37	0.75	140M-C2E-B25	140M-C2T-B25
4	2.5…4.0	100	65	1	3	0.75	1.5	140M-C2E-B40	140M-C2T-B40
6.3	4.0…6.3	100	65	2	5	1.5	2.2	140M-C2E-B63	140M-C2T-B63
10	6.3…10	100	65	3	7.5	2.2	4	140M-C2E-C10	140M-C2T-C10
16	10…16	65	30	5	10	4	7.5	140M-C2E-C16	140M-C2T-C16
20	14.5…20	50	30	7.5	15	5.5	10	140M-C2E-C20	–
25	18…25	15	25	7.5	20	5.5	11	140M-C2E-C25	–
29	24…29	15	25	10	20	7.5	13	140M-C2E-C29	–
32	27…32	15	25	10	25	7.5	15	140M-C2E-C32	–
D-Frame									
2.5	1.6…2.5	100	65	0.75	1.5	0.37	0.75	140M-D8E-B25	–
4	2.5…4.0	100	65	1	3	0.75	1.5	140M-D8E-B40	–
6.3	4.0…6.3	100	65	2	5	1.5	2.2	140M-D8E-B63	–
10	6.3…10	100	65	3	7.5	2.2	4	140M-D8E-C10	–
16	10…16	100	65	5	10	4	7.5	140M-D8E-C16	140M-D8T-C16
20	14.5…20	100	65	7.5	15	5.5	10	140M-D8E-C20	140M-D8T-C20
25	18…25	65	30	7.5	20	5.5	11	140M-D8E-C25	–
29	24…29	50	30	10	20	7.5	13	140M-D8E-C29	–
32	27…32	50	30	10	25	7.5	15	140M-D8E-C32	–
F-Frame									
10	6.3…10	100	65	3	7.5	2.2	4	140M-F8E-C10	–
16	10…16	100	65	5	10	4	7.5	140M-F8E-C16	–
20	14.5…20	100	65	7.5	15	5.5	10	140M-F8E-C20	–
25	18…25	100	65	10	20	6.3	11	140M-F8E-C25	140M-F8T-C25
32	23…32	65	65	10	25	7.5	15	140M-F8E-C32	140M-F8T-C32
45	32…45	65	65	15	30	13	22	140M-F8E-C45	–

* Horsepower/kW ratings shown in the tables above are for reference. The final selection of the manual starter depends on the actual motor full load current.

Drives



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For more information on our complete family of circuit protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Circuit Breakers

Product Selection



140MG Motor Circuit Protectors

Rated Operational Current (I_e) [A]	Magnetic Trip Current [A]	Ultimate Interrupting Current [kA]	Max. 3-phase Hp Ratings*		Max. kW, 3-Phase – AC-3*		
	CAM Setting Range	415V I_{cu}	230V	460V	230V	400/415V	Cat. No.
G-Frame							
3	9…33	5	0.5	1.5	0.6	0.75	140MG-G8P-B30
7	21…77	5	2	3	1.1	2.2	140MG-G8P-B70
H-Frame							
30	90…330	70	10	20	5.5	11	140MG-H8P-C30
50	150…550	70	15	30	11	22	140MG-H8P-C50
I-Frame							
100	600…1200	50	30	75	22	37	140MG-I8P-D10
110	660…1320	50	40	75	22	45	140MG-I8P-D11
J-Frame							
175	875…1750	70	60	125	37	55	140MG-J8P-D17
200	1000…2000	70	75	150	45	75	140MG-J8P-D20

* Horsepower/kW ratings shown in the tables above are for reference. The final selection of the manual starter depends on the actual motor full load current.



140MG Motor Protection Circuit Breakers

3-phase kW Ratings (50 Hz)	3-phase Hp Ratings (60Hz)		Max. Short-Circuit Current [kA]		L		U	I	
400/415V	460V	575V	480V	600V	Motor Current Adjustment Range I_1 [A]	Trip Class	50% of I_1	I_n = Instantaneous	Cat. No.
H-Frame									
11	15	20	65	25	10…25	3E, 5E, 10E, 20E (approx. 2…20 s)	ON or OFF	Adjustable from 6…13 x I_n	140MG-H8E-C25
32	40	50	65	25	24…60				140MG-H8E-C60
55	75	100	65	25	40…100				140MG-H8E-D10
J-Frame									
22	30	40	65	25	16…40	3E, 5E, 10E, 20E (approx. 2…20 s)	ON or OFF	Adjustable from 6…13 x I_n	140MG-J8E-C40
32	40	50	65	25	24…60				140MG-J8E-C60
55	75	100	65	25	40…100				140MG-J8E-D10
80	100	150	65	25	60…150				140MG-J8E-D15

Accessories for 140M Motor Circuit Protectors and 140M Motor Protection Circuit Breakers

Auxiliary Contacts

Description	Auxiliary Contacts		For Use With	Cat. No.
	N.O.	N.C.		
Front-mounted	1	0	140M-C, D, F	140M-C-AFA10
	0	1		140M-C-AFA01
	1	1		140M-C-AFA11
	2	0		140M-C-AFA20
	0	2		140M-C-AFA02
Right Side-mounted	2	0	140M-C, D, F	140M-C-ASA20
	0	2		140M-C-ASA02
	1	1		140M-C-ASA11

Handles

Description		For Use With	Cat. No.
Lockable twist	Black	140M-C, D, F	140M-C-KN1
Lockable	Red/Yellow		140M-C-KRY1

Voltage Trip Units

Description	Trip Rating	For Use With	Cat. No.
Shunt trip	110V, 50 Hz/ 120V, 60 Hz	140M-C, D, F	140M-C-SND
	230V, 50 Hz		140M-C-SNF
	240…260V, 60 Hz		140M-C-SNA
	24V DC		140M-C-SNZJ
Undervoltage trip	110V, 50 Hz/ 120V, 60 Hz	140M-C, D, F	140M-C-UXD
	230V, 50 Hz		140M-C-UXF
	240…260V, 60 Hz		140M-C-UXA
	480V, 60 Hz/ 415V, 50 Hz		140M-C-UXB

Accessories for 140MG Motor Circuit Protectors and 140MG Motor Protection Circuit Breakers

Operating Mechanisms

Description	For Use With	Shaft Length	Cat. No.
Rotary, variable depth operator kits	140MG-G, I Frames	12 in (30.48 mm)	140G-G-RVM12B
		21 in (53.34 mm)	140G-G-RVM21B
	140MG-H, J Frames	12 in (30.48 mm)	140G-H-RVM12B
		21 in (53.34 mm)	140G-H-RVM21B

Description	For Use With	Cable Length	Cat. No.
Flex cable operator kits	140MG-G Frame	4 ft (1.3 m)	140G-G-FCX04
		6 ft (1.9 m)	140G-G-FCX06
	140MG-H, Frame	4 ft (1.3 m)	140G-H-FCX04
		6 ft (1.9 m)	140G-H-FCX06

Voltage Trip Units

Description	Trip Rating	For Use With	Cat. No.
Shunt trip	110…127V AC/ 110…125V DC	140MG-H, J	140G-G-SND
	220…240V AC/ 220…250V DC		140G-G-SNA
	24…30V AC/DC		140G-G-SNJ
Undervoltage trip	110…127V AC/ 110…125V DC	140MG-H, J	140G-G-UVD
	220…240V AC/ 220…250V DC		140G-G-UVA
	24…30V AC/DC		140G-G-UVJ

Drives



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For more information on our complete family of circuit protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Circuit Breakers

Product Selection

140G Assembled Molded Case Circuit Breakers



G Frame, Thermal-Magnetic, Fixed

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code G2* Cat. No.		Interrupting Code G3* Cat. No.		Interrupting Code G6* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles	3 Poles	4 Poles
15	15	500	140G-G2C3-C15	140G-G2C4-C15	140G-G3C3-C15	140G-G3C4-C15	140G-G6C3-C15	140G-G6C4-C15
16	16	500	140G-G2C3-C16	140G-G2C4-C16	140G-G3C3-C16	140G-G3C4-C16	140G-G6C3-C16	140G-G6C4-C16
20	20	500	140G-G2C3-C20	140G-G2C4-C20	140G-G3C3-C20	140G-G3C4-C20	140G-G6C3-C20	140G-G6C4-C20
25	25	500	140G-G2C3-C25	140G-G2C4-C25	140G-G3C3-C25	140G-G3C4-C25	140G-G6C3-C25	140G-G6C4-C25
30	30	500	140G-G2C3-C30	140G-G2C4-C30	140G-G3C3-C30	140G-G3C4-C30	140G-G6C3-C30	140G-G6C4-C30
32	32	500	140G-G2C3-C32	140G-G2C4-C32	140G-G3C3-C32	140G-G3C4-C32	140G-G6C3-C32	140G-G6C4-C32
35	35	500	140G-G2C3-C35	140G-G2C4-C35	140G-G3C3-C35	140G-G3C4-C35	140G-G6C3-C35	140G-G6C4-C35
40	40	500	140G-G2C3-C40	140G-G2C4-C40	140G-G3C3-C40	140G-G3C4-C40	140G-G6C3-C40	140G-G6C4-C40
45	45	500	140G-G2C3-C45	140G-G2C4-C45	140G-G3C3-C45	140G-G3C4-C45	140G-G6C3-C45	140G-G6C4-C45
50	50	500	140G-G2C3-C50	140G-G2C4-C50	140G-G3C3-C50	140G-G3C4-C50	140G-G6C3-C50	140G-G6C4-C50
60	60	600	140G-G2C3-C60	140G-G2C4-C60	140G-G3C3-C60	140G-G3C4-C60	140G-G6C3-C60	140G-G6C4-C60
63	63	600	140G-G2C3-C63	140G-G2C4-C63	140G-G3C3-C63	140G-G3C4-C63	140G-G6C3-C63	140G-G6C4-C63
70	70	700	140G-G2C3-C70	140G-G2C4-C70	140G-G3C3-C70	140G-G3C4-C70	140G-G6C3-C70	140G-G6C4-C70
80	80	800	140G-G2C3-C80	140G-G2C4-C80	140G-G3C3-C80	140G-G3C4-C80	140G-G6C3-C80	140G-G6C4-C80
90	90	900	140G-G2C3-C90	140G-G2C4-C90	140G-G3C3-C90	140G-G3C4-C90	140G-G6C3-C90	140G-G6C4-C90
100	100	1000	140G-G2C3-D10	140G-G2C4-D10	140G-G3C3-D10	140G-G3C4-D10	140G-G6C3-D10	140G-G6C4-D10
110	110	1100	140G-G2C3-D11	140G-G2C4-D11	140G-G3C3-D11	140G-G3C4-D11	140G-G6C3-D11	140G-G6C4-D11
125	125	1250	140G-G2C3-D12	140G-G2C4-D12	140G-G3C3-D12	140G-G3C4-D12	140G-G6C3-D12	140G-G6C4-D12
160 (1)	112…160	1600	140G-G2E3-D16	140G-G2E4-D16	140G-G3E3-D16	140G-G3E4-D16	140G-G6E3-D16	140G-G6E4-D16

H Frame, Thermal-Magnetic, Fixed and Adjustable

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code H2* Cat. No.		Interrupting Code H3* Cat. No.		Interrupting Code H6* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles	3 Poles	4 Poles
15	15	400	140G-H2C3-C15	140G-H2C4-C15	140G-H3C3-C15	140G-H3C4-C15	140G-H6C3-C15	140G-H6C4-C15
16	16	400	140G-H2C3-C16	140G-H2C4-C16	140G-H3C3-C16	140G-H3C4-C16	140G-H6C3-C16	140G-H6C4-C16
20	20	400	140G-H2C3-C20	140G-H2C4-C20	140G-H3C3-C20	140G-H3C4-C20	140G-H6C3-C20	140G-H6C4-C20
25	25	400	140G-H2C3-C25	140G-H2C4-C25	140G-H3C3-C25	140G-H3C4-C25	140G-H6C3-C25	140G-H6C4-C25
30	30	400	140G-H2C3-C30	140G-H2C4-C30	140G-H3C3-C30	140G-H3C4-C30	140G-H6C3-C30	140G-H6C4-C30
32	32	400	140G-H2C3-C32	140G-H2C4-C32	140G-H3C3-C32	140G-H3C4-C32	140G-H6C3-C32	140G-H6C4-C32
35	35	400	140G-H2C3-C35	140G-H2C4-C35	140G-H3C3-C35	140G-H3C4-C35	140G-H6C3-C35	140G-H6C4-C35
40	40	400	140G-H2C3-C40	140G-H2C4-C40	140G-H3C3-C40	140G-H3C4-C40	140G-H6C3-C40	140G-H6C4-C40
45	45	500	140G-H2C3-C45	140G-H2C4-C45	140G-H3C3-C45	140G-H3C4-C45	140G-H6C3-C45	140G-H6C4-C45
50	50	500	140G-H2C3-C50	140G-H2C4-C50	140G-H3C3-C50	140G-H3C4-C50	140G-H6C3-C50	140G-H6C4-C50
60	60	600	140G-H2C3-C60	140G-H2C4-C60	140G-H3C3-C60	140G-H3C4-C60	140G-H6C3-C60	140G-H6C4-C60
63	63	600	140G-H2C3-C63	140G-H2C4-C63	140G-H3C3-C63	140G-H3C4-C63	140G-H6C3-C63	140G-H6C4-C63
70	70	700	140G-H2C3-C70	140G-H2C4-C70	140G-H3C3-C70	140G-H3C4-C70	140G-H6C3-C70	140G-H6C4-C70
80	56…80	400…800	140G-H2F3-C80	140G-H2F4-C80	140G-H3F3-C80	140G-H3F4-C80	140G-H6F3-C80	140G-H6F4-C80
90	63…90	450…900	140G-H2F3-C90	140G-H2F4-C90	140G-H3F3-C90	140G-H3F4-C90	140G-H6F3-C90	140G-H6F4-C90
100	70…100	500…1000	140G-H2F3-D10	140G-H2F4-D10	140G-H3F3-D10	140G-H3F4-D10	140G-H6F3-D10	140G-H6F4-D10
110	77…110	550…1100	140G-H2F3-D11	140G-H2F4-D11	140G-H3F3-D11	140G-H3F4-D11	140G-H6F3-D11	140G-H6F4-D11
125	87…125	625…1250	140G-H2F3-D12	140G-H2F4-D12	140G-H3F3-D12	140G-H3F4-D12	140G-H6F3-D12	140G-H6F4-D12
160 (1)	112…160	800…1600	140G-H2F3-D16	140G-H2F4-D16	140G-H3F3-D16	140G-H3F4-D16	140G-H6F3-D16	140G-H6F4-D16

* See pages 1-10 and 1-11 for the interrupting rating/breaking capacity specifications.

(1) IEC only.

Product Selection

140G Assembled Molded Case Circuit Breakers

I Frame, Thermal-Magnetic, Fixed and Adjustable

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code I2* Cat. No.		Interrupting Code I3* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles
90	90	900	140G-I2C3-C90	140G-I2C4-C90	140G-I3C3-C90	140G-I3C4-C90
100	100	1000	140G-I2C3-D10	140G-I2C4-D10	140G-I3C3-D10	140G-I3C4-D10
125	125	1250	140G-I2C3-D12	140G-I2C4-D12	140G-I3C3-D12	140G-I3C4-D12
150	150	1500	140G-I2C3-D15	140G-I2C4-D15	140G-I3C3-D15	140G-I3C4-D15
175	175	1750	140G-I2C3-D17	140G-I2C4-D17	140G-I3C3-D17	140G-I3C4-D17
200	200	2000	140G-I2C3-D20	140G-I2C4-D20	140G-I3C3-D20	140G-I3C4-D20
225	225	2250	140G-I2C3-D22	140G-I2C4-D22	140G-I3C3-D22	140G-I3C4-D22

J Frame, Thermal-Magnetic, Fixed and Adjustable

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code J2* Cat. No.		Interrupting Code J3* Cat. No.		Interrupting Code J6* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles	3 Poles	4 Poles
80	56…80	400…800	140G-J2F3-C80	140G-J2F4-C80	140G-J3F3-C80	140G-J3F4-C80	140G-J6F3-C80	140G-J6F4-C80
90	63…90	450…900	140G-J2F3-C90	140G-J2F4-C90	140G-J3F3-C90	140G-J3F4-C90	140G-J6F3-C90	140G-J6F4-C90
100	70…100	500…1000	140G-J2F3-D10	140G-J2F4-D10	140G-J3F3-D10	140G-J3F4-D10	140G-J6F3-D10	140G-J6F4-D10
110	77…110	550…1100	140G-J2F3-D11	140G-J2F4-D11	140G-J3F3-D11	140G-J3F4-D11	140G-J6F3-D11	140G-J6F4-D11
125	87…125	625…1250	140G-J2F3-D12	140G-J2F4-D12	140G-J3F3-D12	140G-J3F4-D12	140G-J6F3-D12	140G-J6F4-D12
150	105…160	750…1500	140G-J2F3-D15	140G-J2F4-D15	140G-J3F3-D15	140G-J3F4-D15	140G-J6F3-D15	140G-J6F4-D15
160	112…150	800…1600	140G-J2F3-D16	140G-J2F4-D16	140G-J3F3-D16	140G-J3F4-D16	140G-J6F3-D16	140G-J6F4-D16
175	122.5…175	875…1750	140G-J2F3-D17	140G-J2F4-D17	140G-J3F3-D17	140G-J3F4-D17	140G-J6F3-D17	140G-J6F4-D17
200	140…200	1000…2000	140G-J2F3-D20	140G-J2F4-D20	140G-J3F3-D20	140G-J3F4-D20	140G-J6F3-D20	140G-J6F4-D20
225	157.5…225	1125…2250	140G-J2F3-D22	140G-J2F4-D22	140G-J3F3-D22	140G-J3F4-D22	140G-J6F3-D22	140G-J6F4-D22
250	175…250	1250…2500	140G-J2F3-D25	140G-J2F4-D25	140G-J3F3-D25	140G-J3F4-D25	140G-J6F3-D25	140G-J6F4-D25

K Frame, Thermal-Magnetic, Fixed and Adjustable

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code K3* Cat. No.		Interrupting Code K6* Cat. No.		Interrupting Code K0* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles	3 Poles	4 Poles
300	210…300	1500…3000	140G-K3F3-D30	140G-K3F4-D30	140G-K6F3-D30	140G-K6F4-D30	140G-K0F3-D30	140G-K0F4-D30
400	280…400	2000…4000	140G-K3F3-D40	140G-K3F4-D40	140G-K6F3-D40	140G-K6F4-D40	140G-K0F3-D40	140G-K0F4-D40

M Frame, Thermal-Magnetic, Fixed and Adjustable

Rated Current I_n [A]	Thermal Trip [A] $I_r = I_n$	Magnetic Trip [A] I_m	Interrupting Code M5* Cat. No.		Interrupting Code M6* Cat. No.		Interrupting Code M0* Cat. No.	
			3 Poles	4 Poles	3 Poles	4 Poles	3 Poles	4 Poles
600	420…600	3000…6000	140G-M5F3-D60	140G-M5F4-D60	140G-M6F3-D60	140G-M6F4-D60	140G-M0F3-D60	140G-M0F4-D60
630(1)	441…630	3150…6300	140G-M5F3-D63	140G-M5F4-D63	140G-M6F3-D63	140G-M6F4-D63	140G-M0F3-D63	140G-M0F4-D63
800	560…800	4000…8000	140G-M5F3-D80	140G-M5F4-D80	140G-M6F3-D80	140G-M6F4-D80	140G-M0F3-D80	140G-M0F4-D80

* See pages 1-10 and 1-11 for the interrupting rating/breaking capacity specifications.

(1) IEC only.

Circuit Breakers

Product Selection

Interrupting Rating/Breaking Capacity – Thermal-Magnetic Circuit Breakers

Interrupting Rating (50/60 Hz), UL 489/CSA C22.2-5, No. 5-02 [kA]			Breaking Capacity (50/60 Hz), IEC 60947-2 I_{cu} [kA]/ I_{cs} %								
			220V		415V		440V		690V		
240V	480V	600Y/ 347V	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	Interrupting Code
50	25	10	65	75	36	100	36	50	6	75	G2
65	35	14	85	75	50	75	50	50	8	50	G3
100	65	25	100	75	70	50	65	50	10	50	G6

240V	480V	600V	220V		415V		440V		690V		Interrupting Code
			I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	
65	25	14	65	100	36	100	36	100	10	100	H2
100	35	18	85	100	50	100	50	100	12	100	H3
150	65	25	100	100	70	100	65	100	15	100	H6
200	100	35	150	100	120	100	100	100	18	75	H0
200	150	–	200	100	150	100	150	100	20	75	H15

240V	480V	600Y/ 347V	220V		415V		440V		690V		Interrupting Code
			I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	
50	25	10	50	75	36	75	25	75	5	50	I2
65	35	10	85	50	50	50	40	50	6	50	I3

240V	480V	600V	220V		415V		440V		690V		Interrupting Code
			I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	
100	35	18	85	100	50	100	50	100	12	100	J3
150	65	25	100	100	70	100	65	100	15	100	J6
200	100	35	150	100	120	100	100	100	20	100	J0

240V	480V	600V	220V		415V		440V		690V		Interrupting Code
			I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	
100	35	25	85	100	50	100	40	100	25	100	K3
150	65	35	100	100	70	100	65	100	40	100	K6
200	100	65	200	100	120	100	100	100	70	100	K0

240V	480V	600V	220V		415V		690V		Interrupting Code
			I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	I_{cu} [kA]	I_{cs} [%I_{cu}]	
100	50	25	85	100	50	100	22	75	M5
200	65	35	100	100	70	100	25	75	M6
200	100	42	200	75	100	75	30	75	M0

Accessories for 140G Assembled Molded Case Circuit Breakers

Terminal Lugs

Description	Frame Size	Cat. No. (Pkg. Qty. 3)	Cat. No. (Pkg. Qty. 4)
Cu wire, MCCB only (1) 14…1/0 AWG or 2.5…70 mm²	G	140G-G-TLC13	140G-G-TLC14
Cu wire, MCCB only (1) 14…1/0 AWG or 1.5…70 mm²		140G-G-TLC13A	–
Multiple cable – Cu wire (6) 14…2 AWG or 2.5…35 mm²		140G-G-MTL63	140G-G-MTL64
Cu wire only (1) 14…1/0 AWG or 2.5…95 mm²	H	140G-G-TLC13	140G-G-TLC14
Multiple cable – Cu wire (6) 14…2 AWG or 2.5…35 mm²		140G-G-MTL63	140G-G-MTL64
Al or Cu wire (1) 14…1/0 AWG or 2.5…50 mm²	J	140G-J-TLA13	140G-J-TLA14
Al or Cu wire (1) 4…300 MCM or 25…150 mm²		140G-J-TLA1A3	140G-J-TLA1A4
Cu wire only (1) 10…250 MCM or 6…185 mm²		140G-J-TLC13	140G-J-TLC14
Multiple cable – Cu wire (6) 12…2 AWG or 2.5…35 mm²		140G-J-MTL63	140G-J-MTL64

Terminal Covers

Frame Size	Height	3-Pole Cat. No. (Pkg. Qty. 2)	4-Pole Cat. No. (Pkg. Qty. 2)
G	2 in. (50 mm)	140G-G-TC3H	140G-G-TC4H
H	2 in. (50 mm)	140G-H-TC3H	140G-H-TC4H
I	2.36 in. (60 mm)	140G-I-TC3H	140G-I-TC4H
J	2.36 in. (60 mm)	140G-J-TC3H	140G-J-TC4H
K	2.36 in. (60 mm)	140G-K-TC3H	140G-K-TC4H
M	2.36 in. (60 mm)	140G-M-TC3H	140G-M-TC4H



Global Short Circuit Current Ratings Selection Tool

Try out the Global SCCR Selection Tool, providing coordinated high fault branch circuit solutions for motor starters, soft starters and component drives.

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Circuit Breakers

Accessories for 140G Assembled Molded Case Circuit Breakers

Operating Mechanisms

Description	Frame Size	Handle Color	Shaft Length	Cat. No.
Rotary, variable depth operator kits	G, I	Black	12 in (305 mm)	140G-G-RVM12B
		Red/Yellow		140G-G-RVM12R
		Black	21 in (533 mm)	140G-G-RVM21B
		Red/Yellow		140G-G-RVM21R
	H, J	Black	12 in (305 mm)	140G-H-RVM12B
		Red/Yellow		140G-H-RVM12R
		Black	21 in (533 mm)	140G-H-RVM21B
		Red/Yellow		140G-H-RVM21R
	K	Black	12 in (305 mm)	140G-K-RVM12B
		Red/Yellow		140G-K-RVM12R
		Black	22 in (559 mm)	140G-K-RVM21B
		Red/Yellow		140G-K-RVM21R
	M	Black	12 in (305 mm)	140G-M-RVM12B
		Red/Yellow		140G-M-RVM12R
		Black	22 in (559 mm)	140G-M-RVM21B
		Red/Yellow		140G-M-RVM21R

Description	Frame Size	Handle Type	Shaft Length	Cat. No.
Flex cable operator kits	G	Non-metallic Handle, Type 1/3/12/4/4X	4 ft (1.3 m)	140G-G-FCX04
			6 ft (1.9 m)	140G-G-FCX06
			10 ft (3.0 m)	140G-G-FCX10
		Stainless Steel Handle, Type 4/4X	4 ft (1.3 m)	140G-G-FCS04
			6 ft (1.9 m)	140G-G-FCS06
			10 ft (3.0 m)	140G-G-FCS10
		Painted Metal Handle, Type 1/12	4 ft (1.3 m)	140G-G-FMX04
			6 ft (1.9 m)	140G-G-FMX06
			10 ft (3.0 m)	140G-G-FMX10
	H	Non-metallic Handle, Type 1/3/12/4/4X	4 ft (1.3 m)	140G-H-FCX04
			6 ft (1.9 m)	140G-H-FCX06
			10 ft (3.0 m)	140G-H-FCX10
		Stainless Steel Handle, Type 4/4X	4 ft (1.3 m)	140G-H-FCS04
			6 ft (1.9 m)	140G-H-FCS06
			10 ft (3.0 m)	140G-H-FCS10
		Painted Metal Handle, Type 1/12	4 ft (1.3 m)	140G-H-FMX04
			6 ft (1.9 m)	140G-H-FMX06
			10 ft (3.0 m)	140G-H-FMX10

Accessories for 140G Assembled Molded Case Circuit Breakers

Auxiliary Contacts

Description	Designation	For Use With	Cat. No.
(1) Auxiliary contact, 250V	AX2	140G-G, H, I, J	140G-G-EA1A
(1) Auxiliary, (1) alarm contact, 250V	AX2/AL1		140G-G-EA1R1A
(1) Auxiliary contact, 24V	1		140G-G-EA1J*
(1) Auxiliary, (1) alarm contact, 24V	2		140G-G-EA1R1J

* This contact is supplied with unmarked wires. Contact can function as either an auxiliary or alarm contact, depending on connection method.

Undervoltage Release

Description	Frame Size	Cat. No.
24…30V AC/DC	G, H, I, J	140G-G-UVJ
48V AC/DC		140G-G-UVR
60V AC/DC		140G-G-UVKY
110…127V AC/110…125V DC		140G-G-UVD
220…240V AC/220…250V DC		140G-G-UVA
380…440V AC		UVB
480…525V AC		140G-G-UVC
24…30V AC/DC	K, M	140G-K-UVR
48V AC/DC		140G-K-UVJ
60V AC/DC		140G-K-UVKY
110…127V AC/110…125V DC		140G-K-UVD
220…240V AC/220…250V DC		140G-K-UVA
380…440V AC		140G-K-UVB

Shunt Trips

Description	Frame Size	Cat. No.
24…30V AC/DC	G, H, I, J	140G-G-SNJ
48…60V AC/DC		140G-G-SNKY
110…127V AC/110…125V DC		140G-G-SND
220…240V AC/220…250V DC		140G-G-SNA
24…30V AC/DC	K, M	140G-G-SNJ
48…60V AC/DC		140G-G-SNKY
110…127V AC/110…125V DC		140G-G-SND
220…240V AC/220…250V DC		140G-G-SNA



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Disconnect Switches



Rotary Disconnect Switch, Fused 194R

- Expands up to 1250 A for IEC, and 800 A for UL
- Touch-safe, compact design
- Padlocking available
- Double-break switching for full fuse line and load side isolation when switch is OFF
- Side operation

Rotary Disconnect Switch, Non-fused 194R

- Expands up to 1250 A for IEC, and 1200 A for UL
- Compact footprint for both UL and IEC switch bodies
- Suitable for severe utilization categories (AC-22 & AC-23)





Rotary Disconnect Switch, Enclosed 194R

- Lock-out tag-out functionality
- Use as at-motor isolation
- Enclosure options:
  - Thermoplastic, NEMA 4/4X
  - Painted Metal, NEMA 3/4/12
  - Stainless Steel, NEMA 4/4X

Product Selection

194R Rotary Disconnect Switches, UL/CSA

Rated Current [A]	Maximum Hp Ratings, 3-Phase (60 Hz)				Fused		Non-Fused
	240V	480V	600V				
			Fused	Non-Fused	Fuse Type	Cat. No. *	Cat. No. Δ
30	7.5	15	20	20	30 A Class J, HRCI-J	194R-J30-1753 †	194R-N30-1753
60	15	30	50	40	60 A Class J, HRCI-J	194R-J60-1753 †	194R-N60-1753
100	30	60	75	100	100 A Class J, HRCI-J	194R-J100-1753	194R-NU100-1753
200	60	125	150	200	200 A Class J, HRCI-J	194R-J200-1753	194R-NU200-1753
400	125	250	350	350	400 A Class J, HRCI-J	194R-J400-1753	194R-NU400-1753
600	200	500	500	350	600 A Class J, HRCI-J	194R-J600-1753	194R-NU600-1753
800	200	500	500	500	800 A Class L, HRCI-L	194R-L800-1753	194R-NU800-1753
1200	200	500	–	500	–	–	194R-NU1200-1753

* Time delay fuses may be required to utilize the disconnect switch at its maximum horsepower rating.

† Blown fuse indicator available by adding **S** to the end of the catalog number.

Δ Non-fused disconnect switches must use separately installed fuses for upstream short circuit protection.

194R Rotary Disconnect Switches, IEC

Load Rating [A]	Maximum kW Ratings				Fused		Non-Fused
	200/220/230V	380/400/415V	660/690V				
			Fused	Non-Fused	Fuse Type	Cat. No.	Cat. No. *
32	9	18.5	30	–	NH000	194R-D32-1753	–
63	18.5	30	55	–	NH000	194R-D63-1753	–
125	–	63	90	55	NH00	194R-D125-1753	194R-NE125-1753
160	–	80	110	55	NH00	194R-D160-1753	194R-NE160-1753
250	–	132	220	90	NH1	194R-D250-1753	194R-NE250-1753
400	–	220	220	150	NH2	194R-D400-1753	194R-NE400-1753
630	–	355	295	150	NH3	194R-D630-1753	194R-NE630-1753
800	–	450	400	185	NH3	194R-D800-1753	194R-NE800-1753
1250	–	560	400	415	NH4a	194R-D1250-1753	194R-NE1250-1753

* Non-fused disconnect switches must use separately installed fuses for upstream short circuit protection.



Padlockable handle, test mode (30…60 A)



Padlockable handle, standard (30…60 A)



Padlockable handle (100…400 A)

Operating Handles

Range	Handle Operating Shaft *		Padlockable Handle	
	Cat. No. 12 in (304.8 mm)	Cat. No. 21 in (533.4 mm)	Cat. No. Black	Cat. No. Red/ Yellow
up to 60 A	194R-S1	194R-S2	194R-PB	194R-PY
up to 60 A	194R-S1	194R-S2	194R-PBT	194R-PYT
100…400 A	194R-R7	194R-R8	194R-HM4	194R-HM4E
600…1250A	194R-R9	194R-R10	194R-HM4-L	194R-HM4E-L
	600…1250 A	194R-HM4-L		

* For more lengths, please visit the web.

Drives



1-62…1-67

For more information on our complete family of circuit protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Disconnect Switches



Visible Blade Disconnect Switch 1494U Universal Mechanism

- 30…100A, 3-pole, 600 V AC/DC ratings
- Universal mechanism allows for rod or cable operation
- Fusible or non-fusible versions
- Lockable handle
- Visible blade construction for safety

Visible Blade Construction

- *Reliable visible blade indication*
- *Blades visible – switch is de-energized*
- *Blades hidden – switch is energized*

Fuse Blocks

- *Common base across 30/60/100 A*
- *Integrated Phase Barriers*
- *J and R fuse clips are available for the fusible styles*



Lug Connectors

- *Included aluminum lugs will accept copper or aluminum wire*

Universal Mechanism

- *Provides flexibility of installation for either rod or cable operated applications*



1494U Rod Operated System



1494U Cable Operated System

Lug Connectors

Disconnect Switch Size [A]	Description	Wire Size	Cat. No.
30…60	Aluminum, 1 port	(1) #14…2 AWG, copper-aluminum (2) #14…10 AWG, copper (2) #12…10 AWG, aluminum	1494U-LA36
100	Aluminum, 1 port	(2) #12…4 AWG, copper-aluminum (1) #14…1/0 AWG, copper (1) #12…1/0 AWG, aluminum	1494U-LA100
30…100	Aluminum, 6 port	(1) #14…4 AWG, copper (1) #12…4 AWG, aluminum (2) #10 AWG, copper-aluminum	1494U-LM31

Product Selection

1494U Disconnect Switches[1]

Continuous Current Rating [A] 600V AC, 600V DC	Maximum Hp – UL and CSA Applications 3-Phase, 60 Hz					1-Phase, AC 3-Phase, 50 Hz		DC[2]	Maximum kW – IEC Applications (Category AC 23) 3-Phase, 50 Hz			Switch with Right-Hand Mechanism Cat. No.
	115V	200…208V	230V	460V	575V	115V	230V	600V	220…240V	380…440V	500…600V	
30	3	7.5	7.5	15	20	2	3	15	5.5	11	15	1494U-D30
60	7.5	15	15	30	50	3	10	30	11	22	37	1494U-D60
100	–	25	30	60	75	–	–	50	22	45	55	1494U-D100

[1] Aluminum lug/line kits are provided with each disconnect switch.

[2] Ratings based on using two poles in series to break one line of the DC supply voltage and the remaining pole breaking the second DC supply line.

Connecting Rods

Disconnect Switch Size [A]	Enclosure Working Depth [in. (mm)][3]		Cat. No.
	Minimum	Maximum	
30, 60, 100, 200	6-3/4 (172)	19 (483)	1494U-R1

[3] Enclosure working depth is measured from the top of the flange to the disconnect switch mounting surface. Dimensions are approximate.
NOTE: For enclosure depths greater than 19 in. but less than 23 in., select catalog number 1494V-RA4.

Operating Handles

Handle Type	Description	Mounting	Disconnect Switch Size [A]	Cat. No.
Type 1, 3R, 4, 4X, 12	Nonmetallic	Right or Left Flange	30, 60, 100	1494U-HP1
Type 1, 3R, 4, 12	Painted Metal			1494U-HM1
Type 4, 4X	Stainless Steel			1494U-HS1

Cable Mechanism

Disconnect Switch Size [A]	Cable Length [ft (m)]	Right-Hand Cable Mechanism Cat. No.
30, 60, 100	3 (0.91)	1494U-C313
	4 (1.22)	1494U-C314
	5 (1.52)	1494U-C315
	6 (1.83)	1494U-C316

Fuse Clip Kits

Fuse Class	Fuse Clip Rating [A] 250V	Fuse Clip Rating [A] 600V	Cat. No.
H/J	30	–	1494U-FC302J
	60	30	1494U-FC30J
	–	60	1494U-FC60J
	100	100	1494U-FC100J
R	30	–	1494U-FC302R
	60	30	1494U-FC30R
	–	60	1494U-FC60R
	100	100	1494U-FC100R

Trailer Fuse Block Kits

Disconnect Switch Size [A]	Cat. No.
30	1494U-F30
60	1494U-F60
100	1494U-F100



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Disconnect Switches



Visible Blade Disconnect Switches 1494V Variable Depth

- 200…600 A, 3-pole, 600V AC ratings
- Rod-operated, flange-mounted handle
- Fusible or non-fusible versions
- Lockable handle
- Visible blade construction for safety

Visible Blade Disconnect Switches 1494C Cable Operated

- 200…600 A, 3-pole, 600V AC ratings
- Cable operation allows flexible mounting within the panel
- Fusible or non-fusible versions
- Lockable handle
- Visible blade construction for safety





Application Spotlight

Bulletin 1494 disconnect switches are time proven, robust design with visible blade construction that is the product of choice in automotive manufacturing applications.

Product Selection

1494V Visible Blade Disconnect Switch Components

Continuous Current Rating [A] 600V AC, 250V DC	NEMA, UL, CSA Maximum Rating Hp		IEC Utilization Category AC-23 Maximum Rating kW		Rod Operated	
	3-Phase, 60 Hz		3-Phase, 50 Hz		Switch with Right-Hand Mechanism	Switch with Left-Hand Mechanism
	200…208V	460V	220…240V	380…440V	Cat. No.	Cat. No.
200	50…60	125	48	90	1494V-DS200	1494V-DSX200
400	75	250	90	185	1494V-DS400	1494V-DSX400
600	150	400	150	295	1494V-DS600 [1]	

1494C Visible Blade Disconnect Switch Components

Continuous Current Rating [A] 600V AC, 250V DC	NEMA, UL, CSA Maximum Rating Hp		IEC Utilization Category AC-23 Maximum Rating kW		Cable Operated	
	3-Phase, 60 Hz		3-Phase, 50 Hz		Switch with Right-Hand Mechanism	Switch with Left-Hand Mechanism
	200…208V	460V	220…240V	380…440V	Cat. No.	Cat. No.
200	50…60	125	48	90	1494F-D200	1494F-DX200
400	75	250	90	185	1494F-D400	1494F-DX400
600	150	400	150	295	1494V-DS600 [1]	

[1] Switch can be converted in the field for left-hand operation.

Cable Mechanisms for 1494C Disconnect Switch

Disconnect Switch Size [A]	Cable Length [ft]	Right-Hand Cable Mechanisms	Left-Hand Cable Mechanisms
		Cat. No.	Cat. No.
200	4	1494C-CM5	1494C-CMX5
	5	1494C-CM6	1494C-CMX6
	6	1494C-CM7	1494C-CMX7
	10	1494C-CM8	1494C-CMX8
400	4	1494C-CM9	1494C-CMX9
	5	1494C-CM10	1494C-CMX10
	6	1494C-CM11	1494C-CMX11
	10	1494C-CM12	1494C-CMX12
600	4	1494C-CM13	1494C-CMX13
	5	1494C-CM14	1494C-CMX14
	6	1494C-CM15	1494C-CMX15
	10	1494C-CM16	1494C-CMX16

Connecting Rods for 1494V Disconnect Switches

Disconnect Switch Size [A]	Enclosure Depth [in. (mm)] [2]		Cat. No.
	Minimum	Maximum	
200	6-3/4 (172)	9-1/8 (232)	1494V-RA3
	6-3/4 (172)	21-5/8 (549)	1494V-RA4
400, 600	9-1/2 (241)	10 (254)	1494V-RB3 [3]
	9-1/2 (241)	23 (584)	1494V-RB4 [3]

[2] Enclosure depth is measured from the top of the flange to the disconnect switch mounting surface.

[3] Kit includes two connecting rods.

Trailer Fuse Block Kits for 1494V & 1494C

Disconnect Switch Size [A]	Cat. No.
200	1494V-FS200
400	1494V-FS400
600	1494V-FS600

Fuse Clip Kits for 1494V & 1494C

Fuse Class	Fuse Clip Rating [A]		Cat. No. [4]
	250V	600V	
J	200	200	1401-N45
	400	400	1401-N46
	600	600	[5]

[4] Includes six clips and mounting hardware.

[5] Fuse clips not required: fuse bolts directly to terminal.

Operating Handles for 1494V & 1494C

Handle Type [6]	Description	Disconnect Switch Size [A]	Cat. No.
Type 1, 3R, 4, 4X, 12	Nonmetallic	200	1494F-P1
Type 1, 3R, 4, 12	Painted Metal	200	1494F-M1
		400, 600	1494F-M2
Type 4, 4X	Stainless Steel	200	1494F-S1
		400, 600	1494F-S2

[6] Right or left flange mounting available.

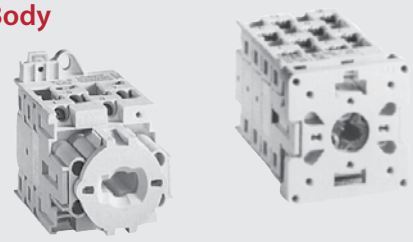
Control & Load Switches



Control & Load Switches
194L

- Available in ON-OFF, changeover, star-delta (wye-delta), reversing, ammeter, voltmeter and step switch configurations
- Front door, Base/DIN Rail mounting configurations
- 1-6-pole versions
- Optional enclosures
- Padlockable handles available (up to 3 padlocks)

Switch Body



Shaft



Handle



N Style



G Style



I Style



A Style

Bulletin 194L Control & Load Switches are designed for use as manual motor controllers and at motor disconnects.



IP66 enclosure, shaft and handle are orderable as components.

Handles (Includes OFF-ON legend plate and control knob)

Type (for front or base mounting)	With Legend Plate 0-I, 48 x 48 mm	With Legend Plate 0-I, 67 x 67 mm
	Cat. No.	Cat. No.
A – Standard switch	194L-HE4A-175	194L-HE6A-175
G – Disconnect switch	194E-HE4G-175	194L-HE6G-175
I – Emergency stop	194L-HE4I-175	194L-HE6I-175
N – Disconnect switch/ emergency stop	194E-HE4N-175	194L-HE6N-175

Circuit Breakers

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Disconnect Switches

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Control & Load Switches

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Contactors

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Starters

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Motor Protection

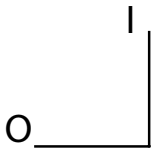
1-48…1-53

Solid-State Motor Control

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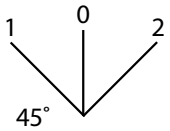
Product Selection

194L Switch Bodies, ON-OFF

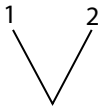
Function	I AC-21A [A]	Poles	Front/Door Mounting Cat. No. [1]	Base/DIN Rail Mounting Cat. No. [1]
	12	1	194L-E12-1751	194L-A12-1751
		2	194L-E12-1752	194L-A12-1752
		3	194L-E12-1753	194L-A12-1753
	16	1	194L-E16-1751	194L-A16-1751
		2	194L-E16-1752	194L-A16-1752
		3	194L-E16-1753	194L-A16-1753
	20	1	194L-E20-1751	194L-A20-1751
		2	194L-E20-1752	194L-A20-1752
		3	194L-E20-1753	194L-A20-1753
	25	1	194L-E25-1751	194L-A25-1751
		2	194L-E25-1752	194L-A25-1752
		3	194L-E25-1753	194L-A25-1753

[1] To change number of poles, change final number to 1, 2, 3 or 4.

194L Switch Bodies, Changeover Switches

Function	I AC-21A [A]	Poles	Front/Door Mounting Cat. No.
	12	3	194L-E12-3503
		4	194L-E12-3504
	16	3	194L-E16-3503
		4	194L-E16-3504
	20	3	194L-E20-3503
		4	194L-E20-3504
	25	3	194L-E25-3503
		4	194L-E25-3504

194L Switch Bodies, Changeover Switches*

Function	I AC-21A [A]	Poles	Front/Door Mounting Cat. No.
	12	3	194L-E12-2503
	16		194L-E16-2503
	20		194L-E20-2504
	25		194L-E25-2503

* With both 0-1 and OFF/ON inscriptions.

Enclosed Control & Load Switches

For Use With	Number of Contacts	IP66 Enclosure, ABS Material Cat. No.	Required Shaft for ABS Cat. No.	IP66 Enclosure, Noryl Material Cat. No.	Required Shaft for Noryl Cat. No.
194L-A12/16	1…2	194L-G3572	194L-G3195	194L-G3576	194L-G3195
	3…4	194L-G3572	194L-G2830	194L-G3576	194L-G2830
	5…6	194L-G3573	194L-G3195	194L-G3577	194L-G3195
194L-A20/25	1…2	194L-G3572	194L-G3194	194L-G3576	194L-G3194
	3…4	194L-G3572	194L-G2830	194L-G3576	194L-G2830
	5…6	194L-G3573	194L-G3194	194L-G3577	194L-G3194

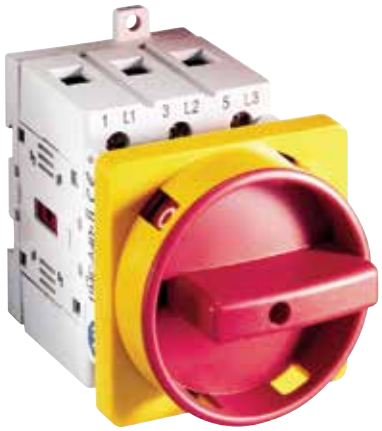
Drives



1-62…1-67

For more information on our complete family of control and load switch products, please visit: *http://ab.rockwellautomation.com/Motor-Control/Control-and-Load-Switches*

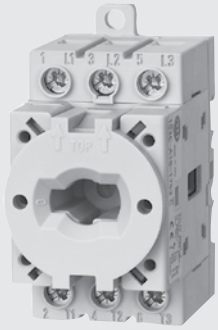
Control & Load Switches



Load Switches
194E

- Base/DIN Rail, or front-door mounting configurations
- Available in OFF-ON and changeover configurations
- 3- and 6-pole switches
- Optional enclosures
- Padlockable handles available (up to 3 padlocks)

Bulletin 194E load switches are suitable as motor disconnect or other load switch applications.



194E
16…100 A

Handle Options

Available as front mounting/DIN mounting



N Style



G Style



I Style



A Style

Enclosed Load Switches

IP66, UL Type 3/3R/12



Non-metallic



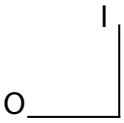
Stainless steel



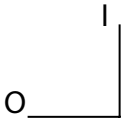
Thermoplastic

Product Selection

OFF-ON 3-Pole Switch (includes operating shaft)

Function	I AC-21A [A]	Front/Door Mounting Cat. No.	Base/DIN Rail Mounting Cat. No.
	16	194E-E16-1753	194E-A16-1753
	25	194E-E25-1753	194E-A25-1753
	32	194E-E32-1753	194E-A32-1753
	40	194E-E40-1753	194E-A40-1753
	63	194E-E63-1753	194E-A63-1753
	80	194E-E80-1753	194E-A80-1753
	100	194E-E100-1753	194E-A100-1753

OFF-ON 6-Pole Switch (includes operating shaft)

Function	I AC-21A [A]	Front/Door Mounting Cat. No.	Base/DIN Rail Mounting Cat. No.
	16	194E-E16-1756	194E-A16-1756
	25	194E-E25-1756	194E-A25-1756
	32	194E-E32-1756	194E-A32-1756
	40	194E-E40-1756	194E-A40-1756
	63	194E-E63-1756	194E-A63-1756
	80	194E-E80-1756	194E-A80-1756
	100	194E-E100-1756	194E-A100-1756

Enclosed Load Switches, 3-Pole

Description	Rated Operational Current [A]	Cat. No.
Stainless steel enclosure, IP66 , UL Type 4/4X	16	194E-CA16 [1]
	25	194E-CA20 [1]
	32	194E-CA32 [1]
	40	194E-CA40 [1]
	63	194E-CA63 [1]
	80	194E-CA80 [1]
	100	194E-CA00 [1]
Non-metallic enclosure, IP66 , UL Type 4/4X	16	194E-KA16 [1]
	25	194E-KA20 [1]
	32	194E-KA32 [1]
	40	194E-KA40 [1]
	63	194E-KA63 [1]
	80	194E-KA80 [1]
	100	194E-KA00 [1]
Thermoplastic enclosure, IP66	16	194E-Y16-1753-4N [2]
	25	194E-Y25-1753-6N [2]
	32	194E-Y32-1753-6N [2]
	40	194E-Y40-1753-6N [2]

[1] Catalog number shown is for black handle. To order a red/yellow handle, add an **E** to the end of the catalog number

[2] Catalog number shown is for red/yellow handle.

Handles (Includes OFF-ON legend plate and control knob)

Type (for front or base mounting)	Up to 16 A Cat. No.	25...100A Cat. No.
A Standard switch	194L-HE4A-175	194E-HE6A-175
G Disconnect switch	194E-HE4G-175	194E-HE6G-175
I Emergency Stop	194L-HE4I-175	194E-HE6I-175
N Disconnect switch/emergency stop	194E-HE4N-175	194E-HE6N-175

Drives



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For more information on our complete family of control and load switch products, please visit: *http://ab.rockwellautomation.com/Motor-Control/Control-and-Load-Switches*

Contactors

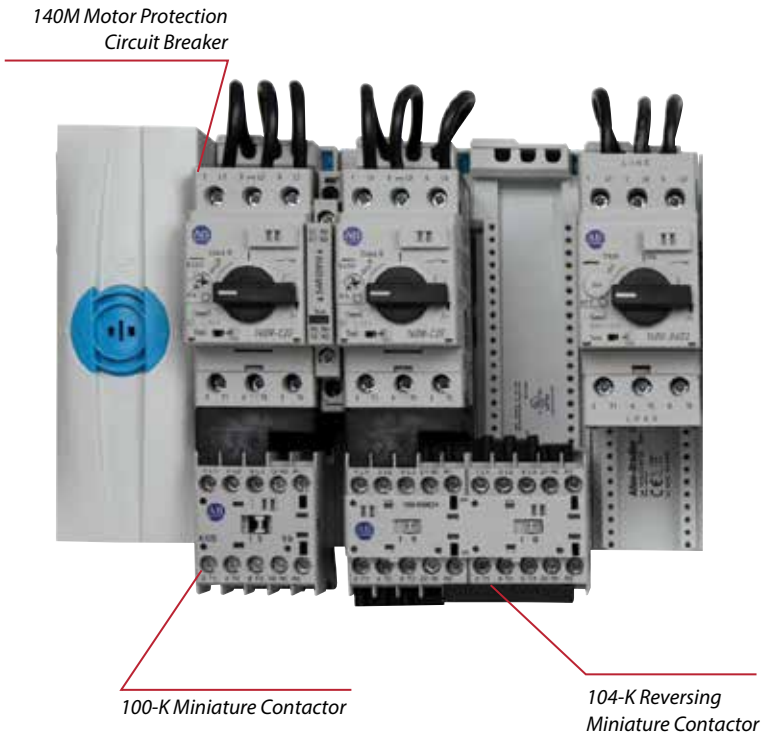
Power



Miniature IEC Contactors 100-K/104-K

- Designed for commercial and light industrial applications
- 5…12 A
- Compact size with fewer panel depth and height requirements
- Full-voltage non-reversing and reversing contactors
- Same dimensions for AC and DC

Miniature IEC contactors can be used on the compact bus bar mounting system as shown below.*



Accessories


Auxiliary contact block


Reversing wiring kit


Mechanical interlock


Connecting module


Surge suppressor modules

* additional details on the Busbar Mounting System can be found on page 1-73.

Product Selection

AC- and DC-Control Miniature Contactors*

Rated Operational Current [A]		Ratings for Switching AC Motors			Power Poles		Aux. Contacts		Direct on Line	
		3-Phase kW	3-Phase Hp						Screw Terminal	Spring Clamp
AC-3	AC-1	400/415V	200/230V	460/575V	N.O.	N.C.	N.O.	N.C.	Cat. No.	Cat. No.
3-pole										
5	20	2.2	1-1/2	3	3	0	1	0	100-K05⊗10	100-KR05⊗10
							0	1	100-K05⊗01	100-KR05⊗01
9	20	4	2	5			1	0	100-K09⊗10	100-KR09⊗10
							0	1	100-K09⊗01	100-KR09⊗01
12	20	5.5	3	7-1/2			1	0	100-K12⊗10	–
							0	1	100-K12⊗01	–
4-pole										
5	20	2.2	1-1/2	3	4	0	0	0	100-K05⊗400	–
					2	2	0	0	100-K05⊗200	–
9	20	4	2	5	4	0	0	0	100-K09⊗400	–
					2	2	0	0	100-K09⊗200	–
12	20	5.5	3	7-1/2	4	0	0	0	100-K12⊗400	–
					2	2	0	0	100-K12⊗200	–

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

* See page 1-28 for accessories.

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	**Description**
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50/60 Hz
KA	240V, 50/60 Hz

DC Control	
Code	**Description**
DJ	24V, Integrated diode
ZJ	24V, Standard

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CE

Product Certifications

Global certifications available online:

www.rockwellautomation.com/global/certification/overview.page

Contactors



IEC Contactors
100-C/104-C

- Full line of electromechanical motor control
- 9…97 A
- Environmentally friendly materials
- Low-consumption AC or DC coils
- Reversible coil terminals
- Common accessories for all contactor sizes







Multiple mounting methods available:

- Panel mount
- DIN Rail
- Bus bar



Product Selection

AC- and DC-Operated Contactors*

Rated Operational Current [A]		Ratings for Switching AC Motors – AC-2, AC-3			Direct on Line			Reversing		
		3-Phase kW	3-Phase Hp		Auxiliary Contacts†			Auxiliary Contacts		
AC-3	AC-1	400/415V	200/230V	460/575V	N.O.	N.C.	Cat. No.	N.O.	N.C.	Cat. No.
3-pole, Screw Terminals										
9	32	4	5	7-1/2	1	0	100-C09⊗10	1	1	104-C09⊗20
12	32	5.5	7-1/2	10	1	0	100-C12⊗10	1	1	104-C12⊗20
16	32	7.5	10	15	1	0	100-C16⊗10	1	1	104-C16⊗20
23	32	11	15	15	1	0	100-C23⊗10	1	1	104-C23⊗20
30	65	15	20	25	0	0	100-C30⊗00	1	1	104-C30⊗20
37	65	18.5/20	25	30	0	0	100-C37⊗00	1	1	104-C37⊗22
43	85	22	30	30	0	0	100-C43⊗00	1	1	104-C43⊗22
55	85	30	40	40	0	0	100-C55⊗00	1	1	104-C55⊗22
60	100	32	40	50	0	0	100-C60⊗00	1	1	104-C60⊗22
72	100	40	50	60	0	0	100-C72⊗00	1	1	104-C72⊗22
85	100	45	60	60	0	0	100-C85⊗00	1	1	104-C85⊗22
97	130	55	75	75	0	0	100-C97⊗00	1	1	104-C97⊗22
3-pole, Spring Clamp										
9	25	4	5	7-1/2	1	0	100-CR09⊗10	–		
12	25	5.5	7-1/2	10	1	0	100-CR12⊗10	–		
16	25	7.5	10	15	1	0	100-CR16⊗10	–		

† To add an N.O. auxiliary contact, the catalog number can be changed from 100C-C30⊗00 to 100C-C30⊗10.

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

* See page 1-29 for accessories.

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	Description
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50/60 Hz
KA	240V, 50/60 Hz

DC Control with Integrated Surge Suppression	
Code	Description
DJ	24V (60...97 A only)
EJ	24V, Electronic (9…55 A only)
ED	110V, Electronic (9...55 A only)



Global Short Circuit Current Ratings Selection Tool

Try out the Global SCCR Selection Tool, providing coordinated high fault branch circuit solutions for motor starters, soft starters and component drives.

www.rockwellautomation.com/support/global-sccr.page

For more information on our complete family of IEC contactor products, please visit:
http://ab.rockwellautomation.com/Motor-Control/IEC-Contactors

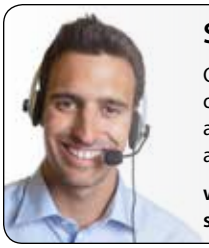
Contactors

Accessories

100-K Miniature Contactors

Description	Auxiliary Contacts		Screw Terminals Cat. No.	Spring Clamp Cat. No.
	N.O.	N.C.		
Front-mounted auxiliary contacts	0	2	100-KRFC02	100-KFC02
	1	1	100-KRFC11	100-KFC11
	2	0	100-KRFC20	100-KFC20
	2	2	100-KRFC22	100-KFC22
	3	1	100-KRFC31	100-KFC31
	4	0	100-KRFC40	100-KFC40

Description		Cat. No.
RC suppressor	24…48V AC	100-KFSC50
	110…280V AC	100-KFSC280
	380…480V AC	100-KFSC480
MOV surge suppressor	12…55V AC, 12…77V DC	100-KFSV55
	56…136V AC, 78…180V DC	100-KFSV136
	137…277V AC, 181…250V DC	100-KFSV277
Diode surge suppressor	12…250V DC	100-KFSD250
Mechanical interlock		100-KMCH
Power wiring kit- for reversing and start/delta combinations		100-KPR
ECO connecting module - 12 A		140M-C-PEK12



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www.rockwellautomation.com/sales-partners/overview.page

Accessories

100-C Contactors with Screw Terminals

Description	Auxiliary Contacts		Screw Terminals Cat. No.	Spring Clamp Cat. No.
	N.O.	N.C.		
Front-mounted auxiliary contacts	0	2	100-FA02	100-CRFA02
	1	1	100-FA11	100-CRFA11
	2	0	100-FA20	100-CRFA20
	2	2	100-FA22	100-CRFA22
	3	1	100-FA31	100-CRFA31
	4	0	100-FA40	100-CRFA40
Side-mounted auxiliary contacts	0	1	100-SB01	–
	1	0	100-SB10	–
	0	1	100-SB11	–
	2	0	100-SB20	–

Surge Suppressors		Cat. No.
RC Module	24…48V AC, 50/60 Hz	100-FSC48
	110…280V AC, 50/60 Hz	100-FSC280
	380…480V AC, 50/60 Hz	100-FSC480
MOV Surge Suppressor	12…55V AC, 12…77V DC	100-FSV55
	56…136V AC, 78…180V DC	100-FSV136
	137…277V AC, 181…250V DC	100-FSV277

Mechanical Interlock	For Use With	Cat. No.
Mechanical only, without aux contacts	100-C (except 100C-40…C90)	100-MCA00
Mechanical/electrical, with 2 N.C. aux contacts		100-MCA02

Reversing Power Wiring Kit	For Use With	Cat. No.
For reversing connection with a solid-state or thermal overload relay	100-C09…C23	105-PW23
	100-C30….C37	105-PW37
	100-C43…C55	105-PW55
	100-C60…C97	105-PW85

Timing Modules		For Use With	Cat. No.
Pneumatic Timing Modules: Contacts switch after the delay time, main control relay contacts continue to operate without delay	On-Delay 0.3…30 s Range	100-C w/ AC Coils or DC Electronic Coils	100-FPTA30
	On-Delay 2…180 s Range		100-FPTA180
Electronic Timing Modules: Delay of the contactor or control relay solenoid, contactor or control relay is energized at the end of the delay time	On-Delay 0.1…3 s Range	100-C w/ 110…240V, 50/60 Hz or 110…250V conventional DC coils	100-ETA3
	On-Delay 1…30 s Range		100-ETA30
	On-Delay 10…180 s Range		100-ETA180
	On-Delay 0.1…3 s Range	100-C w/ 24…48V conventional DC coils	100-ETAZJ3
	On-Delay 1…30 s Range		100-ETAZJ30

Drives



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For more information on our complete family of IEC contactor products, please visit:
http://ab.rockwellautomation.com/Motor-Control/IEC-Contactors

Contactors



IEC Contactors
100-D/104-D

- 115…860 A
- Low power hold-in
- Optional electronic coils for reduced energy consumption
- Complete range of accessories
- Environmentally friendly
- Compact dimensions

The Bulletin 100-D/104-D contactor family offers optional electronic coils for reduced energy consumption and a compact design.

140MG-J Circuit Breaker

100-D IEC Contactor



Optional IP2X Lugs (shown)

- *Finger-safe protection*
- *2 clamping mechanisms per pole*
- *For contactors up to 180 A*

Integrated PLC EI Interface

- *Separate hold-in auxiliary contact not required*
- *Programmable via jumper outside of contactor*
- *Standard on all electronic coils*

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Conventional Coils, 100-D115…D180	
Code	**Description**
J	24V, 60 Hz
D	110V, 50 Hz/120V, 60 Hz
A	230V, 50 Hz/240V, 60 Hz
Electronic Coils, 100-D115…D860	
EJ	24V, 50/60 Hz
ED	110…130V, 50/60 Hz
EA	208…277V, 50/60 Hz

DC Control with Integrated Surge Suppression	
Code	**Description**
EZJ	24V, Electronic coils
ZJ	24V, Conventional coils

Product Selection

AC- and DC-Operated Contactors

Rated Operational Current [A]		Ratings for Switching AC Motors – AC-2, AC-3			AC Contactors			DC Contactors		
60 °C	40 °C	3-Phase kW (50 Hz)	3-Phase Hp (60 Hz)		Auxiliary Contacts			Auxiliary Contacts		
AC-3	AC-1	400V	460V	575V	N.O.	N.C.	Cat. No.	N.O.	N.C.	Cat. No.
115	250	63	75	100	1	1	100-D115⊗11	1	1	100-D115⊗11
								2	1/1L†	100-D115⊗22
140	250	78	100	125	1	1	100-D140⊗11	1	1	100-D140⊗11
								2	1/1L†	100-D140⊗22
180	250	101	150	150	1	1	100-D180⊗11	1	1	100-D180⊗11
								2	1/1L†	100-D180⊗22
210	350	118	150	200	1	1	100-D210⊗11	1	1	100-D210⊗11
250	350	140	200	250	1	1	100-D250⊗11	1	1	100-D250⊗11
300	450	170	250	300	1	1	100-D300⊗11	1	1	100-D300⊗11
420	540	238	350	400	1	1	100-D420⊗11	1	1	100-D420⊗11
630	800	355	500	600	1	1	100-D630⊗11	1	1	100-D630⊗11
860	1000	500	600	700	1	1	100-D860⊗11	1	1	100-D860⊗11

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

* For more auxiliary contact configurations, please reference our online product selection.

† 1/1L = late break contact & conventional coil, all others electronic.

Side-Mounted Auxiliary Contacts

Description	N.O.	N.C.	Cat. No.
• Standard contacts 17V/10 mA • Left or right inside mounting • Bifurcated contacts also available	1	1	100-DS1-11
	1	1	100-DS2-11
	1	1L	100-DS1-L11
	2	0	100-DS1-20
	2	0	100-DS2-20
• Electronic-compatible auxiliary contacts • Contact ratings: - AC-12, 250V, 0.1 A - AC-15, DC-13, 3...125V, 1...100 mA	1	1	100-DS1-B11

Interlock

Description	For Use With	Cat. No.
Dual electrical/mechanical	100-D115…100-D860	100-DMD02
Mechanical only		100-DMD00

Suppressor Module for Bul. 100-D Contactors

Suppressor Rating RC Module (AC control) for Contactors with Conventional Coil	For Use With	Cat. No.
21…48V, 50 Hz: 24…55V, 60 Hz	100-D115… 100-D180	100-DFSC48
95…110V, 50 Hz: 110…127V, 60 Hz		100-DFSC110
180…277V, 50 Hz: 208…277V, 60 Hz		100-DFSC240
380…550V, 50 Hz: 440…600V, 60 Hz		100-DFSC550

Terminal Accessories

Description	For Use With	Cat. No.
Terminal Lugs (set of two)	100-D115, 100-D140, 100-D180, 100-D115E…D180E, 193-EC_F, 193-EE_F	100-DTB180
	100-D210…100-D420, 193-EC_G, 193-EF2C, 193-EE_G	100-DTB420
Terminal Covers	100-D115…100-D180, 193-EC_F, 193-EE_F	100-DTC180
	100-D210…100-D420, 193-EC_G, 193-EE_G	100-DTC420
	100-D630…100-D860, 193-EC_H, 193-EE_H	100-DTC860
Terminal Shields (set of two)	100-D115…100-D180, 193-FE	100-DTS180
	100-D210…100-D420, 193-FE	100-DTS420

Drives



1-62…1-67

For more information on our complete family of IEC contactor products, please visit:
http://ab.rockwellautomation.com/Motor-Control/IEC-Contactors

Contactors

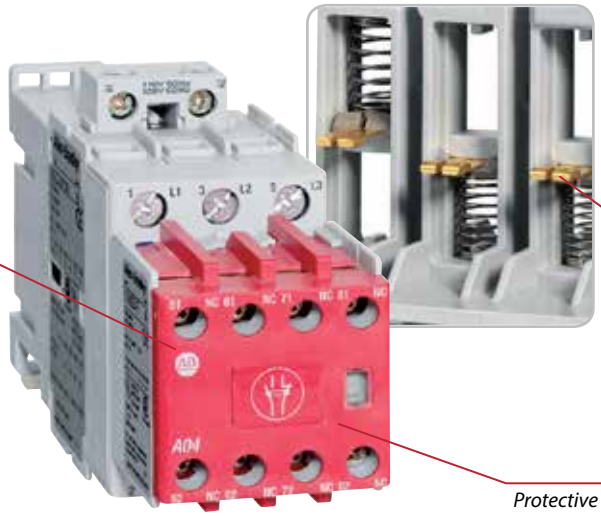


Safety Contactors
100S-C/104S-C, 100S-D

- 9…97 A (100S-C)
- 115…860 A (100S-D)
- SUVA third party certification
- AC and DC operating coils
- Mechanically linked or mirror contact performance
- Three or four main contacts

100S-C/104S-C safety contactors provide mechanically linked, or mirror, contact performance, which is required in feedback circuits for modern safety applications.

100S-D safety contactors are designed to address the needs of modern safety applications requiring feedback and monitoring of the energy isolating switchgear used in hazardous motion loads.



100S-C Safety Contactor

Certifications (100S-C)

- CE Marked
- cULus Listed (File No. E3125; Guide NLDX, NLDX7)
- CCC

Certifications (100S-D)

- CE Marked
- cULus Listed (File No. E41850; Guide NLDX, NLDX7)
- SUVA Certified
- CCC (115…180 conventional coil; 115…420 electronic coil)

Product Selection

100S-C Safety Contactors

Rated Operational Current [A]		Ratings for switching AC motors			Auxiliary Contacts		No. of Poles	AC Coil Control Cat. No.*
		3-Phase kW (50 Hz)	3-Phase Hp (60 Hz)					
AC-3	AC-1	400/415V	460V	575V	N.O.	N.C.		
9	32	4	5	7 1/2	1	4	3	100S-C09⊗14C
12	32	5.5	7-1/2	10	1	4	3	100S-C12⊗14C
16	32	7.5	10	15	1	4	3	100S-C16⊗14C
23	32	11	15	15	1	4	3	100S-C23⊗14C
30	65	15	20	25	1	4	3	100S-C30⊗14C
37	65	18.5/20	25	30	1	4	3	100S-C37⊗14C
43	85	22	30	30	1	4	3	100S-C43⊗14C
55	85	30	40	40	1	4	3	100S-C55⊗14C
60	100	32	40	50	1	4	3	100S- C60⊗14C
72	100	40	50	60	1	4	3	100S- C72⊗14C
85	100	45	60	60	1	4	3	100S- C85⊗14C
97	130	55	75	75	1	4	3	100S- C97 ⊗14C

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

* For more contact configurations, please reference online product selection. **BC** = bifurcated and **C** = standard.

100S-D Safety Contactors

Rated Operational Current [A]		Ratings for switching AC motors			Coil Type	Auxiliary Contacts		No. of Poles	AC Coil Control Cat. No.
		3-Phase kW (50 Hz)	3-Phase Hp (60 Hz)						
AC-3	AC-1	400V	460V	575V		N.O.	N.C.		
115	250	63	75	100	Conventional	2	2	3	100S-D115⊗22BC
140	250	78	100	125				3	100S-D140⊗22BC
180	250	101	150	150				3	100S-D180⊗22BC
210	350	118	150	200	Electronic	2	2	3	100S-D210⊗22BC
250	350	140	200	250				3	100S-D250⊗22BC
300	450	170	250	300				3	100S-D300⊗22BC
420	540	238	350	400				3	100S-D420⊗22BC
630	800	355	500	600				3	100S-D630⊗22BC
860	1000	500	600	700				3	100S-D860⊗22BC

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

⊗ Coil Voltage Codes for AC and DC Control

AC Control, 100S-C	
Code	Description
KJ	24V, 50/60 Hz
D	110V, 50 Hz/ 120V, 60 Hz
KF	230V, 50/60 Hz
KA	240V, 50/60 Hz

DC Control, 100S-C	
Code	Description
EJ	24V, Electronic coils (9…55 A only)
DJ	24V, integrated diode (60…97 A only)

AC Control	
Conventional Coils, 100S-D115…D180	
Code	Description
J	24V, 60 Hz
D	110V, 50 Hz/120V, 60 Hz
A	220…230V, 50 Hz/240V, 60 Hz
Electronic Coils,100S-D115…D860	
EJ	24V, 50/60 Hz
ED	110…130V, 50/60 Hz
EA	208…277V, 50/60 Hz

DC Control with Integrated Surge Suppression	
Code	Description
EZJ	24V, Electronic coils
ZJ	24V, Conventional coils

Drives



1-62…1-67

For more information on our complete family of IEC contactor products, please visit:
http://ab.rockwellautomation.com/Motor-Control/IEC-Contactors

Contactors





Definite-Purpose Contactors 400

- Compact size allows for space savings
- Feed-through wiring
- Double-break contacts
- Snap-on auxiliary contacts
- Rated for inductive lighting and resistive loads
- 1…4 pole options, 25…120 A resistive loads



Stationary Terminal
One piece terminal design with integral dual 0.250 quick connects. Meets NEMA Standard for spacing without insulated terminals.

Base Assembly
High arc-resistant polyester hold stationary terminals, positions actuator, and magnet/coil assembly.

Exclusive Terminal Screw
Hex, Slotted, Phillips, screw, #10-32 SEM's. Box lugs standard on 40 FLA models and larger.

Applications

- Air conditioners
- Compressors
- Welding equipment
- Business machines
- Power supplies
- Refrigeration equipment
- Resistive heating
- Food service equipment



Product Selection

400 Definite-Purpose Contactors

Full Load Amps [A]	No. of Poles	Max. Continuous Ampere Rating [A]		Line Voltage [V]	Locked Rotor Current [A]	Resistive Current Rating [A]	Control Voltage [V]	Max. [Hp]		Cat. No.
		Tungsten Lamp Loads [1]	Ballast Lighting Load					1-Phase	3-Phase	
20/25	2	25		240/277	150	35	120	2	–	400-DP25N⊗2
				480	125	35	240	3	–	
				600	100			3	–	
	3	25		240/277	150	35	110/120	2	5	400-DP25N⊗✪
				480	125	35	240/277	5	10	
				600	100	35	480	–	15	
30	2	30		240/277	150	40	120	2	–	400-DP30N⊗2
				480	125	40	240	3	–	
				600	100			3	–	
	3	30		240/277	180	40	110/120	2	5	400-DP30N⊗3✪
				480	150	40	240/277	5	10	
				600	150	40	480	–	15	
40	2	40		240/277	240	50	120	–	–	400-DP40N⊗2
				480	200	50	240	–	–	
				600	120	50	240	–	–	
40	3	–		240/277	240	50	110/120	–	–	400-DP40N⊗3
				480	200	50	200/208	–	–	
				600	120	50	240/277	–	–	
							480	–	–	
							600	–	–	

[1] Max. 480V line, 277V load.

⊗ The catalog number as listed is incomplete. Select coil voltage code from the table.

✪ Factory-installed Modifications

Description	Suffix Code
Auxiliary contact – 1 N.O./1 N.C. with QC for 3-pole – 20/25 and 30 A only	-AB5
Auxiliary contact – SPDT with QC for 3-pole – 20/25 and 30 A only	-A5
Auxiliary contact – 2 SPDT with QC for 3-pole – 20/25 and 30 A only	-AA5

⊗ AC Coil Voltage Codes

Code	Description
J	24V
D	120V
A	208/240V
F	277V
B	480V

Accessories

Description		Cat. No.
Arc covers for 20/25 and 30 A – 2-pole		400-C2
Mechanical interlock kit	20/25…40 A, 3-pole	400-MK1
DIN Rail adapter	20/25…40 A, 1-…4-pole	400-DRA
Auxiliary contact	1 N.O./1 N.C. w/QCs	400-AB1
	SPDT w/QCs	400-A1
	2-SPDT w/QCs	400-B2

Sales Offices and Distributors

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www.rockwellautomation.com/sales-partners/overview.page



Starters



Manual Motor Low Voltage Starters 600, 609, 609U, 609TU

- Compact design
- Undervoltage protection
- Manual operation with overload protection
- Ideal for low HP applications, up to 10 HP three phase

Manual motor starters are specifically designed for full voltage motor starting applications where remote push button control is not necessary. They are ideally suited for starting and protecting smaller motors frequently used for fans and blowers.

600 Manual Starting Switches



- Single phase
- Starting and overload protection of small AC/DC motors up to 1 Hp

609 Manual Starting Switches



- Single and three phase
- Contact position indicator
- Locking feature
- Reversing and 2-speed
- Wide range of enclosures, including hazardous location





609U & 609TU Manual Starting Switches

- Undervoltage protection
- Single and three phase
- Contact position indicator
- Locking feature
- Wide range of enclosures
- Push button or toggle switch

Product Selection

600 Manual Motor Starters

Type	No. of Poles	Open Type Without Enclosure Includes Legend Plate	Type 1 General Purpose Enclosure Surface Mount	Type 1 General Purpose Enclosure Flush Mount Includes Flush Plate Only
Switch Only				
Toggle	1	600-TOX4	600-TAX4	600-TQX4
	2	600-TOX5	600-TAX5	600-TQX5
Key	2	600-TOX49	600-TAX49	600-TQX49
Lever	1	600-TOX149	600-TAX149	–
Switch with Neon Pilot Light (115 or 230V)				
Toggle	1	600-TOX216	600-TAX216	600-TQX216
	2	600-TOX109	600-TAX109	600-TQX109
Key	2	600-TOX110	600-TAX110	600-TQX110
Switch and Hand-Off-Auto Selector Switch (for use on AC only)				
Toggle	2	–	600-TAX9	600-TQX9
Switch with Neon Pilot Light and Hand-Off-Auto Selector Switch (115 or 230V, AC only)				
Toggle	2	–	600-TAX142	600-TQX142
Key	2	–	600-TAX145	–

609 Manual Motor Starters

Type	Phase	Size	Max. Hp Rating Motor Voltage, 60 Hz				Open Type without Enclosure	Type 1 General Purpose Enclosure Surface Mount
			115V	200V	230V	460…575V	Cat. No.	Cat. No.
Push Button	1	0	1	–	2	–	609-AOX	609-AAX
		1	2	–	3	–	609-BOX	609-BAX
		1 P	3	–	5	–	609-XOX	609-XAX
	3	0	–	3	3	5	609-AOW	609-AAW
		1	–	7-1/2	7-1/2	10	609-BOW	609-BAW
Toggle Lever	1	0	1	–	2	–	609T-AOX	609T-AAX
		1	2	–	3	–	609T-BOX	609T-BAX
		1 P	3	–	5	–	609T-XOX	609T-XAX
	3	0	–	3	3	5	609T-AOW	609T-AAW
		1	–	7-1/2	7-1/2	10	609T-BOW	609T-BAW

Heater Elements – All single-phase starters require one heater element and three-phase starters require three heater elements.

Product selection for 609U & 609TU is available at
http://ab.rockwellautomation.com/Motor-Control/NEMA-Manual-Motor-Starter

Starters



IEC Eco Starters
190E/191E

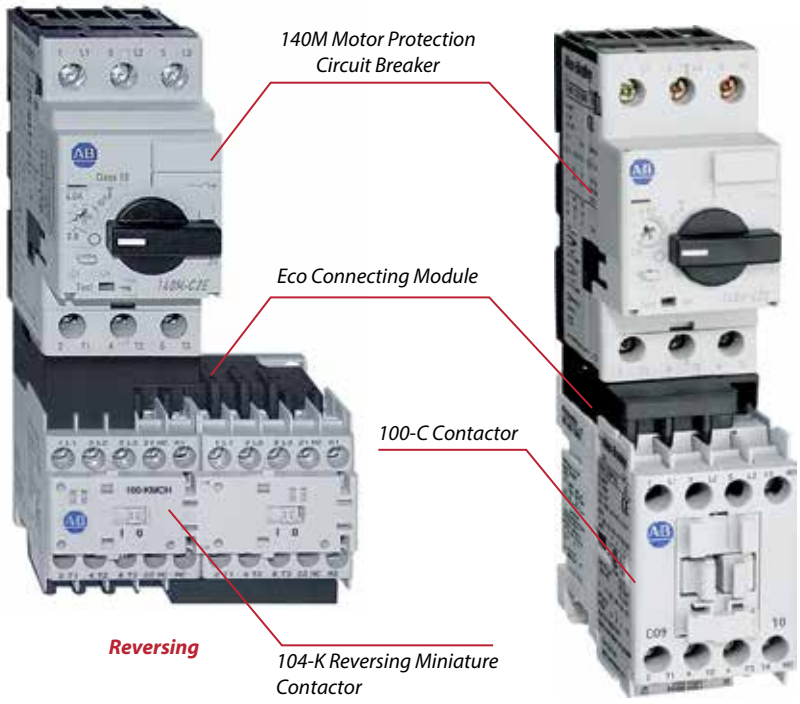
- Meets UL/CSA IEC standards
- 5…23 A
- Type 1 and 2 coordination
- AC or DC coils available
- Shares common accessories with 100-C/100-K contactors and 140M motor protection circuit breakers

The 190E/191E motor controllers can be used in a variety of applications. These starters can be used in a group motor application or as a stand-alone product without any additional short-circuit protection in the motor branch circuits. Rated Type F combination motor controllers (UL/CSA).

Options for Field Assembly

190/191-E starters can be field assembled. Simply select the following:

- 100-K/104-K miniature contactor (page 1-28 or 100-C/104-C contactor (page 1-29)
- 140M motor protection circuit breaker (page 1-3)
- Eco connecting module (catalog number 140M-C-PEK12, 140M-C-PEC23)



Circuit Breakers 1-2…1-13
Disconnect Switches 1-14…1-19
Control & Load Switches 1-20…1-23
Contactors 1-24…1-35
Starters 1-36…1-47
Motor Protection 1-48…1-53
Solid-State Motor Control 1-54…1-61

Product Selection

IEC Eco Starters with AC and DC-Operated Contactors

Motor Current Adjustment Range [A]	3-Phase kW (50 Hz) 400/415V	3-Phase Hp (60 Hz) 460V	Max. Short-Circuit Current Type 1 Coordination [kA] 480Y/277V	With 100-K IEC Miniature Contactors		With 100-C IEC Contactors	
				Direct on Line Cat. No.	Reversing Cat. No.	Direct on Line Cat. No.	Reversing Cat. No.
0.10…0.16	0.02	–	65	190E-KMN⊗2-CA16X	191E-KMN⊗1-CA16X	190E-AN⊗2-CA16X	191E-AN⊗3-CA16X
0.16…0.25	0.06	–	65	190E-KMN⊗2-CA25X	191E-KMN⊗1-CA25X	190E-AN⊗2-CA25X	191E-AN⊗3-CA25X
0.25…0.40	0.09	–	65	190E-KMN⊗2-CA40X	191E-KMN⊗1-CA40X	190E-AN⊗2-CA40X	191E-AN⊗3-CA40X
0.40…0.63	0.12…0.18	–	65	190E-KMN⊗2-CA63X	191E-KMN⊗1-CA63X	190E-AN⊗2-CA63X	191E-AN⊗3-CA63X
0.63…1.00	0.25	0.5	65	190E-KMN⊗2-CB10X	191E-KMN⊗1-CB10X	190E-AN⊗2-CB10X	191E-AN⊗3-CB10X
1.00…1.60	0.37…0.55	0.5…1	65	190E-KMN⊗2-CB16X	191E-KMN⊗1-CB16X	190E-AN⊗2-CB16X	191E-AN⊗3-CB16X
1.60…2.50	0.75	0.75…1.5	65	190E-KMN⊗2-CB25X	191E-KMN⊗1-CB25X	190E-AN⊗2-CB25X	191E-AN⊗3-CB25X
2.50…4.00	1.1…1.5	1.5…3	65	190E-KMN⊗2-CB40X	191E-KMN⊗1-CB40X	190E-AN⊗2-CB40X	191E-AN⊗3-CB40X
4.00…6.30	2.2	3…5	65	190E-KNN⊗2-CB63X	191E-KNN⊗1-CB63X	190E-AN⊗2-CB63X	191E-AN⊗3-CB63X
6.30…10.0	3.0…4.0	5…7.5	65	190E-KPN⊗2-CC10X	191E-KPN⊗1-CC10X	190E-BN⊗2-CC10X	191E-BN⊗3-CC10X
10.0…11.0	5.5	7.5	30	190E-KPN⊗2-CC16X	191E-KPN⊗1-CC16X	–	–
10.0…12.0	4.0…5.5	7.5	30	–	–	190E-BN⊗2-CC16X	191E-BN⊗3-CC16X
10.0…16.0	5.5…6.3	7.5…10.0	30	–	–	190E-CN⊗2-CC16X	191E-CN⊗3-CC16X

⊗ The catalog number as listed is incomplete. Select a coil voltage code from the table below.

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	Description
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50/60 Hz
KA	240V, 50/60 Hz

24V DC Control	
Code	Description
ZJ	Standard (190E/191E-K)
DJ	Integrated diode (190E/191E-K)
EJ	Electronic with integrated diode (190/191E-A...D)



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Starters



Enclosed Starters, IEC 109-C/105-C

- 109-C Direct On-line, Non-combination Starters
  - 100-C Contactor
  - Electronic motor protection
  - Disconnecting means to be provided separately
  - Factory modifications available
- 105-C Reversing, Non-combination Starters
  - 104-C reversing contactor
  - Electronic motor protection
  - Disconnecting means provided separately
  - Factory modifications available

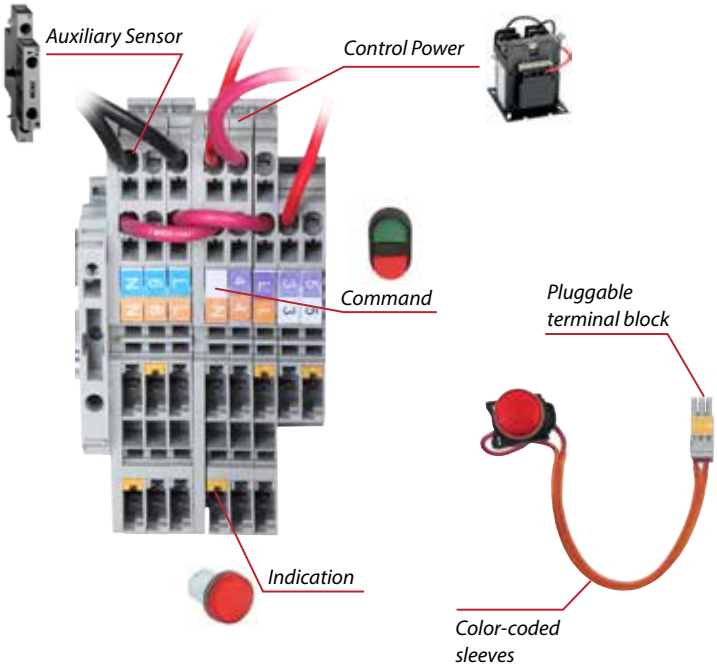
Compact Installation

Plastic enclosures provide a compact, cost effective solution to help reduce machine space and expand product flexibility.



Wiring Made Easy

Metal enclosures now feature component wiring color-coded by function. The wiring sleeve-cover corresponds to a colored label on the terminal block, reducing wiring errors and allowing for quicker installation times.



Circuit Breakers 1-2…1-13
Disconnect Switches 1-14…1-19
Control & Load Switches 1-20…1-23
Contactors 1-24…1-35
Starters 1-36…1-47
Motor Protection 1-48…1-53
Solid-State Motor Control 1-54…1-61

Product Selection

IEC Enclosed Starters

Type			Direct on Line Starter 109-C		Reversing 105-C	
Ratings AC-3		E1 Plus Overload Relay	IP66, Large Molded Plastic	IP42, Type 1 Metal	IP66, Large Molded Plastic	IP42, Type 1 Metal
Max I_e	Standard Motors AC-3, 3	Motor Current Setting Range	With START/STOP Multifunction Push Button (2 Functions) and Reset	With QC Wiring Technology	With FORWARD/OFF/REVERSE Multifunction Push Button (3 Functions) and Reset	With QC Wiring Technology
[A]	[kW]	[A]	Cat. No.	Cat. No.	Cat. No.	Cat. No.
9	4	1.0…5.0	109-C09L(X)E1C-1M-7	109-C09AD-XXX	105-C09L(X)E1C-1M-7	105-C09AD-XXX
9	4	3.2…16.0	109-C09L(X)E1D-1M-7	109-C09AD-XXX	105-C09L(X)E1D-1M-7	105-C09AD-XXX
12	5.5	3.2…16.0	109-C12L(X)E1D-1M-7	109-C12AD-XXX	105-C12L(X)E1D-1M-7	105-C12AD-XXX
16	7.5	3.2…16.0	109-C16L(X)E1D-1M-7	109-C16AD-XXX	105-C16L(X)E1D-1M-7	105-C16AD-XXX
23	11	5.4…27.0	109-C23L(X)E1E-1M-7	109-C23AD-XXX	105-C23L(X)E1E-1M-7	105-C23AD-XXX
30	15	9.0…45.0	109-C30L(X)E1F-1M-7	109-C30AD-XXX	–	105-C30AD-XXX
37	18.5	9.0…45.0	109-C37L(X)E1F-1M-7	109-C37AD-XXX	–	105-C37AD-XXX
43	22	9.0…45.0	109-C43L(X)E1F-1M-7	109-C43AD-XXX	–	105-C43AD-XXX

Accessories

Description	Cat. No.
E1 Plus DeviceNet and protection module	193-EDN
E1 Plus EtherNet/IP and protection module	193-ETN
E1 Plus jam protection module	193-EJM
E1 Plus ground fault module	193-EGF
E1 Plus ground fault/jam module	193-EGJ
E1 Plus PTC module	193-EPT
E1 Plus remote reset module	193-ERR



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	Description
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50/60 Hz
KA	240V, 50/60 Hz

DC Control with Integrated Surge Suppression	
Code	Description
DJ	24V (60...97 A only)
EJ	24V, Electronic (9…55 A only)
ED	110V, Electronic (9...55 A only)

Starters



Combination Starters, IEC 112/113

112 with fusible and non-fusible disconnect switches
113 with circuit breakers

- Non-reversing and reversing
- IP42 (Type 1) and IP66 (Type 3/4/12) enclosures
- Padlockable handle for up to three padlocks

These full-voltage combination starters are designed to provide the disconnecting means, short-circuit protection (with suitable fuses), control and overload protection for three-phase squirrel-cage motors. All starters include a normally open auxiliary contact as standard.



Enclosures

- IP42 (Type 1) general purpose sheet metal (hinged cover)
- IP66 (Type 3/4/12) watertight, dusttight sheet metal (hinged cover)

Product Selection

IEC Combination Starters, Non-Reversing

Ratings (AC3, AC4)			IP42 (Type 1) General Purpose Sheet Metal Enclosure (Hinged Cover)			IP66 (Type 3/4/12) Watertight, Dusttight Sheet Metal Enclosure (Hinged Cover)		
Max. I_e	Hp 3-Phase		Fusible Disconnect Type [1]		Circuit Breaker Type	Fusible Disconnect Type [1]		Circuit Breaker Type
[A]	230V	460V	Fuse Clip Rating/ UL Class	Cat. No.	Cat. No.	Fuse Clip Rating/ UL Class	Cat. No.	Cat. No.
9	2	5	30 A/Class J	112-C09A⊗✪	–	30 A/Class J	112-C09F⊗✪	–
12	3	7.5	30 A/Class J	112-C12A⊗✪	–	30 A/Class J	112-C12F⊗✪	–
23	7.5	15	30 A/Class J	112-C23A⊗✪	–	30 A/Class J	112-C23F⊗✪	–
30	10	20	60 A/Class J	112-C30A⊗✪	113-C30A⊗✪-❑	60 A/Class J	112-C30F⊗✪	113-C30F⊗✪-❑
43	15	30	60 A/Class J	112-C43A⊗✪	113-C43A⊗✪-❑	60 A/Class J	112-C43F⊗✪	113-C43F⊗✪-❑
60	20	40	100 A/Class J	112-C60A⊗✪	113-C60A⊗✪-❑	100 A/Class J	112-C60F⊗✪	113-C60F⊗✪-❑
72	25	50	100 A/Class J	112-C72A⊗✪	113-C72A⊗✪-❑	100 A/Class J	112-C72F⊗✪	113-C72F⊗✪-❑

⊗ The catalog number as listed is incomplete. Select a coil voltage code, circuit breaker code, and overload relay code from the tables below.

[1] Non-fusible versions also available.

❑ Circuit Breaker Code

Code	Max. Hp	Code	Max. Hp	Code	Max. Hp	Code	Max. Hp
33	0.5	39	5	43	20	50	100
35	1	40	7.5	44	25	51	125
36	1.5	41	10	45	30	52	150
38	3	42	15	48	60	54	200

✪ Overload Relay Code

Full Load Current Range [A]	3-Phase Overload Relay Code
0.1…0.5	E1A
0.2…1.0	E1B
1.0…5.0	E1C
3.2…16	E1D
5.4…27	E1E
9.0…45	E1F
18…90	E1G

⊗ Coil Voltage Codes for AC and DC Control

AC Control		DC Control with Integrated Surge Suppression	
Code	Description	Code	Description
KJ	24V, 50/60 Hz	DJ	24V (60...97 A only)
D	110V, 50 Hz/120V, 60 Hz	EJ	24V, Electronic (9…55 A only)
KF	230V, 50/60 Hz	ED	110V, Electronic (9...55 A only)
KA	240V, 50/60 Hz		

Modifications

Description	Suffix Code
START-STOP push button	1
Hand-Off-Auto selector switch	3
Red pilot light	4R

Drives



1-62…1-67

For more information on our complete family of IEC starter products, please visit:
http://ab.rockwellautomation.com/Motor-Control/Low-Voltage-Starters

Starters



NEMA Full-Voltage Starters
509 Heavy Duty Industrial

- NEMA sizes 00…9
- Available as a modular kit for faster delivery
- Includes a 120V AC coil and (1) N.O. auxiliary contact as standard
- Solid-state overload relays: Class 10, 15, 20, and 30

The 509 NEMA Starters are designed for full-voltage starting of polyphase squirrel-cage motors. These starters are available for constant horsepower, constant torque or variable torque, three-phase motors.



Feed-through construction

Can be wired for single- or three-phase applications

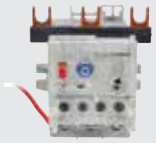
Also Available as Components



Base Contactor



Eutectic Alloy Overload Relay (optional)



Solid State Overload Relay

Circuit Breakers 1-2…1-13

Disconnect Switches 1-14…1-19

Control & Load Switches 1-20…1-23

Contactors 1-24…1-35

Starters 1-36…1-47

Motor Protection 1-48…1-53

Solid-State Motor Control 1-54…1-61

Product Selection

NEMA Sizes 0…4 by Components

Base Contactor

		Open Type Without Enclosure	Type 1 General Purpose Enclosure	Type 3R/4/12 Rainproof, Dusttight, Industrial Use Enclosure
NEMA Size	Continuous Ampere Rating [A]	Cat. No.	Cat. No.	Cat. No.
0	18	500F-AOD930	509-AAD	509-AJD
1	27	500F-BOD930	509-BAD	509-BJD
2	45	500F-COD930	509-CAD	509-CJD
3	90	500F-DOD930	509-DAD	509-DJD
4	132	500F-EOD930	509-EAD	509-EJD

Coils

	NEMA Size			
	0…1	2	3	4
Description	Cat. No.	Cat. No.	Cat. No.	Cat. No.
24V DC	599-B24DC	599-C24DC	599-D24DC	–
110V 50 Hz, 120V 60 Hz	599-CB236	599-CC236	599-CD236	599-CE236
220V 50 Hz, 240V 60 Hz	599-CB254	599-CC254	599-CD254	599-CE254
440V 50 Hz, 480V 60 Hz	599-CB273	599-CC273	599-CD273	599-CE273

Auxiliary Contacts

Description	NEMA Size	Cat. No.
1 N.O.	0…5	595-A
2 N.O.	0…5	595-AA
1 N.C.	0…5	595-B
2 N.C.	0…5	595-BB
1 N.O. and N.C.	0…5	595-AB

E1 Plus Solid-State Overload Relays, 3-Phase

NEMA Size	Current Range [A]	Cat. No.
0, 1	1.0...5.0	592-EECC
0…2	5.4...27	592-EEEC
3	9...45	592-EEFD
3	18...90	592-EEGD
4	30...150	592-EEHE

Drives



1-62…1-67

For more information on our complete family of NEMA starter products, please visit:
http://ab.rockwellautomation.com/Motor-Control/NEMA-Starters

Starters



Combination Starters, NEMA 512/513

512 with fusible and non-fusible disconnect switches
513 with circuit breakers

- Field-installed accessories
- Starter sizes 0…7
- Overload relays: eutectic supplied as standard, solid-state available as an option
- Reversing and non-reversing available
- NEMA Type 1, 4/12/3R, 4/4X, 3R/7-9
- UL listed and CSA certified

The robust NEMA combination starters are versatile in designs and flexible in configurations, allowing various command and indication options, enclosure sizes and environmental type ratings.



Product Selection

512 NEMA Non-Reversing Combination Starters

Size	Cont. Ampere Rating [A]	Max. Hp Rating [2] Motor Voltage, 60 Hz		Fuse Clip Rating [A] [1]	Type 1 General Purpose	Type 3R/4/12 Rainproof, Waterproof, Dustproof
		230V	460…575V		Cat. No.	Cat. No.
1	27	7-1/2	10	30	512-BA⊗-✪-24R	512-BF⊗-✪-24R
		7-1/2	10	60	512-BA⊗-✪-25R	512-BF⊗-✪-25R
2	45	–	25	30	512-CA⊗-✪-24R	512-CF⊗-✪-24R
		15	25	60	512-CA⊗-✪-25R	512-CF⊗-✪-25R
3	90	30	50	200	512-DA⊗-✪-27J	512-DF⊗-✪-27J
4	135	–	100	100	512-EA⊗-✪-26R	512-EF⊗-✪-26R
		50	100	200	512-EA⊗-✪-27R	512-EF⊗-✪-27R
		50	100	400	512-EA⊗-✪-28J	512-EF⊗-✪-28J
5	270	75	200	400	512-FA⊗-✪-28R	512-FF⊗-✪-28R
6	540	200	400	600*	–	512-GF⊗-✪-29R

513 NEMA Non-Reversing Combination Starters

Size	Cont. Ampere Rating [A]	Max. Hp Rating [2] Motor Voltage, 60 Hz			Type 1 General Purpose	Type 3R/4/12 Rainproof, Waterproof, Dustproof
		230V	460V	575V	Cat. No.	Cat. No.
1	27	1/2…1	0…1	0…1	513-BA⊗-✪-35	513-BF⊗-✪-35
		1-1/2…3	1-1/2…3	1-1/2…3	513-BA⊗-✪-38	513-BF⊗-✪-38
		5…7-1/2	5…7-1/2	5…7-1/2	513-BA⊗-✪-40	513-BF⊗-✪-40
2	45	10	–	–	513-CA⊗-✪-41	513-CF⊗-✪-41
		15	15	15	513-CA⊗-✪-42	513-CF⊗-✪-42
		–	20…25	20…25	513-CA⊗-✪-44	513-CF⊗-✪-44
3	90	30	–	30	513-DA⊗-✪-45	513-DF⊗-✪-45
		–	30…50	40…50	513-DA⊗-✪-47	513-DF⊗-✪-47
4	135	–	–	60	513-EA⊗-✪-48	513-EF⊗-✪-48
		–	60…75	–	513-EA⊗-✪-49	513-EF⊗-✪-49
		–	100	75…100	513-EA⊗-✪-50	513-EF⊗-✪-50
5	270	100	–	–	513-FA⊗-✪-50	513-FF⊗-✪-50
		–	–	125	513-FA⊗-✪-51	513-FF⊗-✪-51
		–	125…150	–	513-FA⊗-✪-52	513-FF⊗-✪-52
6	540	150	–	–	–	513-GF⊗-✪-52T
		200	–	–	–	513-GF⊗-✪-54T
		–	250	250	–	513-GF⊗-✪-56T

[1] Fuses not included. Select per NEC.
[2] Full load current must not exceed continuous ampere rating.
⊗ ✪ The catalog number as listed is incomplete. Select coil voltage and overload relay codes from the tables.
* For 230V and 460V Hp ratings, limit the maximum fuse sizing to 125% of motor full load current

⊗ AC Coil Voltage Codes

Common Control	
Code	Description
H	208V, 60 Hz
A	230…240V, 60 Hz
B	460 … 480V, 60 Hz
C	575 … 600V, 60 Hz

Separate 120V Control (without transformer)	
Code	Description
AD	208V, 60 Hz
AD	230…240V, 60 Hz
CD	460 … 480V, 60 Hz
CD	575 … 600V, 60 Hz

✪ Overload Relay Code

NEMA Size	FLC Adjustment Range [A]	Overload Relay Code
0, 1	0.2…1.0	A2C
	1.0…5.0	A2E
	3.2…16	A2F
	5.4…27	A2G
1	9…45	A2J
2	5.4…27	A2G
	9…45	A2J
3	9…45	A2J
	18…90	A2L
4	30…150	A2M
5	60…300	A2N
6	120…600	A2R

Drives



1-62…1-67

For more information on our complete family of NEMA starter products, please visit:
http://ab.rockwellautomation.com/Motor-Control/NEMA-Starters

Motor Protection



Bimetallic Overload Relays 193-K/193-T1

- Overload protection trip class 10
- Phase loss sensitivity
- Rated for DC and variable frequency drives applications up to 400 Hz
- 1 N.O. and 1 N.C. auxiliary contacts
- Visible trip indicator
- Remote reset capable

193-K bimetallic overload relays are designed for use with 100-K miniature contactors and 104-K miniature reversing contactors.

193-T1 bimetallic overload relays are designed for use with 100-C contactors and 104-C Reversing Contactors.





Applications

- Conveyors
- Fans
- Pumps
- VFD-controlled motors



Remote Reset Solenoid

For remote reset of 193-K and 193-T1 overload relays

Product Selection

Mounts to Contactor	Adjustment Range [A]	Cat. No.
100-C09…100-C23	0.90…1.3	193-T1AB13
	1.8…2.5	193-T1AB25
	2.9…4.0	193-T1AB40
	4.5…6.3	193-T1AB60
	5.5…7.5	193-T1AB75
	7.2…10	193-T1AC10
	9.0…12.5	193-T1AC12
	11.3…16	193-T1AC16
	21…25	193-T1AC25
100-C30…100-C37	15…20	193-T1BC20
	21…25	193-T1BC25
	29…36	193-T1BC36
	33…38	193-T1BC38
100-C43...100-C55	17…25	193-T1CC25
	35…47	193-T1CC47
	45…60	193-T1CC60
100-C60…100-C97	35…47	193-T1DC47
	45...60	193-T1DC60*
	58...75	193-T1DC75*
	72…90	193-T1DC90*
	77…97	193-T1DC97*

* Panel mount version available.

Mounts to Contactor	Adjustment Range [A]	Cat. No.
100-K05…K12	0.16…0.25	193-KA25
	0.25…0.40	193-KA40
	0.35…0.50	193-KA50
	0.45…0.63	193-KA63
	0.55…0.80	193-KA80
	0.75…1.0	193-KB10
	0.9…1.3	193-KB13
	1.1…1.6	193-KB16
	1.4…2.0	193-KB20
	1.8…2.5	193-KB25
	2.3…3.2	193-KB32
	2.9…4.0	193-KB40
	3.5…4.8	193-KB48
	4.5…6.3	193-KB63
100-K09...K12	5.5…7.5	193-KB75
	7.2…10.0	193-KC10
100-K12	9.0…12.5	193-KC12

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Accessories

Description		For Use With	Cat. No.
DIN Rail/Panel Mounting Adapter	For separate mounting of overload relays. Snaps on to 35 mm top hat rail	193-T1AA, 193-T1AB, 193-T1AC, 193-T1BC	193-T1APM
Screw Adapter	For screw fixing of the 193-T1APM panel adapter. (2 required per adapter)	193-T1APM	140M-C-N45
Remote Reset Solenoid	24V AC, 50/60 Hz	193-K, 193-T1	193-T1RKJ
	110/120V AC, 50/60 Hz		193-T1RD
	220/240V AC, 50/60 Hz		193-T1RKF
	24V DC		193-T1RZJ
	48V DC		193-T1RZY
	115V DC		193-T1RZD

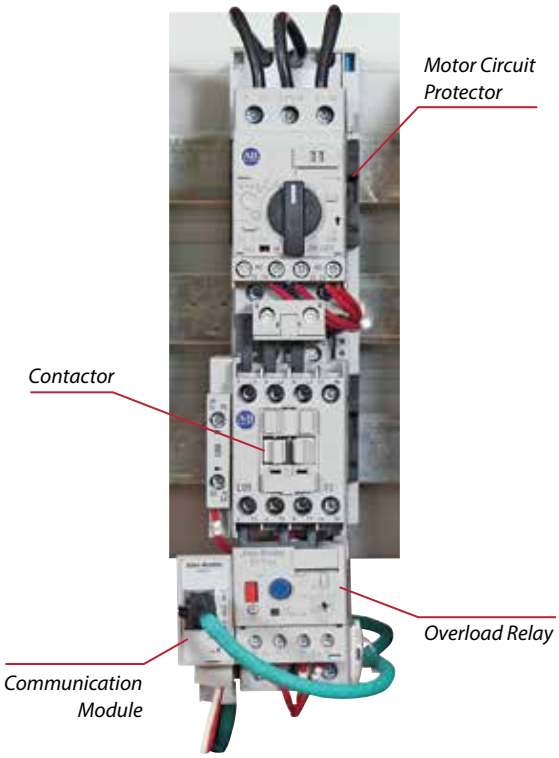
Motor Protection



Electronic Overload Relays
E1 Plus

- Adjustable trip class
- Self powered
- IEC and NEMA configurations
- Low energy consumption
- Allows wide current adjustment
- Three- and single-phase protection
- Pass-thru style available

The solid-state design of the E1 Plus™ Electronic Overload Relay, offered in two models, provides ambient temperature compensation, thermal and phase loss protection and a wide 5:1 adjustment range. The ED model provides fixed protection while the EE model provides selectable and expandable protection.



Communication Modules*

- EtherNet/IP
- DeviceNet
- ProfiBus



Protection Modules*

- Ground fault
- Jam protection
- Ground fault/ jam protection
- PTC module



Reset Modules*

- Remote reset
- Remote indicator



* Side mount modules only available for EE model.

Product Selection

193-EE IEC Overload Relays

Mounts to IEC Contactor	Adjustment Range [A]	Cat. No. *
100-C09…C23	1.0…5.0	193-EECB
	5.4…27	193-EEEB
100-C30…C43	1.0…5.0	193-EECD
	5.4…27	193-EEED
	9…45	193-EEFD
100-C60…C97	5.4…27	193-EEEE
	60…120	193-EEVE
100-C55	11…55	193-EEQD
100-D115…D180	60…120	193-EEVF
	40…200	193-EEJF
100-D210…D420	40…200	193-EEJG
	100…500	193-EELG
100-D630…D860	120…600	193-EEMH
	160…800	193-EENH
Pass-thru wiring, DIN Rail mount	1.0…5.0	193-EECP
	3.2…16	193-EEDP
	5.4…27	193-EEEP

* Selectable trip class 10, 15, 20 or 30. Selectable manual/automatic reset.

193-ED IEC Overload Relays

Mounts to IEC Contactor	Adjustment Range [A]	Cat. No. *
100-C09…100-C23	0.1…0.5	193-ED1AB
	0.2…1.0	193-ED1BB
	1.0…5.0	193-ED1CB
	3.2…16	193-ED1DB
	5.4…27	193-ED1EB
100-C30…100-C-43	5.4…27	193-ED1ED
	9…45	193-ED1FD
Integrated panel/DIN Rail mount and pass-thru wiring	1.0…5.0	193-ED1CP
	3.2…16	193-ED1DP
	5.4…27	193-ED1EP

* Manual reset, fixed trip class 10.



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Accessories

	Description	For Use With	Cat. No.
DIN Rail/panel adapter	For separate mounting – can be mounted to top-hat rail EN 50 022-35	193-EE_B	193-EPB
		193-EE_D	193-EPD
		193-EE_E	193-EPE
E1 Plus EtherNet/IP and protection module	Communicates motor diagnostic data via a network, includes additional I/O and provides enhanced motor protection options.†	193-EE (all), 592-EE (all)	193-ETN
E1 Plus DeviceNet and protection module		193-EE (all), 592-EE (all)	193-EDN
Remote reset solenoid	24V AC, 50/60 Hz	E1 Plus (Series C and later)	193-EMRJ
	110/120V AC, 50/60 Hz		193-EMRD
	220/240V AC, 50/60 Hz		193-EMRA
	24V DC		193-EMRZ24
	48V DC		193-EMRZ48
	115V DC		193-EMRZ01

† Only one module may be added.

Motor Protection



Electronic Overload Relay E300

- Modular design for application customization
- Sensing, control, and communication modules
- Diagnostic information to monitor motor performance
- Logix integration with add-on profiles, add-on instructions, and faceplates
- Dual port EtherNet/IP
- Simplified wiring between E300™ Electronic Overload Relay and 100-C contactor

The E300 Electronic Overload Relay provides a flexible design and advanced intelligence. With real-time motor diagnostic information to proactively indicate when a motor is having a problem allowing you to efficiently troubleshoot.

Mounting Options

Multiple mounting options allow you to install the E300 Electronic Overload Relay into your existing system.



IEC Motor Starter w/E300



DIN Rail Mount Motor Starter

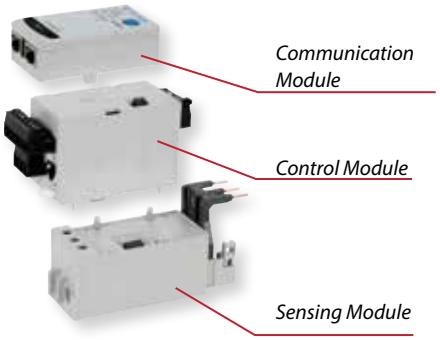


NEMA Motor Starter w/E300



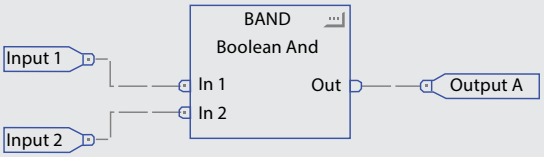
DIN Rail Mount Motor Starter Pass Thru Model

Modular Design



DeviceLogix

- Faster local I/O processing
- Helps improve control system performance
- Increase system reliability
- Increase system/machine modularity



Product Selection

Sensing Modules

Mounting Options	Current Range [A]	For Use With	Cat. No.
IEC Contactors	0.5…30	100-C09…C23	193-ESM-⊗-30A-C23
		100-C30…C55	193-ESM-⊗-30A-C55
	6…60	100-C30…C55	193-ESM-⊗-60A-C55
	10…100	100-C60…100-C97	193-ESM-⊗-100A-C97
DIN Rail / Panel Mount Power Terminals	0.5…30	All contactors and external current transformers	193-ESM-⊗-30A-T
	6…60	All contactors	193-ESM-⊗-60A-T
	10…100		193-ESM-⊗-100A-T
DIN Rail / Panel Mount Power Terminals. Directly replaces 193-ECPM_	0.5…30	All contactors and external current transformers	193-ESM-⊗-30A-E3T
	6…60	All contactors	193-ESM-⊗-60A-E3T
	10…100		193-ESM-⊗-100A-E3T
DIN Rail / Panel Mount Pass-thru	0.5…30	All contactors and external current transformers	193-ESM-⊗-30A-P
	6…60	All contactors	193-ESM-⊗-60A-P
	10…100		193-ESM-⊗-100A-P
NEMA Contactors	0.5…30	NEMA Size 0…2	592-ESM-⊗-30A-S2
	6…60		592-ESM-⊗-60A-S2
	10…100	NEMA Size 3	592-ESM-⊗-100A-S3

⊗ The catalog number as listed is incomplete. Use an I (Current), IG (Current/Ground Fault) or VIG (Voltage/Current/Ground Fault) to complete the catalog number.

Control Modules

Description	No. of Inputs/Outputs	Rated Control Voltage [V]	Cat. No.
I/O Module	6 in/3 out	24V DC	193-EIO-63-24D
	4 in/3 out	110…120V AC, 50/60 Hz	193-EIO-43-120
	4 in/3 out	220…240V AC, 50/60 Hz	193-EIO-43-240
I/O and Protection Module. Thermistor (PTC) and External Ground Fault Current*	4 in/2 out	24V DC	193-EIOGP-42-24D
	2 in/2 out	110…120V AC, 50/60 Hz	193-EIOGP-22-120
	2 in/2 out	220…240V AC, 50/60 Hz	193-EIOGP-22-240

* Requires core balanced ground fault sensor catalog number 193-CBCT_.

Communication Modules

Description	Cat. No.
EtherNet/IP	193-ECM-ETR

Expansion Modules

Description	No. of Inputs/Outputs	Rated Control Voltage [V]	Cat. No.
Digital Expansion Module, 24V DC	4 in/2 out	24V DC	193-EXP-DIO-42-24D
Digital Expansion Module, 120V AC	4 in/2 out	110…120V AC, 50/60 Hz	193-EXP-DIO-42-120
Digital Expansion Module, 240V AC	4 in/2 out	220…240V AC, 50/60 Hz	193-EXP-DIO-42-240
Analog Expansion Module: mA, V, RTD, and Resistance	3 universal in/1 out	–	193-EXP-AIO-31*
Expansion Power Supply	–	24V DC	193-EXP-PS-DC
		110…240V AC, 50/60 Hz	193-EXP-PS-AC
Starter Control Station with 3-Meter Cable	–	–	193-EOS-SCS
Starter Diagnostic Station with 3-Meter Cable	–	–	193-EOS-SDS*

* Module requires control module firmware v3.000 or higher.

Drives



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For more information on our complete family of circuit protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Solid-State Motor Control



Solid-State Contactors
156

- Ideal for high duty cycle applications
- Operational current rating 20…90 A
- Available in single-phase, dual-phase, or three-phase
- AC, DC, and analog control options
- Zero-cross switching

The 156 solid-state contactors are ideal replacements for electromechanical contactors where fast and demanding switching of loads such as heaters, solenoids, transformers, and motors is required.



Circuit Breakers 1-2…1-13
Disconnect Switches 1-14…1-19
Control & Load Switches 1-20…1-23
Contactors 1-24…1-35
Starters 1-36…1-47
Motor Protection 1-48…1-53
Solid-State Motor Control 1-54…1-61

Product Selection

Single-Phase Power Contactors

Rated Current [A]	Control Voltage	Rated Hp @ 40 °C (104 °F) 115V	230V	480V [1]	600V [1]	Cat. No. Nominal Voltage 24…230V AC	Nominal Voltage 42…600V AC
20	24…275V AC/DC, 24…48V DC	1/6	1/2	1	2	156-B20AA1	156-B20CA1
	5…24V DC					156-B20AB1	156-B20CB1
30	24…275V AC/DC, 24…48V DC	1/2	11/2	3	5	156-B30AA1	156-B30CA1
	5…24V DC					156-B30AB1	156-B30CB1
45	24…275V AC/DC, 24…48V DC	1	2	5	7-1/2	156-B45AA1	156-B45CA1
	5…24V DC					156-B45AB1	156-B45CB1
50	24…275V AC/DC, 24…48V DC	1	2	5	7-1/2	156-B50AA1	156-B50CA1
	5…24V DC					156-B50AB1	156-B50CB1
70	24…275V AC/DC, 24…48V DC	1-1/2	3	5	10	156-B70AA1	156-B70CA1
	5…24V DC					156-B70AB1	156-B70CB1
75	24…275V AC/DC, 24…48V DC	1-1/2	3	5	10	156-B75AA1	156-B75CA1
	5…24V DC					156-B75AB1	156-B75CB1
90	24…275V AC/DC, 24…48V DC	1-1/2	3	5	10	156-B90AA1	156-B90CA1
	5…24V DC					156-B90AB1	156-B90CB1

[1] These Hp ratings only apply to units with operational voltage ranges of 48…660V AC.

Dual-Phase Power Contactors

Rated Current [A]	Control Voltage	Rated Hp @ 40 °C (104 °F) 115V	230V	480V [2]	600V [2]	Cat. No. Nominal Voltage 24…230V AC	Nominal Voltage 48…600V AC
25	24…275V AC/DC, 24…190V DC	1	3	5	7-1/2	156-B25AA2	156-B25CA2
	5…24V DC					156-B25AB2	156-B25CB2
32	24…275V AC/DC, 24…190V DC	1	3	7-1/2	10	156-B32AA2	156-B32CA2
	5…24V DC					156-B32AB2	156-B32CB2

[2] These Hp ratings only apply to units with operational voltage ranges of 48…660V AC.

Three-Phase Power Contactors

Rated Current [A]	Control Voltage	Rated Hp @ 40 °C (104 °F) 115V	230V	480V [3]	600V [3]	Cat. No. Nominal Voltage 24…230V AC	Nominal Voltage 48…600V AC
20	24…275V AC/DC, 24…190V DC	1	3	5	7-1/2	156-B20AA3	156-B20CA3
	5…24V DC					156-B20AB3	156-B20CB3
25	24…275V AC/DC, 24…190V DC	1	3	7-1/2	10	156-B25AA3	156-B25CA3
	5…24V DC					156-B25AB3	156-B25CB3
32	24…275V AC/DC, 24…190V DC	1	3	7-1/2	10	156-B32AA3	156-B32CA3
	5…24V DC					156-B32AB3	156-B32CB3

[3] These Hp ratings only apply to units with operational voltage ranges of 48…660V AC.

Solid-State Motor Control



Smart Motor Controller
150 SMC™-3

- Solid-state soft-start motor controller with internal bypass
- Current ratings of 1…480 A in global voltage classes from 200…600V
- Compact footprint
- Internal bypass
- Five Start/Stop modes
- Built-in machine overload protection
- 3-phase monitoring

Internal Bypass

The bypass automatically closes when the motor reaches its nominal speed, minimizing heat generation.

- *Reduced enclosure size*
- *Reduced total cost*

Hold to Test/Push to Reset Button

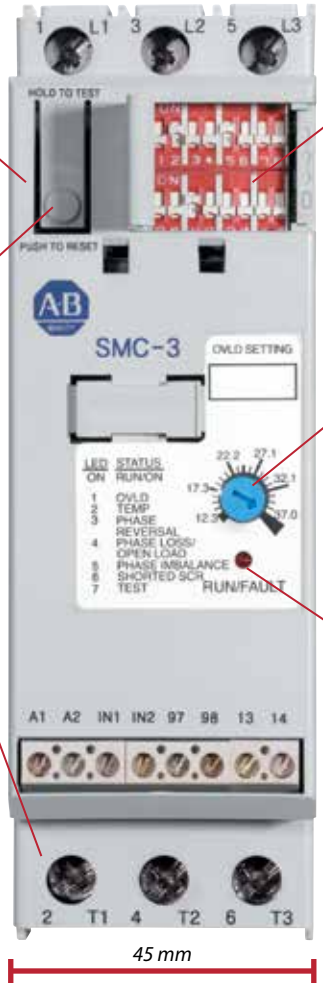
Used to simulate fault conditions or reset the unit.

- *Reduces downtime*
- *Assists during setup*

Ultra-Compact Size

1…37 A units are only 45 mm wide.

- *Reduced panel space*
- *Higher-density installations*



45 mm

Easy and Secure Setup

DIP switches allow setting of the START/STOP profile, built-in overload, connection type, trip class, and auxiliary contact characteristics.

- *Process optimization*
- *Setup efficiency*

Simplified Motor FLA Setup

Rotary switch allows quick and easy setup of motor FLA.

- *Setup efficiency*
- *Protects motor assets*

LED Display

Status information provided including RUN, Fault type and OFF.

- *Instant status display*
- *Assists during troubleshooting*

Product Selection

Line-Connected Controllers

Rated Voltage [V AC]	Current Rating [A]	Starting Duty		Open Type		IP65 (Type 4/12) Enclosed Non- Combination Controllers
		kW	Hp, 60 Hz	100…240V AC 50/60 Hz Control	24V AC/DC Control	
		350%	350%	Cat. No.	Cat. No.	Cat. No. [1]
380/400/ 415/460	1…3	1.1	0.5…1.5	150-C3NBD	150-C3NBR	150-C3FBD
	3…9	4	1.5…5	150-C9NBD	150-C9NBR	150-C9FBD
	5.3…16	7.5	5…10	150-C16NBD	150-C16NBR	150-C16FBD
	6.3…19	7.5	5…10	150-C19NBD	150-C19NBR	150-C19FBD
	9.2…25	11	7.5…15	150-C25NBD	150-C25NBR	150-C25FBD
	10…30	15	7.5…20	150-C30NBD	150-C30NBR	150-C30FBD
	12.3…37	18.5	10…25	150-C37NBD	150-C37NBR	150-C37NBD
	14.3…43	22	10…30	150-C43NBD	150-C43NBR	150-C43FBD
	20…60	30	15…40	150-C60NBD	150-C60NBR	150-C60FBD
	28.3…85	45	25…60	150-C85NBD	150-C85NBR	150-C85FBD
	27…108	55	50…75	150-C108NBD	150-C108NBR [1]	150-C108FBD
	34…135	75	60…100	150-C135NBD	150-C135NBR	150-C135FBD
	67…201	95…110	75…150	150-C201NBD	150-C201NBR [1]	150-C201FBD
	84…251	95…132	100…200	150-C251NBD	150-C251NBR [1]	150-C251FBD
	106…317	95…160	125…250	150-C317NBD	150-C317NBR [1]	150-C317FBD
	120…361	110…200	250…300	150-C361NBD	150-C361NBR [1]	150-C361FBD
	160…480	160…250	300…400	150-C480NBD	150-C480NBR [1]	150-C480FBD

[1] Separate 120V or 240V is required for operation.

Accessories

Protective Modules

Description	For Use With	Cat. No.
480V Protective Module	150-C3…37NB	150-C84
	150-C43…85NB (line and/or load)	150-C84P
	150-C108…480NB (line and/or load)	150-F84L



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Terminal Lug Kits (108...480 A)

Current Rating [A] [2]	Wire Size	Total No. of Line Controller Terminal Lugs		Pkg. Qty.	Cat. No.
		Per Line Side	Per Load Side		
108…135 [3]	#6…250 MCM AWG 16…120 mm²	3	3	3	199-LF1
201…251 [3]		6	6		
317…480 [3]	#4…500 MCM AWG 25…240 mm²	6	6		199-LG1

[2] 5…85 A units have box lugs standard. No additional lugs are required.

[3] When a multi-conductor lug is required, refer to the Instruction Sheet for appropriate lug catalog number.

Drives



1-62…1-67

For more information on our complete family of soft starter products, please visit:
http://ab.rockwellautomation.com/Motor-Control/Soft-Starters

Solid-State Motor Control



Smart Motor Controller 150 SMC™ Flex

- Solid state soft-start motor controller with internal bypass
- Current ratings of 1…1250 A in global voltage classes from 200…690V
- Integrated bypass
- Modular for installation and maintenance
- Built-in LCD and keypad
- Nine Start/Stop modes & up to three slow-speed modes
- Full metering and diagnostics

Integral Bypass

The bypass automatically closes when the motor reaches its nominal speed, minimizing heat generation.

- *Reduced enclosure size*
- *Reduced total cost*

Feed-through Wiring

Power Pole



Advanced Monitoring and Diagnostics

Built-in current and voltage protection provide enhanced power monitoring and diagnostic capabilities.

- *No additional monitoring equipment required*
- *PTC input*
- *Ground fault detection*

Communications

Optional communication modules allow the SMC-Flex to be connected to multiple networks.

- *Common DPI modules reduce inventory*
- *EtherNet/IP, DeviceNet, ControlNet and other networks available*

Simplified Application Setup

Built-in multilingual, backlit LCD display for programming and monitoring.

- *Setup efficiency*
- *Process optimization*

Product Selection

Line-Connected Controllers

Rated Voltage [V AC]	Motor Current [A]	kW	Hp, 60 Hz	Open Type		IP65 (Type 4/12) Enclosed Non-Combination Controllers [3,4]
				100…240V AC 50/60 Hz Control [1]	24V AC/DC Control [2]	
				Cat. No.	Cat. No.	Cat. No.
400/415/460	1…5	2.2	3	150-F5NBD	150-F5NBR	150-F5FBD
	5...25	11	15	150-F25NBD	150-F25NBR	150-F25FBD
	8.6…43	22	30	150-F43NBD	150-F43NBR	150-F43FBD
	12...60	30	40	150-F60NBD	150-F60NBR	150-F60FBD
	17…85	45	60	150-F85NBD	150-F85NBR	150-85FBD
	27…108	55	75	150-F108NBD	150-F108NBR	150-108FBD
	34…135	75	100	150-F135NBD	150-F135NBR	150-F135FBD
	67…201	110	150	150-F201NBD	150-F201NBR	150-F201FBD
	84…251	132	200	150-F251NBD	150-F251NBR	150-F251FBD
	106…317	160	250	150-F317NBD	150-F317NBR	150-F317FBD
	120…361	200	300	150-F361NBD	150-F361NBR	150-F361FBD
	160…480	250	400	150-F480NBD	150-F480NBR	150-F480FBD
	208…625	355	500	150-F625NBE	–	150-F625JBE [1]
	260…780	450	600	150-F780NBE	–	150-F780JBE [1]
	323…970	560	800	150-F970NBE	–	–
	416…1250	710	1000	150-F1250NBE	–	–

[1] 625…1250 A devices listed are only available for 110/120V control. For 230/240V control, change the **E** in the catalog number to an **A**. Example: Catalog number 150-F625NB**E** becomes 150-F625NB**A**.

[2] Separate 120V or 240V single-phase power supply is required for fan operation.

[3] Line and load termination are provided as standard.

[4] These controllers require a separate 100…240V, 50/60 Hz single-phase control source. To add a control circuit transformer to the enclosure, add the appropriate option code to the catalog number.

Accessories

Terminal Lug Kits (108...1250 A)

Current Rating [A] [5]	Wire Size	Total No. of Line Controller Terminal Lugs		Cat. No.
		Per Line Side	Per Load Side	
108…135 [6]	#6…250 MCM AWG 16…120 mm²	3	3	199-LF1
201…251 [6]		6	6	
317…480 [6]	#4…500 MCM AWG 25…240 mm²	6	6	199-LG1
625…780	2/0…500 MCM AWG	6	6	100-DL630
970	4/0…500 MCM AWG	3	3	100-DL860
1250 [7]	2/0…500 MCM AWG	3	3	100-DL630
	4/0…500 MCM AWG	3	3	100-DL860

[5] 5...85 A units have box lugs standard. No additional lugs are required.

[6] When a multi-conductor lug is required, see the SMC-Flex user manual for recommended lugs.

[7] The 1250 A device requires (1) catalog number 100-DL630 and (1) catalog number 100-DL860 per connection.

Communication Modules

Network	Cat. No.
PROFIBUS DP	20-COMM-P
ControlNet (Coax)	20-COMM-C
DeviceNet	20-COMM-D
EtherNet/IP	20-COMM-E

Solid-State Motor Control



Smart Motor Controller 150 SMC™-50

- Solid state soft-start motor controller
- Current ratings of 90…520 A in global voltage classes from 200…690V
- Application scalability
  - Normal and heavy-duty ratings
  - Expandable I/O and sensor capability
  - Network integration capabilities
- Switch, LCD, or PC software setup
- 17 Start/Stop modes and three slow-speed modes



Solid-State Power Structure

State-of-the-art solid-state SCR power structure.

• Ideal for harsh environments
• Higher operations per hour
• Scalable thermal ratings
• Higher SCCR ratings

LED Display

Multi-colored LED provides both diagnostics and controller status information.

• Instant status display
• Assists during troubleshooting

Hardware Expansion Ports

Three hardware expansion ports accept optional digital and analog I/O expansion modules as well as a protection module (PTC, Ground Fault, Current Feedback).

• Process scalability & optimization
• Application flexibility (simple to complex)

Simplified, Scalable Application Setup

Optional parameter configuration module, human interface module, or PC-based software for programming and monitoring simplifies setup.

• Setup efficiency
• Process optimization

Hold to Test/Push to Reset Button

Used to quickly test for fault conditions or reset the unit.

• Reduces downtime
• Assist during setup

Communications

Optional communication modules allow the SMC-50 to be connected to multiple networks.

• Common DPI modules reduce inventory
• EtherNet/IP, DeviceNet, ControlNet and other networks available

Common Control Module

All features/functions are included in standard control module including linear acceleration/deceleration, torque control, pump control, Smart Motor Braking (SMB), and Energy Saver mode.

• Reduced inventory
• Increased efficiency

SMC-50 Virtual Demonstration

For more information about the SMC-50 Solid-State Soft Starters, please visit: www.marketing.rockwellautomation.com/smc50/

Circuit Breakers

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Disconnect Switches

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Control & Load Switches

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Contactors

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Motor Protection

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Solid-State Motor Control

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Product Selection

Line-Connected Controllers

Rated Voltage [V AC]	Motor Current [A]	kW, 50 Hz	Hp, 60 Hz	Open Type		IP65 (Type 4/12) Enclosed Non-Combination Controllers [1]
				100…240V AC, 50/60 Hz	24V DC	
				Cat. No.	Cat. No.	Cat. No.
400/415 (kW) 460 (Hp)	30…90	17…50	25…60	150-SB1NBD	150-SB1NBR	150-SB1FBD
	37…110	20…55	30…75	150-SB2NBD	150-SB2NBR	150-SB2FBD
	47…140	30…75	40…100	150-SB3NBD	150-SB3NBR	150-SB3FBD
	60…180	37…90	50…150	150-SB4NBD	150-SB4NBR	150-SB4FBD
	70…210	40…110	60…150	150-SC1NBD	150-SC1NBR	150-SC1FBD
	87…260	50…132	75…200	150-SC2NBD	150-SC2NBR	150-SC2FBD
	107…320	63…160	100…250	150-SC3NBD	150-SC3NBR	150-SC3FBD
	120…361	75…200	100…300	150-SD1NBD	150-SD1NBR	150-SD1FBD
	140…420	80…220	125…300	150-SD2NBD	150-SD2NBR	150-SD2FBD
	174…520	100…300	150…450	150-SD3NBD	150-SD3NBR	150-SD3FBD

[1] Requires a bypass contactor. Add **-BP** or **-NB** to the end of the catalog number to denote an IEC or NEMA bypass contactor, respectively. Example: For an IEC bypass contactor, catalog number 150-SB1NBD becomes catalog number 150-SB1NBD-**BP**.

Accessories

Option Cards

Description	Cat. No.
PTC, ground fault & current feedback	150-SM2
Analog I/O: 2 Inputs, 2 outputs	150-SM3
Digital I/O : 4 100…240V AC inputs, 3 relay outputs	150-SM4
Parameter configuration	150-SM6

Bypass Kits

Description	Cat. No.
C-Frame Bypass Kit (210…320 A)	150-SCBK
D-Frame Bypass Kit (361…520 A)	150-SDBK

Terminal Lug Kits (90...520 A)

Current Rating [A]	Wire Size	Total No. of Line Controller Terminal Lugs		Pkg. Qty.	No Bypass	With Bypass
		Per Line Side	Per Load Side		Cat. No.	Cat. No.
90…180	#6…250 MCM AWG, 16…120 mm²	3	3	3	199-LF1	1494R-N14 [2]
210…320	#6…250 MCM AWG, 16…120 mm²	6 [3]	6	3	199-LF1	199-LF1
361…520	#4…500 MCM AWG, 25…240 mm²	6 [3]	6	3	199-LG1	199-LG1

[2] Wire size range changes to (2) #6...250 MCM AWG, 16...120 mm².

[3] Six additional line side terminal lugs needed for bypass kit.

Communication Modules

Network	Cat. No.
PROFIBUS DP	20-COMM-P
ControlNet (Coax)	20-COMM-C
DeviceNet	20-COMM-D
EtherNet/IP	20-COMM-E
Dual-port EtherNet/IP	20-COMM-ER

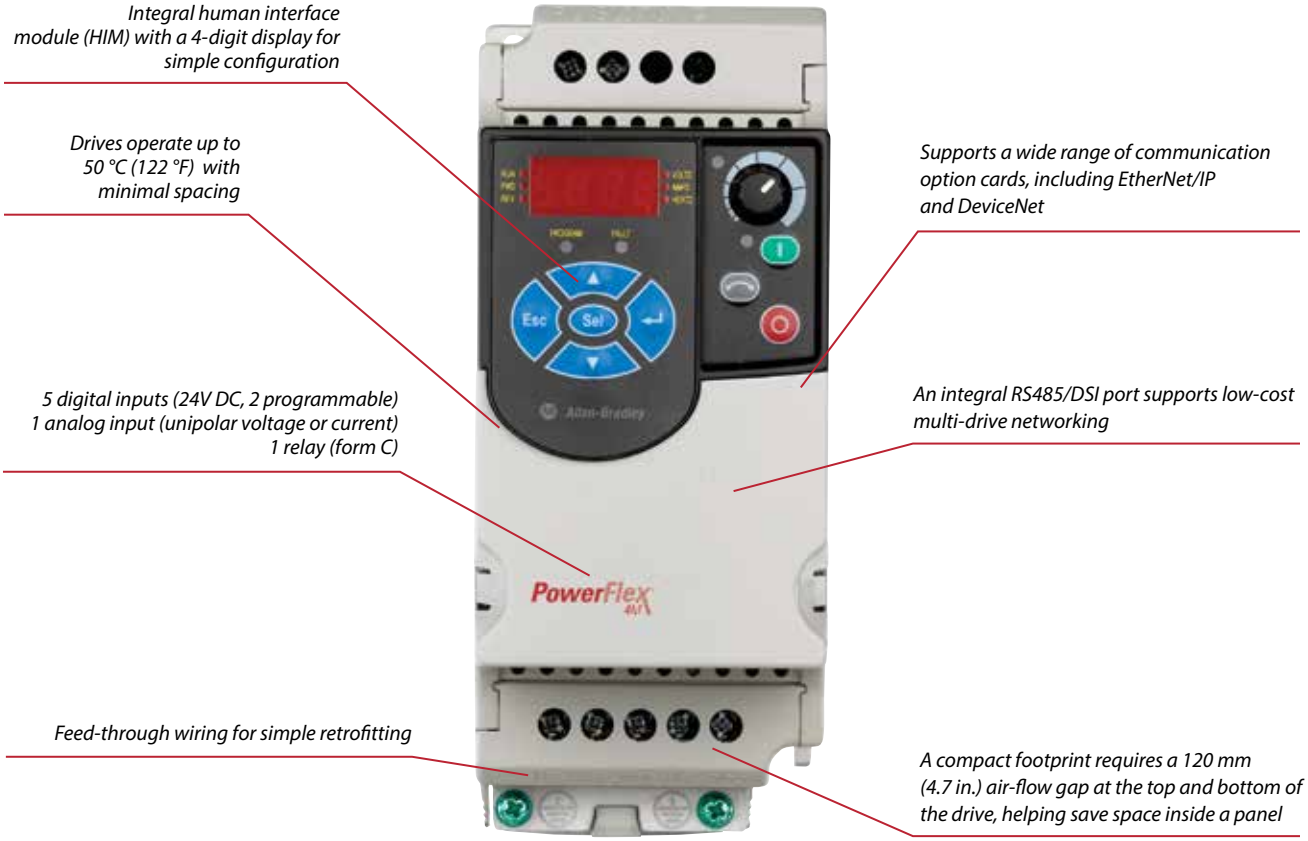
Drives



AC Drives
PowerFlex 4M

- Power ratings of 0.2...11 kW / 0.25...15 Hp at 120V, 240V, and 480V to meet a wide range of applications
- Volts per hertz and slip compensation to meet application demands
- Flexible, time-saving installation using DIN Rail mounting with A and B frame drives
- Feed-through wiring for simple retrofitting into applications requiring variable speed motor control
- Side-by-side mounting in ambient temperatures up to 40 °C (104 °F), saving valuable panel space

Providing powerful motor speed control in a compact, space saving design, the Allen-Bradley® PowerFlex 4M AC drive is the smallest and most cost effective member of the PowerFlex family of drives



Circuit Breakers	Disconnect Switches	Control & Load Switches	Contactors	Starters	Motor Protection	Solid-State Motor Control
1-2…1-13	1-14…1-19	1-20…1-23	1-24…1-35	1-36…1-47	1-48…1-53	1-54…1-61

Product Selection

Single-Phase, 50/60 Hz, No Brake, IP20, NEMA/UL Type Open

Drive Ratings		100…120V AC			200…240V AC			Cat. No. with EMC Filter
kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	
0.2	0.25	1.6	A	22F-V1P6N103	1.6	A	22F-A1P6N103	22F-A1P6N113
0.4	0.5	2.5	A	22F-V2P5N103	2.5	A	22F-A2P5N103	22F-A2P5N113
0.75	1	4.5	B	22F-V4P5N103	4.2	A	22F-A4P2N103	22F-A4P2N113
1.1	1.5	6	B	22F-V6P0N103	–	–	–	–
1.5	2	–	–	–	8	B	22F-A8P0N103	22F-A8P0N113
2.2	3	–	–	–	11	B	22F-A011N103	22F-A011N113

Three-Phase, 50/60 Hz, No Brake, IP20, NEMA/UL Type Open

Drive Ratings		200…240V AC			380…480V AC			Cat. No. with EMC Filter
kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	
0.2	0.25	1.6	A	22F-B1P6N103	–	–	–	–
0.4	0.5	2.5	A	22F-B2P5N103	1.5	A	22F-D1P5N103	22F-D1P5N113
0.75	1	4.2	A	22F-B4P2N103	2.5	A	22F-D2P5N103	22F-D2P5N113
1.5	2	8	A	22F-B8P0N103	4.2	A	22F-D4P2N103	22F-B8P0N103
2.2	3	12	B	22F-B012N103	6	B	22F-D6P0N103	22F-D6P0N113
3.7	5	17.5	B	22F-B017N103	8.7	B	22F-D8P7N103	22F-D8P7N113
with brake								
5.5	7.5	25	C	22F-B025N104	13	C	22F-D013N104	22F-D013N114
7.5	10	33	C	22F-B033N104	18	C	22F-D018N104	22F-D018N114
11	15	–	–	–	24	C	22F-D024N104	22F-D024N114

Specifications

Power Ratings	100…120V: 0.2...1.1 kW / 0.25...1.5 Hp 200…240V: 0.2...7.5 kW / 0.25...10 Hp	380 …480V: 0.4...11 kW / 0.5...15 Hp	
Motor Control	Volts per hertz	Slip compensation	–
Application	Open loop speed regulation	–	–
Control I/O	5 digital inputs (24V DC, 2 programmable)	1 analog input (unipolar voltage or current)	1 relay (form C)
Communications	Integral RS485 with Modbus RTU/DSI	Optional: DeviceNet, LonWorks, Bluetooth, EtherNet/IP, PROFIBUS DP, ControlNet, BACnet (Optional networks for use only with external DSI communications kit)	
Control Features	Flying start V/F ratio	Bus regulator Process PID	4 preset speeds Multi-drive connectivity (requires communication option card)



1-62…1-67

For more information on our complete family of compact drives, please visit:
http://ab.rockwellautomation.com/Drives/Compact

Drives



AC Drives
PowerFlex 523

- Power ratings of 0.2...22 kW / 0.25...30 Hp in global voltage classes from 100…600V to meet a wide range of applications
- Modular design features a removable control module that allows simultaneous wiring installation and software configuration to help increase productivity
- AppView® application parameter groups and CustomView™ configuration help speed machine commissioning
- Volts per hertz and sensorless vector control provide flexible motor control options

Allen-Bradley PowerFlex 523 AC drives are designed to help reduce installation and configuration time while offering the control you need for your application. These drives offer convenient programming features and installation flexibility in a cost-effective solution.

Supports a wide range of communication option cards, including dual port EtherNet/IP™ and DeviceNet

An integral RS485/DSI port supports low-cost multi-drive networking

A compact footprint requires a 50 mm (1.96 in.) mounting clearance for air flow at the top and bottom of the drive, helping save space inside a panel



An integral LCD human interface module (HIM) eases configuration with multi-language support and QuickView™ scrolling text to help explain parameters and codes

Drives operate in ambient temperatures from -20… +50 °C (-4…+122 °F). With current derating and a control module fan kit, up to 70 °C (158 °F)

5 digital inputs (24V DC, 4 programmable)
1 analog input (unipolar voltage or current)
1 relay (form C)

Explore the PowerFlex 523 AC drive in our virtual brochure: www.ab.com/go/powerflex520series

Circuit Breakers	Disconnect Switches	Control & Load Switches	Contactors	Starters	Motor Protection	Solid-State Motor Control
1-2…1-13	1-14…1-19	1-20…1-23	1-24…1-35	1-36…1-47	1-48…1-53	1-54…1-61

Product Selection

Single-Phase

Drive Ratings, Normal & Heavy Duty		100…120V AC, 50/60 Hz			200…240V AC, 50/60 Hz			
kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	Cat. No. with EMC Filter
0.2	0.25	1.6	A	25A-V1P6N104	1.6	A	25A-A1P6N104	25A-A1P6N114
0.4	0.5	2.5	A	25A-V2P5N104	2.5	A	25A-A2P5N104	25A-A2P5N114
0.75	1	4.8	B	25A-V4P8N104	4.8	A	25A-A4P8N104	25A-A4P8N114
1.1	1.5	6	B	25A-V6P0N104	–	–	–	–
1.5	2	–	–	–	8	B	25A-A8P0N104	25A-A8P0N114
2.2	3	–	–	–	11	B	25A-A011N104	25A-A011N114

Three-Phase

Drive Ratings													
Normal Duty		Heavy Duty		200…240V AC, 50/60 Hz			380…480V AC, 50/60 Hz				525…600V AC, 50/60 Hz		
kW	Hp	kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	Cat. No. with EMC Filter	Output Current [A]	Frame Size	Cat. No.
0.2	0.25	0.2	0.25	1.6	A	25A-B1P6N104	–	–	–	–	–	–	–
0.4	0.5	0.4	0.5	2.5	A	25A-B2P5N104	1.4	A	25A-D1P4N104	25A-D1P4N114	0.9	A	25A-E0P9N104
0.75	1	0.75	1	4.8	A	25A-B5P0N104	2.3	A	25A-D2P3N104	25A-D2P3N114	1.7	A	25A-E1P7N104
1.5	2	1.5	2	8	A	25A-B8P0N104	4	A	25A-D4P0N104	25A-D4P0N114	3	A	25A-E3P0N104
2.2	3	2.2	3	11	A	25A-B011N104	6	A	25A-D6P0N104	25A-D6P0N114	4.2	A	25A-E4P2N104
4	5	4	5	17.5	B	25A-B017N104	10.5	B	25A-D010N104	25A-D010N114	6.6	B	25A-E6P6N104
5.5	7.5	5.5	7.5	24	C	25A-B024N104	13	C	25A-D013N104	25A-D013N114	9.9	C	25A-E9P9N104
7.5	10	7.5	10	32.3	D	25A-B032N104	17	C	25A-D017N104	25A-D017N114	12	C	25A-E012N104
11	15	11	15	48.3	E	25A-B048N104	24	D	25A-D024N104	25A-D024N114	19	D	25A-E019N104
15	20	11	15	62.1	E	25A-B062N104	30	D	25A-D030N104	25A-D030N114	22	D	25A-E022N104
18.5	25	15	20	–	–	–	37	E	–	25A-D037N114	27	E	25A-E027N104
22	30	18.5	25	–	–	–	43	E	–	25A-D043N114	32	E	25A-E032N104

Specifications

Power Ratings	100…120V: 0.2...1.1 kW / 0.25...1.5 Hp 380…480V: 0.4...22 kW / 0.5...30 Hp	200…240V: 0.2...15 kW / 0.25...20 Hp 525…600V: 0.4...22 kW / 0.5...30 Hp	
Motor Control	Volts per hertz	Sensorless vector control	Sensorless vector control with Economizer
Application	Open loop speed regulation	–	–
Control I/O	5 digital inputs (24V DC, 4 programmable)	1 relay (form c)	1 analog input (unipolar voltage or current)
Communications	Integral RS485 with Modbus RTU/DSI PROFIBUS® DP option card	DeviceNet option card	Dual port EtherNet/IP option card
Control Features	Flying start V/F ratio Bus regulator Process PID	Common DC bus Fiber application specific features PTC input compatible 1/2 DC bus operation	8 datalinks (4 in and 4 out, requires comm. option card) Multi-drive connectivity (requires comm. option card) 8 preset speeds

For more information on our complete family of compact drives, please visit:
http://ab.rockwellautomation.com/Drives/Compact

Drives



AC Drives
PowerFlex 525

- Power ratings of 0.4...22 kW / 0.5...30 Hp in global voltage classes from 100…600V to meet a wide range of applications
- Standard built-in single port for EtherNet/IP and Safe Torque-off
- AppView application parameter groups and CustomView configuration help speed machine commissioning

Allen-Bradley PowerFlex 525 AC drives are designed to support fast and easy installation and configuration and provide a variety of motor control and flexible mounting options. Available with standard built in EtherNet/IP communications and safe torque-off.

An embedded port for EtherNet/IP supports seamless integration into the Logix environment and EtherNet/IP networks

- *7 digital inputs (24V DC, 6 programmable)*
- *2 analog inputs (1 bipolar voltage, 1 current)*
- *2 digital outputs*
- *1 analog output (1 unipolar voltage or current)*
- *2 relays (1 form A relay & 1 form B relay; 24V DC, 120V AC, 240V AC)*

Embedded Safe Torque-Off can help to protect personnel



Modular design features a removable control module that allows simultaneous wiring installation and software configuration to help increase productivity

*Volts per hertz, sensorless vector control, closed loop velocity vector control and permanent magnet motor control to meet a wide range of applications **

A built in DSI port supports multi-drive networking, connecting up to five PowerFlex AC drives on one node

* Permanent magnet motor control is scheduled for a future firmware release

Circuit Breakers 1-2…1-13
Disconnect Switches 1-14…1-19
Control & Load Switches 1-20…1-23
Contactors 1-24…1-35
Starters 1-36…1-47
Motor Protection 1-48…1-53
Solid-State Motor Control 1-54…1-61

Product Selection

Single-Phase

Drive Ratings, Normal & Heavy Duty		100…120V AC, 50/60 Hz			200…240V AC, 50/60 Hz			
kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	Cat. No. with EMC Filter
0.4	0.5	2.5	A	25B-V2P5N104	2.5	A	25B-A2P5N104	25B-A2P5N114
0.75	1	4.8	B	25B-V4P8N104	4.8	A	25B-A4P8N104	25B-A4P8N114
1.1	1.5	6	B	25B-V6P0N104	–	–	–	–
1.5	2	–	–	–	8	B	25B-A8P0N104	25B-A8P0N114
2.2	3	–	–	–	11	B	25B-A011N104	25B-A011N114

Three-Phase

Drive Ratings													
Normal Duty		Heavy Duty		200…240V AC, 50/60 Hz			380…480V AC, 50/60 Hz				525…600V AC, 50/60 Hz		
kW	Hp	kW	Hp	Output Current [A]	Frame Size	Cat. No.	Output Current [A]	Frame Size	Cat. No.	Cat. No. with EMC Filter	Output Current [A]	Frame Size	Cat. No.
0.4	0.5	0.4	0.5	2.5	A	25B-B2P5N104	1.4	A	25B-D1P4N104	25B-D1P4N114	0.9	A	25B-E0P9N104
0.75	1	0.75	1	4.8	A	25B-B5P0N104	2.3	A	25B-D2P3N104	25B-D2P3N114	1.7	A	25B-E1P7N104
1.5	2	1.5	2	8	A	25B-B8P0N104	4	A	25B-D4P0N104	25B-D4P0N114	3	A	25B-E3P0N104
2.2	3	2.2	3	11	A	25B-B011N104	6	A	25B-D6P0N104	25B-D6P0N114	4.2	A	25B-E4P2N104
4	5	4	5	17.5	B	25B-B017N104	10.5	B	25B-D010N104	25B-D010N114	6.6	B	25B-E6P6N104
5.5	7.5	5.5	7.5	24	C	25B-B024N104	13	C	25B-D013N104	25B-D013N114	9.9	C	25B-E9P9N104
7.5	10	7.5	10	32.3	D	25B-B032N104	17	C	25B-D017N104	25B-D017N114	12	C	25B-E012N104
11	15	11	15	48.3	E	25B-B048N104	24	D	25B-D024N104	25B-D024N114	19	D	25B-E019N104
15	20	11	15	62.1	E	25B-B062N104	30	D	25B-D030N104	25B-D030N114	22	D	25B-E022N104
18.5	25	15	20	–	–	–	37	E	–	25B-D037N114	27	E	25B-E027N104
22	30	18.5	25	–	–	–	43	E	–	25B-D043N114	32	E	25B-E032N104

Specifications

Power Ratings	100…120V: 0.2...1.1 kW / 0.25...1.5 Hp 380…480V: 0.4...22 kW / 0.5...30 Hp	200…240V: 0.2...15 kW / 0.25...20 Hp 525…600V: 0.4...22 kW / 0.5...30 Hp	
Motor Control	Volts per hertz	Sensorless vector control	Sensorless vector control with Economizer
Application	Open loop speed regulation		
Control I/O	5 digital inputs (24V DC, 4 programmable)	1 relay (form c)	1 analog input (unipolar voltage or current)
Communications	Integral RS485 with Modbus RTU/DSI PROFIBUS® DP option card	DeviceNet option card	Dual port EtherNet/IP option card
Control Features	Flying start, Fiber application specific features, 8 datalinks (4 in and 4 out), V/F ratio, Common DC bus, Position control, Bus regulator, 1/2 DC bus operation, StepLogic Function (Relay & Timers), Process PID, Regulation with encoder feedback or analog input, 16 preset speeds, PTC input compatible, Multi-drive connectivity (requires communication option card)		

For more information on our complete family of compact drives, please visit:
http://ab.rockwellautomation.com/Drives/Compact

Additional Power Products Available



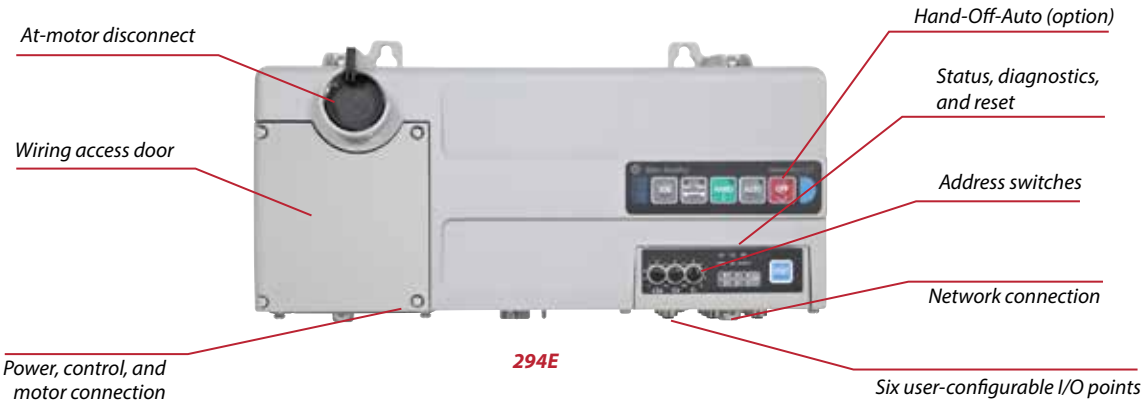
ArmorStart® LT Distributed Motor Controllers 290, 291 and 294

- Compact On-Machine™ motor control
- Ideal for material-handling industry
- EtherNet/IP with Device Level Ring (DLR)
- DeviceNet
- DeviceLogix™ embedded
- Multiple programmable I/O
- Full-voltage and reverse starting or variable frequency control (VFD)
- Quick disconnect wiring

ArmorStart LT 290/291/294 distributed motor controllers are economical, compact in size, and have a lightweight design. They are ideally suited for On-Machine conveyor and material handling applications.
ArmorStart LT product line includes both full-voltage and reversing starters and an AC drive version.

Products

- 290E ArmorStart LT full voltage motor controller with EtherNet/IP communications
- 291E ArmorStart LT full voltage reversing motor controller with EtherNet/IP communications
- 294E ArmorStart LT variable frequency drive motor controller with EtherNet/IP communications



Learn more about the On-Machine Solution from the Armor Start virtual demo: http://www.ab.com/armorstart/virtual-demo/index.html

Circuit Breakers 1-2…1-13
Disconnect Switches 1-14…1-19
Control & Load Switches 1-20…1-23
Contactors 1-24…1-35
Starters 1-36…1-47
Motor Protection 1-48…1-53
Solid-State Motor Control 1-54…1-61

ArmorStart Distributed Motor Controllers 280, 281 and 284

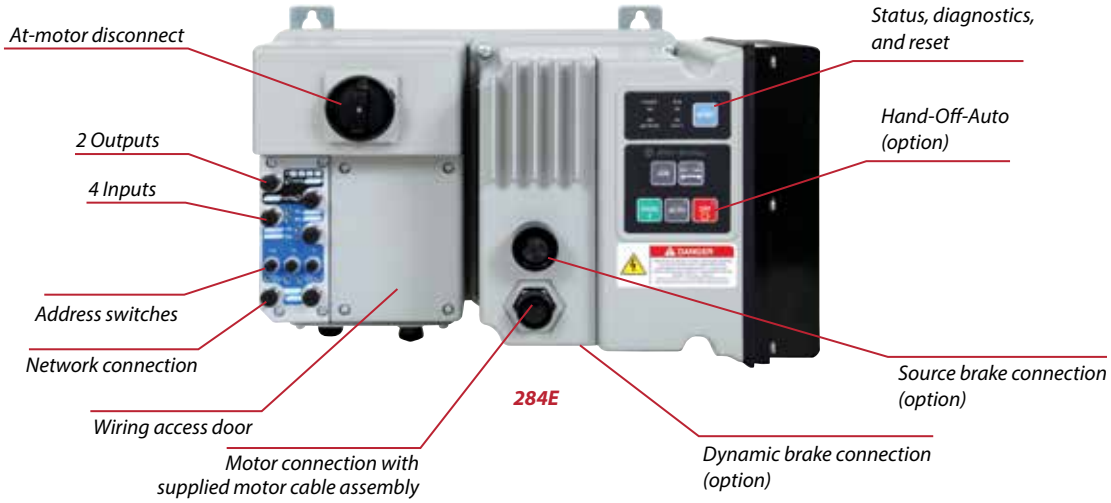
- On-Machine motor control
- Ideal for heavy industry
- Ethernet/IP with Device Level Ring (DLR)
- DeviceNet
- DeviceLogix embedded
- Full-voltage and reverse starting or variable frequency control (VFD)
- Quick disconnect wiring



ArmorStart 280/281/284 distributed motor controllers offer a simple, cost-effective method of integrating combination starters, AC drives, I/O, and network capabilities in your On-Machine architecture.

Products

- 280 ArmorStart full voltage motor controller
- 281 ArmorStart full voltage reversing motor controller
- 284 ArmorStart variable frequency drive motor controller



Learn more about the On-Machine Solution from the Armor Start virtual demo: http://www.ab.com/armorstart/virtual-demo/index.html

Additional Power Products Available



Molded Case Circuit Breakers

140U-D molded case circuit breakers are current limiting and provide fixed short circuit and overcurrent protection. They offer high interrupting ratings.

- Meets UL 489
- 0.5...30 A
- Provides 100% rating up to 15 A
- Suitable for back feeding at 240V and 480Y/277V
- 2- or 3-pole
- Field installable accessories

NEMA Vacuum Contactors

1102C/1104C NEMA vacuum contactors provide motor control system reliability in harsh, dirty environments.

- 1500V AC maximum
- Current ratings: 200, 400, and 600 A
- Visual ON/OFF indicator
- Line and load terminals up front for ease of wiring
- Snap-on side mount auxiliary contacts





NEMA AC Contactors

The 300 modular line of NEMA-rated AC contactors, combined with electronic overload relays, auxiliary contacts, interlocks, suppressors, and DIN Rail mounting, provides a compact and flexible NEMA starter component system.

- NEMA sizes 0…5
- Space-saving design
- Guarded terminals
- Electronic and conventional coils

Lighting Contactors

The 500LG compact, modular-designed lighting contactors deliver simplicity and versatility in product configuration, to meet a wide range of applications including full-bus and split-bus lighting panelboards.

- Contacts switch ballast (fluorescent or HID), tungsten, and general use loads
- Available in 30 A rating, with up to 12 field-convertible poles (maximum of 8 N.C.)
- Finger and back-of-hand safe power terminals
- Electronically and mechanically held versions





Low-Voltage AC Drives

The PowerFlex compact-class AC drives deliver a simple and cost-effective solution for standalone machine level control applications or simple system integration. Designed for ease of use, this general-purpose class of drives provides a compact package to optimize panel space and application versatility.

System Selection and Configuration Tools

We offer a powerful range of product selection tools to help you choose and apply our products. Available online or for download, our tools help you access information while in the office or on the go.

- www.rockwellautomation.com/support/selection.page
- www.rockwellautomation.com/support/configuration.page

Product Selection Toolbox

Additional Power Products Available



MachineAlert™ Dedicated Function Motor Protection Relays 809S/813S/814S/817S

- Programmable latching or inhibit at set level
- Adjustable time delay settings
- Three-phase devices are powered by the measuring circuit
- LED indication for relay, alarm, and power supply
- Global application with CE and UL approvals

Product Selection

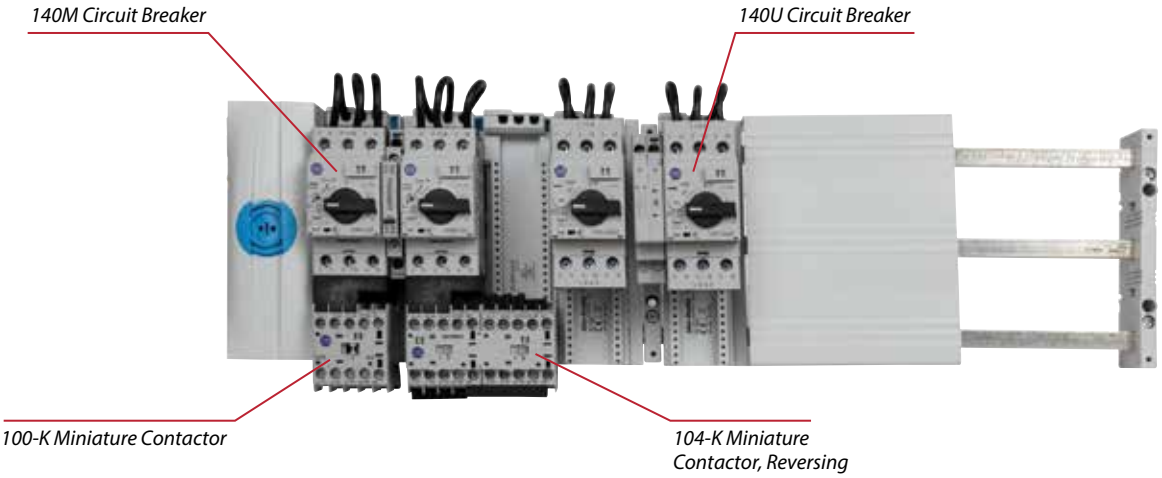
Motor Protection Relay Type		Description	Cat. No.
	Bulletin 809S Current Monitoring Relays	1…10 A AC/DC (1-phase); 24/48 V AC/DC control power	809S-C1-10A-48
		1…10 A AC/DC (1-phase); 115/230 V AC control power	809S-C1-10A-230
	Bulletin 813S Voltage Monitoring Relays	Single-phase voltage monitoring relay, 2…500 V AC/DC; 24/48 V AC/DC control power	813S-V1-500V-48
		Single-phase voltage monitoring relay, 2…500 V AC/DC; 115/230 V AC control power	813S-V1-500V-230
		Three-phase voltage monitoring relay, 110…115 V AC	813S-V3-110V
		Three-phase voltage monitoring relay, 208…240 V AC	813S-V3-230V
		Three-phase voltage monitoring relay, 380…415 V AC	813S-V3-400V
		Three-phase voltage monitoring relay, 440…480 V AC	813S-V3-480V
		Three-phase voltage monitoring relay, 600…690 V AC	813S-V3-690V
	Bulletin 814S Power Monitoring Relays	Three-phase power (kW) monitoring relay, 380…480 V AC & 1…10 A AC	814S-W3-480V-10A
		Three-phase power (kW) monitoring relay, 600…690 V AC & 1…10 A AC	814S-W3-690V-10A
		Three-phase power factor monitoring relay, 380…480 V AC & 1…10 A AC	814S-PF3-480V-10A
		Three-phase power factor monitoring relay, 600…690 V AC & 1…10 A AC	814S-PF3-690V-10A
	Bulletin 817S Thermistor Monitoring Relay	Thermistor monitoring relay, 24/48 V AC/DC control power	817S-PTC-48
		Thermistor monitoring relay, 115 V AC control power	817S-PTC-115
		Thermistor monitoring relay, 230 V AC control power	817S-PTC-230

Busbar Mounting System

The 141A mounting system offers flexible, modular solutions for your power outputs. The mechanically and electrically coordinated components provide savings in planning, assembly, mounting, and operation.

- Reduced wiring and assembly time for cost savings
- Efficiently designed with decreased panel space
- High-fault short-circuit system ratings
- Three mounting methods
- MCS™ Star configuration software





MCS Star Configuration Software

MCS Star provides the correct catalog number, wiring diagram, and drawing for the starters you choose. Configure mounting system assemblies, select and place busbar rack components, and lay out your system with the easy graphical interface.

Download the MCS Star Software!

http://www.rockwellautomation.com/rockwellautomation/support/configuration.page

Additional Power Products Available



Enclosed At-motor Disconnecting Means

Suitable as at-motor disconnecting means (UL508), available in metal enclosures.

- 140M Motor Protection Circuit Breakers (MPCB)
- 194R Rotary Disconnect Switches

Safety Disconnect Switches

Designed to meet industrial requirements for dependable, manually operated disconnecting means, the 1494 line of safety disconnect switches are available in both fixed- and variable-depth styles with flange- or door-mounting.

- 1494G hazardous location safety disconnect switches
- 1494G heavy industrial safety disconnect switches
- 1494H industrial safety disconnect switches
- 1494HL general duty safety disconnect switches





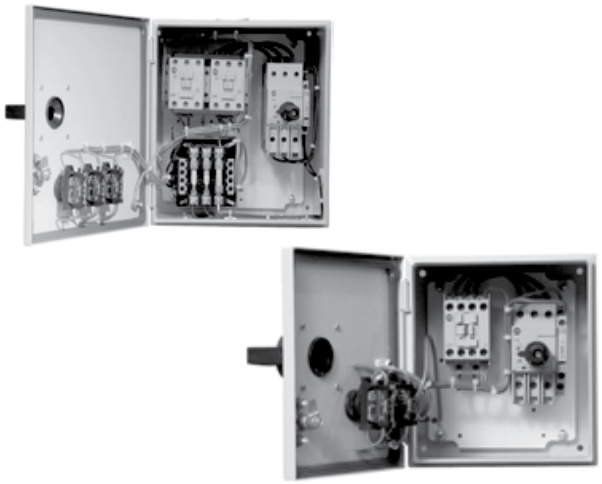
IEC Enclosures for Low Voltage Starters

198E starter enclosures are designed for a multitude of IEC starter configurations. They are available in metal or plastic, and are suitable for either indoor or outdoor environments. The enclosures are rated UL Type 1, 3, 4, 4X, 12, 12K (IP42 to IP66).

Circuit Breakers	Disconnect Switches	Control & Load Switches	Contactors	Starters	Motor Protection	Solid-State Motor Control
						
1-2…1-13	1-14…1-19	1-20…1-23	1-24…1-35	1-36…1-47	1-48…1-53	1-54…1-61

Combination Starter, IEC 103H/107H

- Type E and Type F combination motor controllers (UL/CSA)
- 0.1…45 A
- 140M Motor Protection Circuit Breakers
- 100-C / 104-C Contactor
- Factory – installed options available





Pump Control Panels

The 1232 and 1233 pump control panels have a motor circuit protector and can be customized with a variety of starter types for specific applications and accessories for control and diagnostic feedback.

- NEMA starter sizes 1...3
- Fusible disconnect switch
- Type 3R painted metal enclosure

Hazardous Locations Solutions

- Copper-free cast aluminum alloy
- Compact designs for inside and outside applications
- Flexible configuration options
- Gasket inside cover to guard against moisture and corrosive elements



Certifications and Ratings

- UL listed/CSA certified
- UL classified enclosures
- Class I Division 1 & 2, Groups C, D
- Class II Division 1 & 2, Groups E, F & G
- 10,000 A short circuit rating
- NEMA type 3R, 7-9 rated



Drives



1-62…1-67

For more information on our complete family of motor control products, please visit:
http://ab.rockwellautomation.com/Motor-Control

Additional Power Products Available

Modified Industrial Controls

Instead of waiting weeks to get industrial control products modified to your needs, our availability strategy allows our products to be designed, developed & delivered in industry leading lead time.

Features

- From quote to delivery, single point of contact
- Single source supplier for standard and modified industrial control products
- Customer specific product flexibility
- Small scale projects for repeatable customer requirements
- Consistent performance through quality & delivery

Request a Quote Directly on the Web

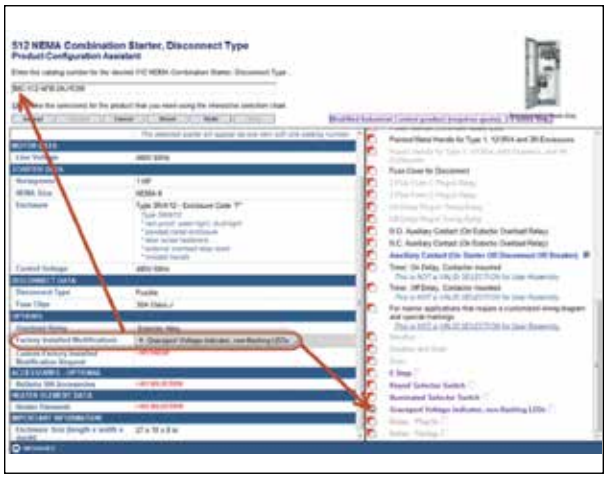


www.rockwellautomation.com/go/lit/icp-modified

Find Your Panel

- Request a quote
- Product Selection Toolbox
- Find a local sales office

Request a Quote Through ProposalWorks



- Quick Quote pricing for common "Modified" options
- Quote Request via email button in ProposalWorks

Circuit Breakers	Disconnect Switches	Control & Load Switches	Contactors	Starters	Motor Protection	Solid-State Motor Control	Drives
							
1-2…1-13	1-14…1-19	1-20…1-23	1-24…1-35	1-36…1-47	1-48…1-53	1-54…1-61	1-62…1-67



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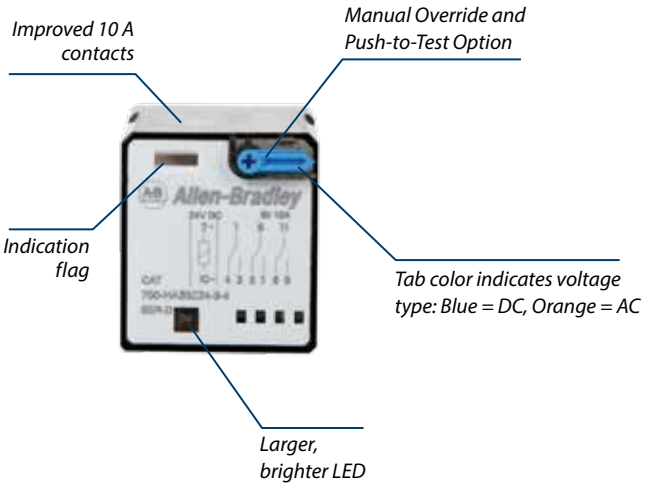
Additional Logic Products 2-50



Tube Base Relays
700-HA

- 10 A contact rating
- DPDT or 3PDT
- Pin-style (8- or 11-pin)
- ON/OFF flag indicator
- Standard, or bifurcated with gold-plated contacts
- LED, push-to-test with manual override options

Tube-style bases are popular in general-purpose relay applications and meet a wide range of needs with 2-pole (8-pin) and 3-pole (11-pin) options. Socket bases are available in North American (open) and IEC (guarded) styles.





Ideal Applications

- Switching currents or voltage too high for PLC outputs to handle
- Interfacing two or more system voltages – for example, 24V to 120V

Product Selection

Tube Base Relays

Description	Contact Rating	Coil Voltage	Cat. No. [1,2,3,4]	
			2-pole (DPDT) 8-pin, 2 Form C	3-pole (3PDT) 11-pin, 3 Form C
General purpose relay single AgNi contact	10 A B300	12V AC	700-HA32A12	700-HA33A12
		24V AC	700-HA32A24	700-HA33A24
		120V AC	700-HA32A1	700-HA33A1
		230V AC	700-HA32A03	700-HA33A03
		240V AC	700-HA32A2	700-HA33A2
		12V DC	700-HA32Z12	700-HA33Z12
		24V DC	700-HA32Z24	700-HA33Z24
		110V DC	700-HA32Z1	700-HA33Z1
		125V DC	700-HA32Z01	700-HA33Z01

[1] LED Option: Add suffix (-4) to the selected 700-HA Relay Catalog number; for the 240V AC units, add (-4L).

[2] Push-to-test, Manual Override, and LED Option: Add suffix (-3-4) to the selected 700-HA Relay Catalog number; for the 240V AC units, add (-3-4L).

[3] Push-to-test and Manual Override option: Add suffix (-3) to the selected 700-HA relay.

[4] Gold-plated bifurcated contacts also available.



700-HN100



700-HN205

Accessories

Description		Pkg. Qty.	Cat. No.
Screw terminal tube base socket – guarded terminal style	2-pole (DPDT) 8-pin	10	700-HN100
	3-pole (3PDT) 11-pin	10	700-HN101
Screw terminal tube base socket panel or DIN Rail mounting – open style construction	2-pole (DPDT) 8-pin	10	700-HN125
	3-pole (3PDT) 11-pin	10	700-HN126
Screw terminal tube base socket For use with or without timing/surge suppression module – guarded terminal style	2-pole (DPDT) 8-pin	10	700-HN204
	3-pole (3PDT) 11-pin	10	700-HN205
Diode with LED surge suppressor		10	700-ADL1R
Diode surge suppressor [5]		10	700-ADR
RC surge suppressor		10	700-AR2
Timing module [5]		1	700-AT3
Varistor with LED surge suppressor		10	700-AV3R
Multi-function multi-range time module [5,6]		1	700-HT3

[5] Suppressors and timer modules easily plug into sockets (catalog numbers 700-HN204 and 700-HN205). For use with 700-HA relays.

[6] Catalog number 700-HT3 is wired with signal "S" connected to "A1". See wiring diagram marked on the timer module.

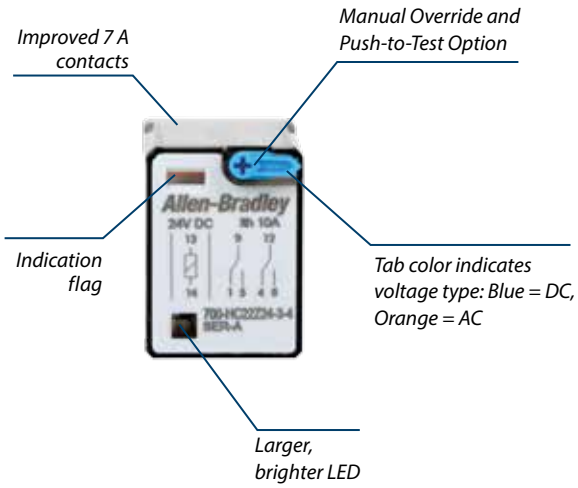
For more information on our complete family of general-purpose relay products, please visit:
http://ab.rockwellautomation.com/Relays-and-Timers/General-Purpose-Relays



Miniature Ice Cube Relays
700-HC

- 7 or 10 A contact ratings
- 2PDT or 4PDT
- Blade-style
- ON/OFF flag indicator
- Standard or gold-plated AgNi contacts
- LED, push-to-test with manual override options

700-HC Miniature Square Base Relays are 2-pole or 4-pole plug-in relays for your low-energy switching applications. The same sockets can be used for DPDT or 4PDT versions, which improves flexibility and reduces inventory.





Ideal Applications

- Reduced PLC outputs to meet energy consumption goals
- Provides longer life for PLC, saving money and increasing efficiency
- Switching currents or voltage too high for PLC outputs to handle
- Interfacing two or more system voltages – for example, 24V to 120V
- Reduced PLC outputs by using relays to turn many devices on and off simultaneously
- Provides isolation from solid-state output leakage current

Product Selection

Miniature Ice Cube Relays

Description	Contact Rating	Coil Voltage	Pkg. Qty.	Cat. No. [1,2,3,4]
DPDT 2-pole 2 form C contacts: 10 A = AgNi contacts	10 A C300 R300 Low energy rating; (10V, 10 mA)	24V DC	1	700-HC22Z24
		120V AC		700-HC22A1
4PDT 4-pole 4 form C contacts: 7 A = AgNi contacts	7 A C300 R300 Low energy rating; (10V, 10 mA)	24V AC	1	700-HC24A24
		120V AC		700-HC24A1
		240V AC		700-HC24A2
		12V DC		700-HC24Z12
		24V DC		700-HC24Z24
		48V DC		700-HC24Z48

[1] LED option: Add suffix (-4) to the selected 700-HC relay catalog number; for the 240V AC units, add (-4L).

[2] Push-to-test and LED option: Add suffix (-3-4) to the selected 700-HC relay catalog number; for the 240V AC units, add (-3-4L).

[3] Push-to-test and Manual Override option: Add suffix (-3) to the selected 700-HC relay.

[4] Gold-plated bifurcated contacts also available.



700-HN103



700-HN104

Accessories

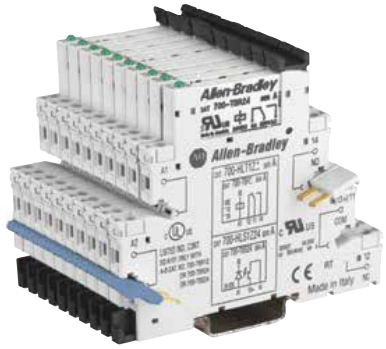
Description	Pkg. Qty.	Cat. No.
Screw terminal socket – guarded terminal style	10	700-HN103
Screw terminal socket for use with or without timing/surge suppression module – guarded terminal style	10	700-HN104
Screw terminal base socket – Open-style construction	10	700-HN128
Diode with LED surge suppressor	10	700-ADL1R
Diode surge suppressor [4]	10	700-ADR
RC surge suppressor	10	700-AR2
Timing module [4]	1	700-AT3
Varistor with LED surge suppressor	10	700-AV3R
Multi-function multi-range time module [4,5]	1	700-HT3

[4] Suppressors and Time Modules easily plug into socket (catalog number 700-HN104). For use with 700-HC relays.

[5] Catalog number 700-HT3 is wired with signal "S" connected to "A1." See wiring diagram marked on the timer module.

For more information on our complete family of general-purpose relay products, please visit:
http://ab.rockwellautomation.com/Relays-and-Timers/General-Purpose-Relays

Logic

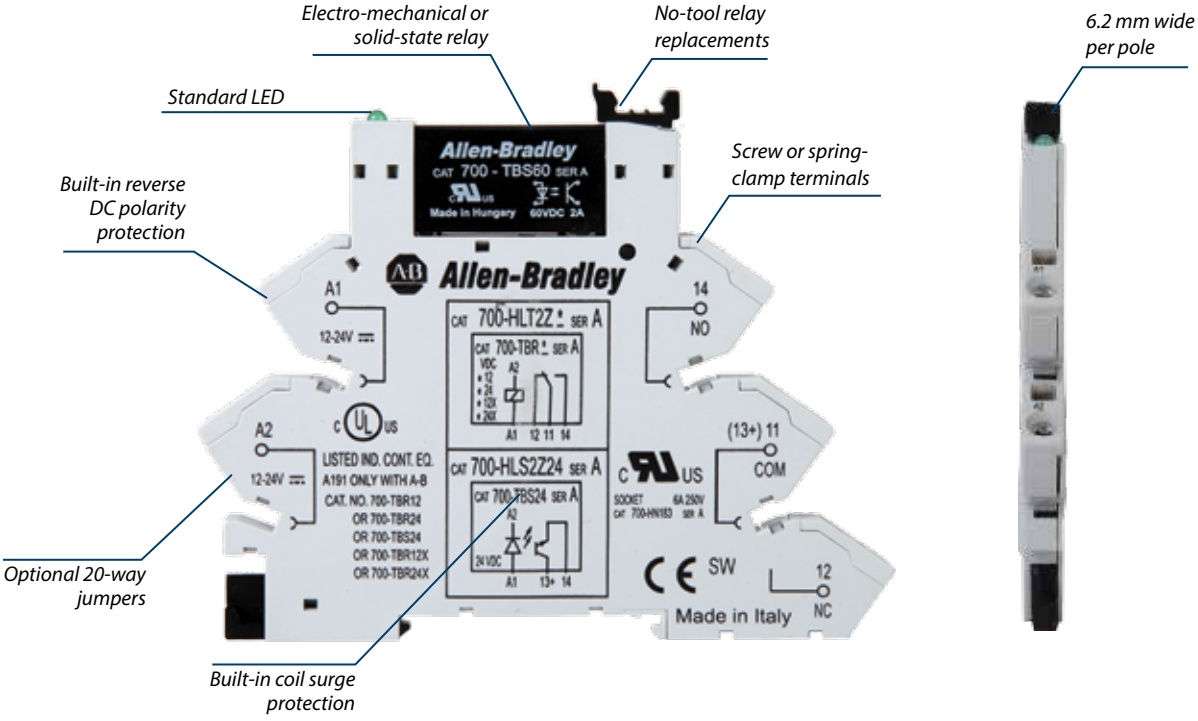


Terminal Block Relays
700-HL

- Terminal Block Style (1-pole: 6.2 mm wide)
- 6 A (1-pole) or 10 A (2-pole) contact rating
- SPDT or DPDT
- Screw or spring-clamp terminals
- Silver or gold contacts
- LED, reverse polarity and surge protection
- Replaceable relay modules

700-HL Terminal Block Relays work in a variety of high-density isolation and interposing applications. The thin per-pole interface (6.2 mm wide) and quick connections help reduce installation costs.

Optional leakage current suppression circuit design addresses nuisance coil turn-on or contact non-drop-out concerns for TRIAC controller outputs. The spring-clamp terminal base option is ideal for applications that are subject to vibration.



Product Selection

Terminal Block Relay – 1-pole

Assembled Devices Input Voltage		Output Type	Pkg. Qty.	Screw Terminals	Spring-Clamp Terminals	Solid-State		
						Screw Terminals (DC Output)	Spring Clamp Terminals (DC Output)	Screw Terminals (AC Output)
				Cat. No. [1]				
24V DC [3]		SPDT (1 C/0); I_{th} = 6 A	10	700-HLT1Z24	700-HLT2Z24	700-HLS1Z24*	700-HLS2Z24	700-HLS11Z24
24V AC/DC				700-HLT1U24	700-HLT2U24	–	–	–
110/125V AC/DC				700-HLT1U1	700-HLT2U1	700-HLS1U1[3]	700-HLS2U1	700-HLS11U1
220…240V AC/DC				700-HLT1U2	700-HLT2U2	700-HLS1U2[3]	700-HLS2U2	700-HLS11U2
Built-in LCSC (leakage current suppression circuit) [2, 3]	120V AC and 125V DC			700-HLT1L1[3]	–	700-HLS1L1[3]	–	700-HLS11L1
	240V AC			700-HLT1L2[3]	–	700-HLS1L2[3]	–	700-HLS11L2

Terminal Block Relay – 2-pole

Assembled Devices Input Voltage	Output Type	Pkg. Qty.	DC Output Screw Terminals	AC Output Spring-Clamp Terminals
			Cat. No. [1]	
12V DC	DPDT (2 C/0); I_{th} = 10 A	10	700-HLT12Z12	700-HLT22Z12
24V DC			700-HLT12Z24	700-HLT22Z24
24V AC/DC			700-HLT12U24	700-HLT22U24
110/125V AC/DC			700-HLT12U1	700-HLT22U1
220…240V AC/DC			700-HLT12U2	700-HLT22U2

[1] For gold-plated contacts, add the letter "X" at the end of the catalog number. For example: if catalog number 700-TBR24 is required with gold plating, it becomes catalog number 700-TBR24X. Gold-plated contacts are not available in the two-pole 12 and 48V DC relays.

[2] Leakage current suppression up to 2.2 mA off state current.

[3] Electromechanical relay to solid-state relay interchangeability is possible.

Accessories – 1-pole

Description	Color	Pkg. Qty.	Cat. No.
20-way jumper [4] for 1-pole relay	Red	1	700-TBJ20R
	Grey	1	700-TBJ20G
	Blue	1	700-TBJ20B
End barrier	Black	10	700-HN177

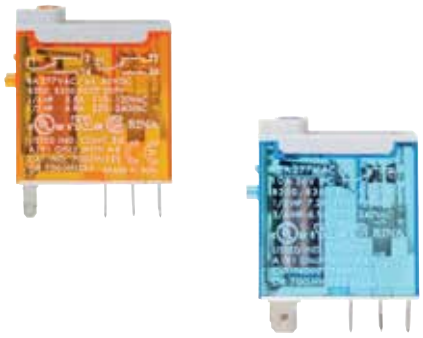
Accessories – 2-pole

Description	Color	Pkg. Qty.	Cat. No.
8-way jumper [4] for 2-pole relay	Red	1	700-TBJ08R
	Grey	1	700-TBJ08G
	Blue	1	700-TBJ08B
End barrier	Black	10	700-HN177
Replacement relays, 24V AC/DC	–	20	700-TBR24

[4] Cut to appropriate length.
Note: Terminal block relay bases are NOT sold separately.

For more information on our complete family of general-purpose relay products, please visit:
http://ab.rockwellautomation.com/Relays-and-Timers/General-Purpose-Relays

Relays & Timers

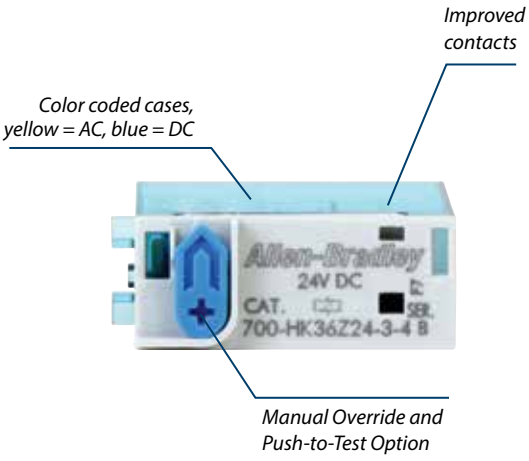


Slim Line Relays
700-HK

- 8 A (2-pole) or 16 A (1-pole) contact ratings
- DPDT or SPDT
- Blade-style
- ON/OFF flag indicator
- LED, push-to-test and manual override options
- Standard or gold plated AgNi contacts
- Maximum duty version available
- Screw or spring-clamp socket terminals

The 700-HK relays are designed for a variety of high-density isolation and interposing applications. Installation is easy and cost effective through the use of the 8-way jumper wiring system that requires only one wire connection to a coil, common or contact power distribution terminal.

Optional gold contacts switch low-energy loads reliably as low as 5V, 10 mA, 50 mW.





Ideal Applications

- Reduced PLC outputs to meet energy consumption goals
- Provides longer life for PLC, saving money and increasing efficiency
- Switching currents or voltage too high for PLC outputs to handle
- Interfacing two or more system voltages – for example, 24V to 120V
- Reduced PLC outputs by using relays to turn many devices on and off simultaneously
- Provides isolation from solid-state output leakage current

Product Selection

Slim Line Relay

Description	Contact Rating	Coil Voltage	Pkg. Qty.	Cat. No. [1,2,3]
SPDT 1-pole 1 form C AgNi contacts	16 A	24V AC	1	700-HK36A24
		120V AC		700-HK36A1
		240V AC		700-HK36A2
		12V DC		700-HK36Z12
		24V DC		700-HK36Z24
		110V DC		700-HK36Z1
DPDT 2-pole 2 form C AgNi contacts	8 A	24V AC	1	700-HK32A24
		120V AC		700-HK32A1
		240V AC		700-HK32A2
		12V DC		700-HK32Z12
		24V DC		700-HK32Z24
		110V DC		700-HK32Z1

[1] LED option: Add suffix (**-4**) to the selected 700-HK relay catalog number; for the 240V AC units, add -**4L**).

[2] Push-to-test and LED option: Add suffix (**-3-4**) to the selected 700-HK relay catalog number; for 240V AC units, add suffix (**-3-4L**).

[3] For AgNi contact with gold plating: Replace "3" with "X" in catalog number For example, catalog number 700-HK**3**6A1 becomes catalog number 700-HK**X**6A1.

Accessories

Description		Pkg. Qty.	Cat. No.
Screw terminal socket – guarded terminal style, accepts forked lug conductors. Socket includes retainer clip.	1-pole, 5-blade, 10 A	10	700-HN121
	2-pole, 8-blade, 5 A		700-HN122
Spring clamp terminal socket	1-pole, 5-blade	10	700-HN223
Screw terminal socket for use with or without timing/surge suppression module – guarded terminal style [4]	1-pole, 5-blade, 16 A	10	700-HN221
	2-pole, 8-blade, 8 A		700-HN222
Spring clamp terminal socket	2-pole, 8-blade	10	700-HN224
8-way jumper (can be cut to length)	Red	1	700-HN180R
	Grey	1	700-HN180G
	Blue	1	700-HN180B

[4] Suppressors and time modules easily plug into socket (catalog number 700-HN221). For use with 700-HK relays.



700-HN221



700-HN222

Sales Offices and Distributors

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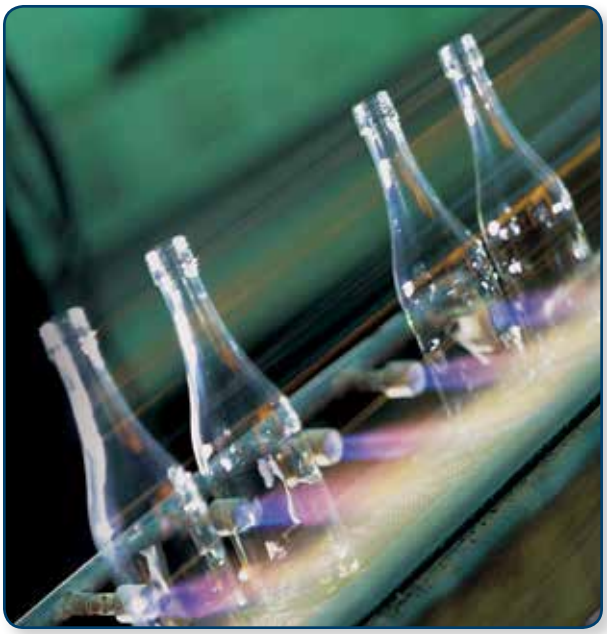
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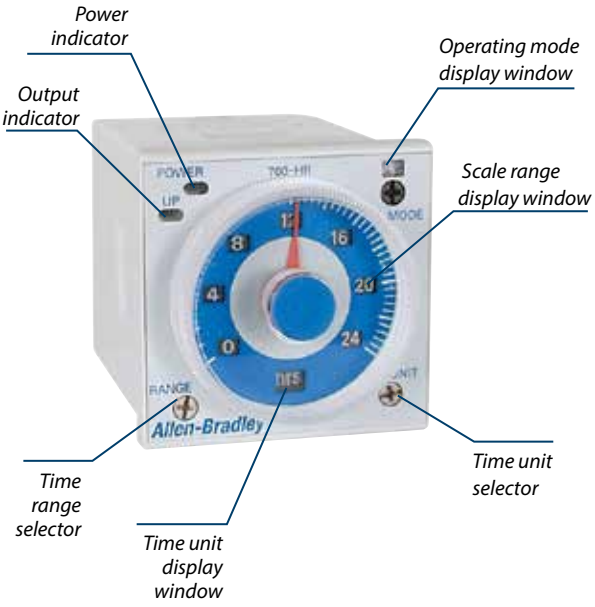


Dial Timing Relay
700-HR

- Timing range from 0.05 s…300 hr
- 5 A contact ratings or transistor outputs
- Socket- or panel-mount
- Single- or multi-function
- Multi-voltage inputs
- Up to 8 timing functions

700-HR Dial Timing Relays are plug-in, socket-mounted timing relays. They are easy to set, and can be panel- or DIN Rail-mounted.





Relays & Timers
2-2…2-19
Programmable Controllers
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Control Circuit & Load Protection
2-24…2-35
Power Supplies
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Power & Energy Management
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Surge & Filter
2-46…2-49

Product Selection

Dial Timing Relay

Timing Mode	No. of Pins	Input Voltage	Contact Output	Cat. No. [1]
ON-delay (A), OFF-delay (D) One Shot (E), Repeat cycle OFF-Start (B), Repeat cycle ON-start (B2), Signal ON/OFF-delay (C), Delayed One Shot (J),Signal ON/OFF - delay (G)	11	24…48V AC 12…48V DC	DPDT	700-HR52TU24
		100…240V AC 100…125V DC		700-HR52TA17 [2]
ON-delay (A), One Shot (E), Repeat cycle OFF-start (B), Repeat cycle ON-start (B2), Delayed One Shot (J)		24…48V AC 12…48V DC		700-HRS42TU24
		24…48V AC/DC	SPDT timed + instantaneous contact	700-HRP42TU24
		100…240V AC 100…125V DC		700-HRP42TA17
			DPDT	700-HRS42TA17
ON-delay (A)	8	24…48V AC/DC	SPDT timed + instantaneous contact	700-HRC12TU24
		24…48V AC 12…48V DC	DPDT	700-HRM12TU24
		100…240V AC		700-HRM12TA17
			SPDT timed + instantaneous contact	700-HRC12TA17
Repeat cycle OFF- start (B)		12...48V DC/24...48V AC	DPDT	700-HRF72DU26
		100...125V DC/100...240V AC		700-HRF72DU27
Repeat cycle ON- start (B2)				700-HRF82DU27

[1] Star-Delta model also available.

[2] Compatible with connections to 3-wire sensors.



700-HN100

Accessories

Description		Pkg. Qty.	Cat. No.
Screw terminal socket – guarded terminal style	8-pin	10	700-HN100
	11-pin		700-HN101
Frame adapter – For flush or door mounting		1	700-HN130
Protective cover		1	700-HN132



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

For more information on our complete family of general purpose timing relays products, please visit: *http://ab.rockwellautomation.com/Relays-and-Timers/General-Purpose-Timing-Relays*

Relays & Timers



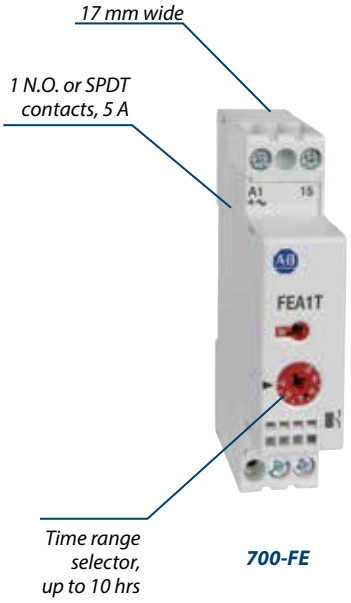
Economy Timing Relays 700-FE

- Adjustable functions and timing
- Socket-free DIN Rail mount
- Coil surge protection

High Performance Timing Relays 700-FS

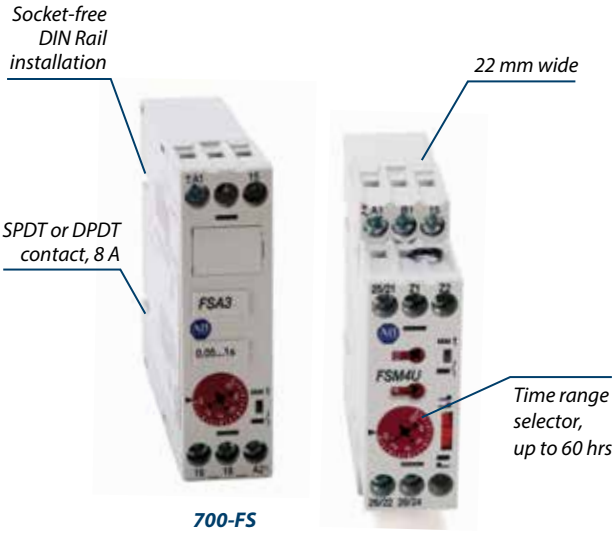
- Adjustable functions and timing
- Coil surge protection
- Hazardous location version available

700-FE Economy Timing Relays are a very narrow 17.5 mm wide. They have a timing range of 0.05 s…10 hr. The multi-function version helps reduce your spare parts inventory and standardize your design.



700-FE

700-FS DIN Rail High Performance Timing Relays have a 22.5 mm space-saving design and a timing range of 0.05 s…60 hr. The multi-function timing helps you reduce stock and standardize your design.



700-FS 1 pole

700-FS 2 pole

Product Selection

Economy Timing Relays

Operating Mode	Contact Output	Cat. No.
ON-delay	1 N.O.	700-FEA1TU22
	SPDT (1 C/O)	700-FEA3TU23
OFF-delay	1 N.O.	700-FEB1TU22
	SPDT (1 C/O)	700-FEB3TU23
One Shot	1 N.O.	700-FED1TU22
	SPDT (1 C/O)	700-FED3TU23
ON-delay, OFF-delay, One Shot, Flasher (repeat cycle starting with pulse)	1 N.O.	700-FEM1TU22
ON-delay, OFF-delay, One Shot, Flasher (repeat cycle starting with pulse)	SPDT (1 C/O)	700-FEM3TU23

700-FE Accessories

Description	Pkg. Qty	Cat. No.
Panel mounting adapter– For surface mounting according to drilling plan EN 50002	5	199-FSA

High Performance Timing Relays

Operating Mode	Contact Output	Timing Range	Cat. No.
ON-delay	SPDT 1 C/O Contact	0.05 s…60 hr	700-FSA3UU23
		0.05…1 s	700-FSA3AU23
		0.5…10 s	700-FSA3CU23
		0.5…10 min	700-FSA3GU23
OFF-delay		0.05 s…60 hr	700-FSB3UU23
		0.05…1 s	700-FSB3AU23
		0.5…10 s	700-FSB3CU23
		0.5…10 min	700-FSB3GU23
ON- and OFF-delay		0.05…1 s	700-FSC3AU23
		0.5…10 s	700-FSC3CU23
One shot		0.05…1 s	700-FSD3AU23
		0.5…10 s	700-FSD3CU23
ON-delay	DPDT 2 C/O Contacts	0.05 s…60 hr	700-FSA4UU23
OFF-delay		0.05 s…60 hr	700-FSB4UU23
Multi-function [1]	(SPDT) 1 C/O	0.05 s…60 hr	700-FSM3UU23
		0.05 s…60 hr	700-FSM3UZ12
	(DPDT) 2 C/O	0.05 s…60 hr	700-FSM4UU23
		0.05 s…60 hr	700-FSM4UZ12

[1] Catalog number ending in suffix U23 = input voltage of 24...48V DC/24...240V AC and suffix Z12 = input voltage 12V DC.

700-FS Accessories

Description	Pkg. Qty.	Cat. No.
Setting knob with scale (for time setting without tools)	10	700-FSK
Panel mounting adapter (for surface mounting according to drilling plan EN 50 002)	5	199-FSA

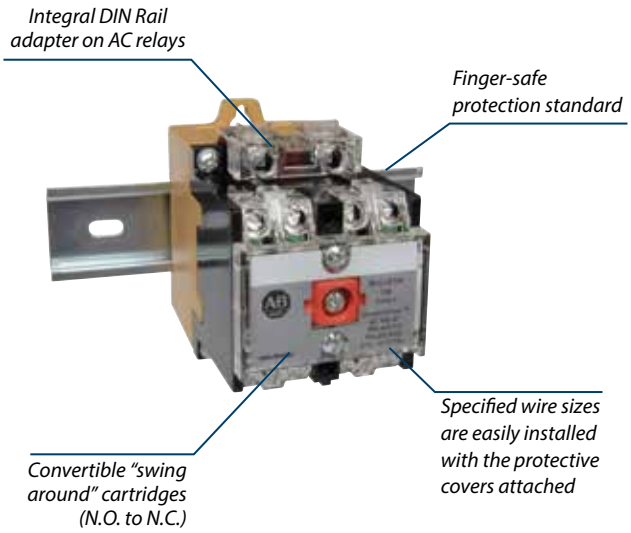
For more information on our complete family of general purpose timing relays products, please visit: *http://ab.rockwellautomation.com/Relays-and-Timers/General-Purpose-Timing-Relays*



NEMA Heavy-Duty Relays
700-P

- NEMA and IEC ratings
- 600V maximum AC/DC
- Broad current range in one relay (10 A, 20 A, 35 A)
- For machine tool and other heavy-duty applications

Heavy-Duty Relays have four types of contact cartridges to meet your specific switching requirements. Time delay, latching attachments, overlapping, and logic reed contacts can be combined into one relay to yield a custom-tailored application solution.





Product Selection

NEMA Heavy-Duty Modular Relay=
Base Blank Relay + Contact Cartridge Kit + Adder Decks + Operating Coil

Base Relays (up to 4 poles)

Description		Coil	Cat. No.
Base blank relay	AC	110/120V AC	700-P*00A1
	DC	24V DC	700DC-P*00Z24

* Change symbol to 0,2,4 for number of poles required. 2 & 4 pole models include Standard contact cartridge.



Standard contact cartridge



Master contact cartridge

Contact Cartridge Kits

Description	Package Contents	Cat. No.
Master cartridge relay kit	(4) Master contact cartridges 20 A rating	700-PMCKIT
Heavy-duty contact relay kit	Master cartridge kit, plus: (4) jumper terminals (to make two 35 A power pole contacts)	700-PHDKIT

Adder Decks

Device Description	Additional Contact Cartridge Kits Required	Cat. No.
8 pole device	1 additional kit	700-PB00
12 pole device	2 additional kits	700-PB00 (Qty. 1) 700-PC00 (Qty. 1)

AC Operating Coils

Coil Volts	60 Hz Cat. No.	50 Hz Cat. No.
24	PA013	PA407
110 [1]	–	PA236
115...120 [1]	PA236	–
110...115 [2]	–	PA322
120	PA322	–

[1] This coil is optimized for 115…120V, 60 Hz applications and will operate satisfactorily at 110V, 50 Hz.

[2] This coil is optimized for 110…115V, 50 Hz applications and will operate satisfactorily at 120V, 60 Hz.



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

For more information on our complete family of NEMA industrial relay products, please visit:
http://ab.rockwellautomation.com/Relays-and-Timers/NEMA-Industrial-Relays

Relays & Timers

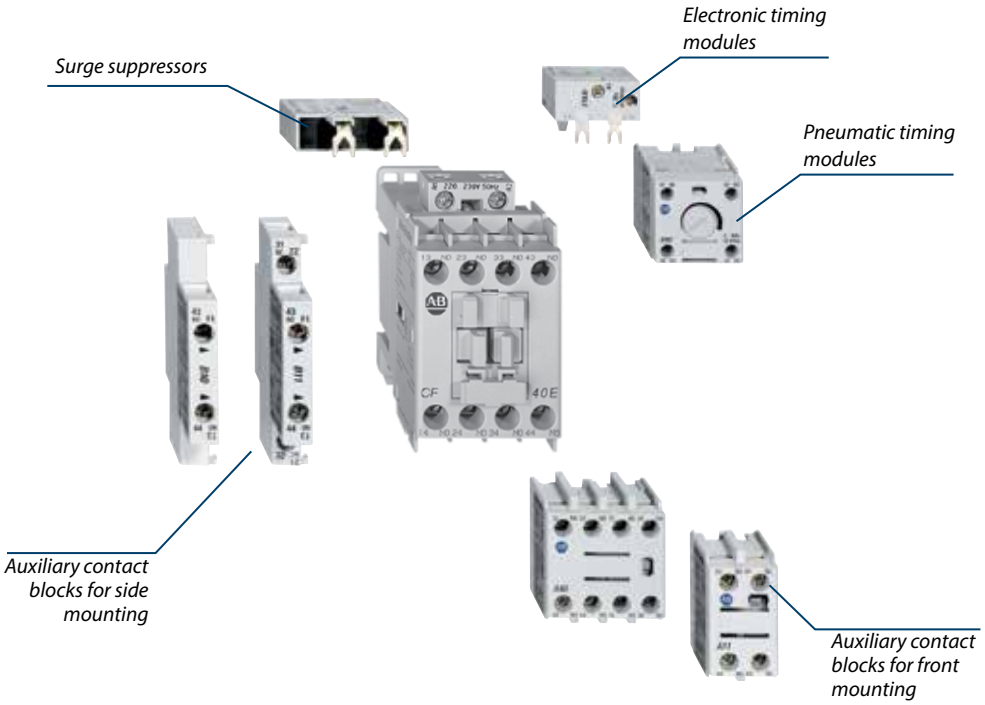


Industrial Control Relays 700-K, 700-CF

- 700-K Mini
  - IP2X finger protection
  - Bifurcated contacts for low-level signals
  - Optional integrated coil protection diode
- 700-CF
  - Mechanically linked contact performance per IEC 60947-5-1
  - Gold plated, bifurcated version for low level switching
  - Master control relay version rated 15 A (AC-15)
  - Solid-state and pneumatic timing modules
  - 4…10 poles

700-K and 700-CF IEC Control Relays are compact industrial relays capable of switching low-energy signals and providing features required for demanding industrial applications – mechanically linked contacts, timing options, long contact life – in an IEC design. These relays share accessories with the equivalent 100 IEC contactors.

Wide Range of Accessories to Meet Your Application Requirements



Product Selection

Control Relays

AC-12 I_{th} [A]		AC-15 I_e [A]		No. of Contacts		Screw Terminals	Spring Clamp Terminals
40 °C	60 °C	240V	400V	N.O.	N.C.	Cat. No.	Cat. No.
20	20	10	6	2	2	700-CF220⊗	700-CRF220⊗
				3	1	700-CF310⊗	700-CRF310⊗
				4	0	700-CF400⊗	700-CRF400⊗

⊗ Select a coil voltage code from the table below to complete the catalog number.

Control Relay Accessories

Description	No. of Contacts		Standard Contacts
	N.O.	N.C.	Cat. No.
Front mounting auxiliary contact blocks	0	2	100-FA02
	1	1	100-FA11
	2	0	100-FA20
Side mounting auxiliary contact blocks	0	1	100-SA01
	1	0	100-SA10
	0	2	100-SA02

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	Description
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50 Hz
KA	240V, 60 Hz

DC Control	
Code	Description
EJ	24V electronic (700-CF only)
ZJ	24V
DJ	24V with integrated diode

Miniature Control Relays

AC-12 I_{th} [A]		AC-15 I_e [A]							No. of Contacts		Screw Terminals	Spring Clamp Terminals
40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V	N.O.	N.C.	Cat. No.	Cat. No.
10	6	3		2	1		0.6		4	0	700-K40E-⊗	700-KR40E-⊗
									3	1	700-K31Z-⊗	700-KR31Z-⊗
									2	2	700-K22Z-⊗	700-KR22Z-⊗
									1+1L[1]	1+1L[1]	700-KL22Z-⊗	700-KRL22Z-⊗

[1] Late Break N.C. / Early Make N.O.

Miniature Control Relays Accessories

Description	No. of Contacts		Standard Contacts
	N.O.	N.C.	Cat. No.
Front mounting auxiliary contact blocks	0	2	100-KFA02E
	1	1	100-KFA11E
	2	0	100-KFA20E

Pneumatic Timing Modules

Description		For Use With	Cat. No.
ON-delay	0.3…30 s range	100-C or 700-CF with AC coils or DC electronic coils	100-FPTA30
	2…180 s range		100-FPTA180
OFF-delay	0.3…30 s range	100-C all, 700-CF all	100-FPTB30
	2…180 s range		100-FPTB180

For more information on our complete family of IEC industrial control relay products, please visit:
http://ab.rockwellautomation.com/Relays-and-Timers/IEC-Industrial-Relays

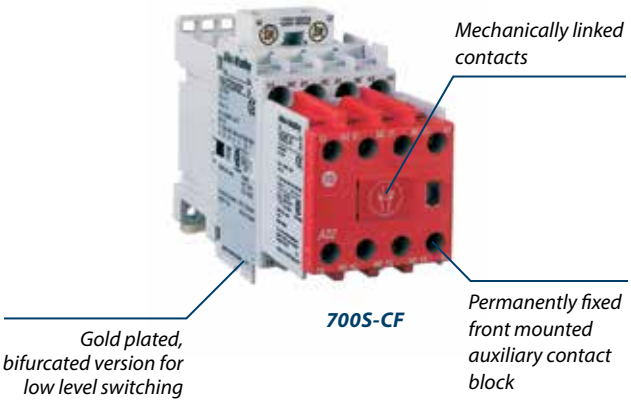


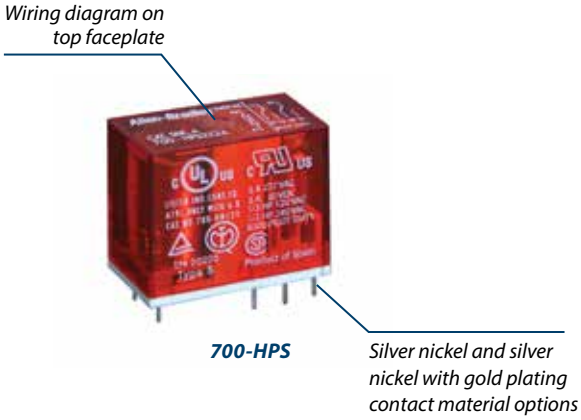
Safety Control Relays
700-HPS, 700S-CF, 700S-P/-PK

- Designed for use in safety circuits
- NEMA, IEC, and general purpose styles
- Mechanically linked contacts

Allen-Bradley® relays designed for use in safety circuits are available in NEMA, IEC and general purpose styles. All feature mechanically linked contacts to comply with applicable IEC standards and are marked accordingly.







Product Selection

IEC Safety Control Relays [1]

No. of Contacts		Standard Contacts (Main), Gold-Plated Bifurcated (Front)	Gold-Plated Bifurcated, All Contacts
N.O.	N.C.	Cat. No.	Cat. No.
4	4	700S-CF440⊗BC	700S-CFB440⊗C
5	3	700S-CF530⊗BC	700S-CFB530⊗C
6	2	700S-CF620⊗BC	700S-CFB620⊗C

[1] For contact ratings, see 700-CF on page 2-17.

⊗ Select a coil voltage code from the table at right to complete the catalog number.

NEMA Safety Control Relays – Standard, 10 A

No. of Contacts		AC Coils	24V DC Coil
N.O.	N.C.	Cat. No.	Cat. No.
3	1	700S-P310⊗	700S-DCP310DZ24
2	2	700S-P220⊗	700S-DCP220DZ24
7	1	700S-P710⊗	700S-DCP710DZ24
6	2	700S-P620⊗	700S-DCP620DZ24
5	3	700S-P530⊗	700S-DCP530DZ24
4	4	700S-P440⊗	700S-DCP440DZ24
3	5	700S-P350⊗	700S-DCP350DZ24
10	2	700S-P1020⊗	700S-DCP1020DZ24

NEMA Safety Control Relays – Master, 20 A

No. of Contacts		120V AC Coil	24V DC Coil
N.O.	N.C.	Cat. No.	Cat. No.
7	1	700S-PK710A1	700S-DCPK710Z24
6	2	700S-PK620A1	700S-DCPK620Z24
5	3	700S-PK530A1	700S-DCPK530Z24
4	4	700S-PK440A1	700S-DCPK440Z24
3	5	700S-PK350A1	700S-DCPK350Z24
10	2	700S-PK1020A1	700S-DCPK1020Z24
3	1	700S-PK310A1	700S-DCPK310Z24

⊗ Coil Voltage Codes for AC and DC Control

AC Control	
Code	Description
IEC Safety Control Relays	
KJ	24V, 50/60 Hz
D	110V, 50 Hz/120V, 60 Hz
KF	230V, 50 Hz
KA	240V, 60 Hz
NEMA Safety Control Relays	
A24	24V, 60 Hz
B11	110V, 50Hz
A1	120V, 60 Hz

DC Control	
Code	Description
IEC Safety Control Relays	
EJ	24V electronic
ZJ	24V
DJ	24V with integrated diode
NEMA Safety Control Relays	
Z24	24V, 60 Hz

General Purpose Safety Control Relays

Description	Coil Voltage	AgNi + Au Gold Plated Contacts	AgNi Contacts
		Cat. No.	Cat. No.
8 A Relay	6V DC	700-HPSXZ06	700-HPS2XZ06
	12V DC	700-HPSXZ12	700-HPS2XZ12
	24V DC	700-HPSXZ24	700-HPS2XZ24
	48V DC	700-HPSXZ48	700-HPS2XZ48
	60V DC	700-HPSXZ60	700-HPS2XZ60
	110V DC	700-HPSXZ1	700-HPS2XZ1
	125V DC	700-HPSXZ01	700-HP2SXZ01
Socket	–	700-HN123	



Safety

Our innovative safety products and solutions improve the functional operation of your machinery while helping to increase personnel safety, efficiency and productivity.

http://ab.rockwellautomation.com/Safety

For more information on our complete family of safety relay products, please visit:
http://ab.rockwellautomation.com/Safety

Programmable Controllers



Micro Controllers
2080 Micro800 Family

- Wide range of small-size controllers (built-in I/O from 10…48 pts)
- Use Connected Components Workbench™ software to program your Micro800® Controllers
- Plug-in modules to customize your controller
- Supports a wide variety of communication protocols to suit specific application needs: CIP on Serial and Ethernet, Modbus on Serial and Ethernet, DeviceNet™ and ASCII on Serial

Micro800 Control Systems are easy to install and maintain. One software package applies to the entire family. These systems offer just enough control for your standalone machines. Invest in the functionality you need, and use plug-in modules for a system tailored to your specific application.



Micro810® Controllers
Smart Relay Micro PLC

- Offers 12-point controllers
- Includes 8 A outputs, which replace the need for external relays
- Supports program download through USB programming port (adapter required)
- Allows you to configure and operate smart relay function blocks without a PC (LCD required)

* product selection can be found on page 2-22



Micro820™ Controllers
Remote Automation Micro PLC

- Offers 20-point controllers
- Provides embedded 0...10V non-isolated 4-channel analog input and 1-channel analog output for speed control of an AC drive
- Communicates via EtherNet/IP™
- Supports program download through USB with an optional 3.5 in. remote LCD
- Supports up to two Micro800 plug-in modules

* product selection can be found on page 2-22

Connected Components Workbench Software

- Single software to program your controllers, configure your drives, servo drives and safety relays, and design your HMI screens using this software
- Easy to install, program and maintain
- Connected Components Accelerator Toolkit allows machine builders to significantly reduce design time and cost

Download the Connected Components Workbench Software!

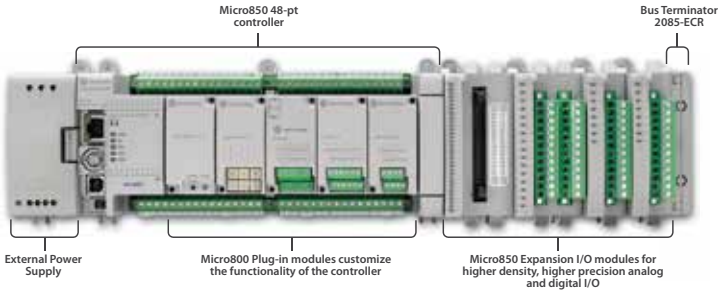
http://www.rockwellautomation.com/go/lit/ccws



Micro830® Controllers
Flexible Micro PLC with Simple Motion

- Offers 10-point, 16-point, 24-point, and 48-point controllers
- Supports up to five Micro800 plug-in modules
- Provides embedded motion capabilities, up to three axes with 100 kHz pulse train outputs
- Provides embedded communications via USB programming port and non-isolated serial port

* product selection can be found on page 2-22



Micro850 Controller with Expansion I/O Modules

Micro850® Controllers
Expandable Micro PLC with Ethernet

- Offers 24-point and 48-point controllers
- Provides embedded communications via USB programming port, non-isolated serial port (for RS-232 and RS-485 communications) and Ethernet port
- Supports up to five Micro800 plug-in modules and up to four Micro850 expansion I/O modules
- Provides embedded motion capabilities, up to three axes with 100 kHz pulse train outputs
- Communicates via EtherNet/IP

* product selection can be found on page 2-23

For more information on our complete family of programmable controller products, please visit:
http://ab.rockwellautomation.com/Programmable-Controllers/Micro-and-Nano

Programmable Controllers

Product Selection



Micro810 Controllers, 12 point

Line Power	Inputs	Outputs	Cat. No.
24V DC	(8) 12/24V DC [1]	(4) Relay	2080-LC10-12QWB
120/240V AC	(8) 120/240V AC	(4) Relay	2080-LC10-12AWA
24V DC	(8)12/24V DC [1]	(4) 24V Source DC	2080-LC10-12QBB
12V DC	(8) 12V DC [1]	(4) Relay	2080-LC10-12DWD

Accessories

Description	Cat. No.
USB Adapter Plug	2080-USBADAPTER
1.5 in. LCD Display and Keypad	2080-LCD
120/240V AC to 24V DC Power Supply for Micro800	2080-PS120-240VAC

[1] Four configurable as analog.



Micro820 Controllers, 20 point

Line Power	Inputs	Outputs	Cat. No.
24V DC	(12) 24V DC	(7) 24V DC Source	2080-LC20-20QBB
	(12) 24V DC	(7) Relay	2080-LC20-20QWB
	(8) 120V AC (4) 24V DC	(7) Relay	2080-LC20-20AWB
	(12) 24V DC	(7) 24V DC Source	2080-LC20-20QBBR
	(12) 24V DC	(7) Relay	2080-LC20-20QWBR
	(8) 120V AC (4) 24V DC	(7) Relay	2080-LC20-20AWBR

Accessories

Description	Cat. No.
Micro800 3.5 inch remote LCD display module	2080-REMLCD
120/240V AC to 24V DC Power Supply for Micro800	2080-PS120-240VAC



Micro830 Controllers, 10...48 Points

Line Power	Inputs	Outputs	Cat. No.
24V DC	(2) Normal 24V DC/AC, (4) Fast 24V DC	(4) Relay	2080-LC30-10QWB
	(2) Normal 24V DC/AC (4) Fast 24V DC	(2) Normal 24V DC Sink, (2) Fast 24V DC Sink	2080-LC30-10QVB
	(10) 120V AC	(6) Relay	2080-LC30-16AWB
	(6) Normal 24V DC/AC, (4) Fast 24V DC	(4) Normal 24V DC Sink, (2) Fast 24V DC Sink	2080-LC30-16QVB
	(6) Normal 24V DC/AC, (4) Fast 24V DC	(6) Relay	2080-LC30-16QWB
	(6) Normal 24V DC/AC, (8) Fast 24V DC	(8) Normal 24V DC Source, (2) Fast 24V DC Source	2080-LC30-24QBB
	(6) Normal 24V DC/AC, (8) Fast 24V DC	(8) Normal 24V DC Sink,(2) Fast 24V DC Sink	2080-LC30-24QVB
	(6) Normal 24V DC/AC, (8) Fast 24V DC	(10) Relay	2080-LC30-24QWB
	(28) 120V AC	(20) Relay	2080-LC30-48AWB
	(16) Normal 24V DC/AC, (12) Fast 24V DC	(16) Normal 24V DC Source,(4) Fast 24V DC Source	2080-LC30-48QBB
	(16) Normal 24V DC/AC, (12) Fast 24V DC	(16) Normal 24V DC Sink,(4) Fast 24V DC Sink	2080-LC30-48QVB
	(16) Normal 24V DC/AC, (12) Fast 24V DC	(20) Relay	2080-LC30-48QWB

Accessories

Description	Cat. No.
120/240V AC to 24V DC Power Supply for Micro800	2080-PS120-240VAC

Product Selection



Micro850 Controllers, 24...48 point

Line Power	Inputs	Outputs	Cat. No.
24V DC	(14) 120V AC	(10) relay	2080-LC50-24AWB
24V DC	(14) 24V DC	(10) 24V DC source	2080-LC50-24QBB
24V DC	(14) 24V DC	(10) 24V DC sink	2080-LC50-24QVB
24V DC	(14) 24V DC	(10) relay	2080-LC50-24QWB
24V DC	(28) 120V AC	(20) relay	2080-LC50-48AWB
24V DC	(28) 24V DC	(20) 24V DC source	2080-LC50-48QBB
24V DC	(28) 24V DC	(20) 24V DC sink	2080-LC50-48QVB
24V DC	(28) 24V DC	(20) relay	2080-LC50-48QWB



Expansion I/O Modules

Type	Description	Cat. No.
Discrete	8-point, 120V AC input	2085-IA8
	8-point, 240V AC input	2085-IM8
	8-point, 120/240V AC Triac output	2085-OA8
	16-point, 12/24V DC sink/source input	2085-IQ16
	32-point, 12/24V DC sink/source input	2085-IQ32T
	16-point, 12/24V DC sink transistor output	2085-OV16
	16-point, 12/24V DC source transistor output	2085-OB16
	8-point, AC/DC relay output	2085-OW8
	16-point, AC/DC relay output	2085-OW16
Analog	4-channel, 14-bit isolated voltage/current input	2085-IF4
	8-channel, 14-bit isolated voltage/current input	2085-IF8
	4-channel, 12-bit isolated voltage/current output	2085-OF4
Specialty	4-channel, 16-bit RTD and TC isolated input module	2085-IRT4
Terminator	2085 bus terminator	2085-ECR
Accessories		
Description		**Cat. No.**
120/240V AC to 24V DC power supply for Micro800		2080-PS120-240VAC



Plug-in Modules [1]

Description	Cat. No.
4-channel V/I analog input unipolar 0...20 mA, 0...10V, 12bits (non-isolated)	2080-IF4
2-channel V/I analog input unipolar 0...20 mA, 0...10V, 12bits (non-isolated)	2080-IF2
2-channel V/I analog output unipolar 0...20 mA, 0...10V, 12 bits	2080-OF2
RS232/485 isolated serial port	2080-SERIALISOL
6-channel - trim pot analog input	2080-TRIMPOT6
Project, data log, recipe backup and high accuracy RTC [1]	2080-MEMBAK-RTC
2-channel RTD (non-isolated)	2080-RTD2
2-channel thermocouple (non-isolated)	2080-TC2
4-point, 12/24V DC sink/source input	2080-IQ4
4-point relay output, individually isolated, 2A	2080-OW4I
8-point combo, 12/24V DC, sink/source input, 12/24V DC sink output	2080-IQ4OV4
8-point, combo, 12/24V DC sink/source input 12/24V DC source output	2080-IQ4OB4
4-point, 24V DC source output	2080-OB4
4-point, 24V DC sink output	2080-OV4
High speed counter, 250 kHz	2080-MOT-HSC
20-node DeviceNet scanner	2080-DNET20

[1] All plug-in modules are for use with the Micro820, Micro830 and Micro850 controllers, except catalog number 2080-MEMBAK-RTC, which is for use with Micro830 and Micro850 controllers only.

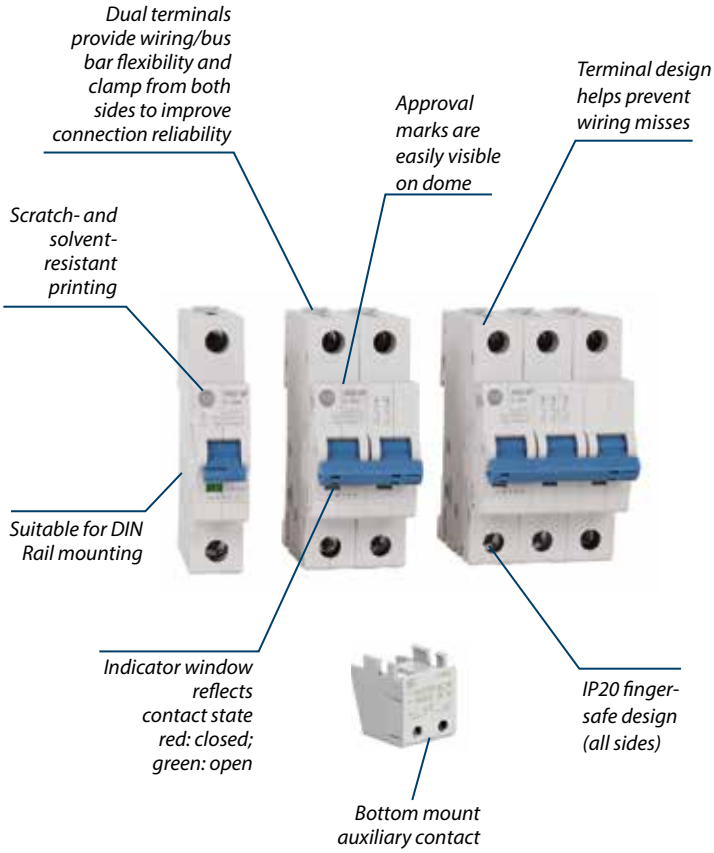
For more information on our complete family of programmable controller products, please visit:
http://ab.rockwellautomation.com/Programmable-Controllers/Micro-and-Nano

Control Circuit & Load Protection



Miniature Circuit Breakers
1492-SP

- Supplemental protection for North America
- Current limiting
- 40 °C calibration temperature
- Installation of up to six accessories per circuit breaker
- Bottom mount auxiliary contact saves panel space
- Reversible line and load connections
- Attachments available for Lockout/Tagout
- Trip curves: B, C, and D



1492-SP is a thermal-magnetic miniature circuit breakers as defined by IEC Standards. These devices are also rated as supplementary protectors, in North America, providing overcurrent protection for equipment where branch circuit protection is already provided, or is not required.

These supplementary protectors are offered as a broad portfolio of pole variants, current ratings, and trip curves to match the appropriate level of protection for your application. They may be used with bus bars for convenience in panel assembly, a wide range of left-, right- and space saving bottom-mount accessories, and lock out attachments for safety during maintenance.



Product Selection

Miniature Circuit Breakers/Supplemental Protectors

Continuous Current Rating (I_n) [A]	Trip Curve C – Inductive, 5...10 I_n [1]		
	1-Pole [2]	2-Pole	3-Pole [2]
	Cat. No.	Cat. No.	Cat. No.
0.5	1492-SPM1C005	1492-SPM2C005	1492-SPM3C005
1	1492-SPM1C010	1492-SPM2C010	1492-SPM3C010
2	1492-SPM1C020	1492-SPM2C020	1492-SPM3C020
3	1492-SPM1C030	1492-SPM2C030	1492-SPM3C030
4	1492-SPM1C040	1492-SPM2C040	1492-SPM3C040
5	1492-SPM1C050	1492-SPM2C050	1492-SPM3C050
6	1492-SPM1C060	1492-SPM2C060	1492-SPM3C060
7	1492-SPM1C070	1492-SPM2C070	1492-SPM3C070
8	1492-SPM1C080	1492-SPM2C080	1492-SPM3C080
10	1492-SPM1C100	1492-SPM2C100	1492-SPM3C100
13	1492-SPM1C130	1492-SPM2C130	1492-SPM3C130
15	1492-SPM1C150	1492-SPM2C150	1492-SPM3C150
16	1492-SPM1C160	1492-SPM2C160	1492-SPM3C160
20	1492-SPM1C200	1492-SPM2C200	1492-SPM3C200
25	1492-SPM1C250	1492-SPM2C250	1492-SPM3C250
30	1492-SPM1C300	1492-SPM2C300	1492-SPM3C300
32	1492-SPM1C320	1492-SPM2C320	1492-SPM3C320
40	1492-SPM1C400	1492-SPM2C400	1492-SPM3C400
50	1492-SPM1C500	1492-SPM2C500	1492-SPM3C500
63	1492-SPM1C630	1492-SPM2C630	1492-SPM3C630

[1] The catalog number listed represents Trip Curve C: Inductive. To order Trip Curve B (slightly inductive) replace the **C** in the catalog number with **B**. Example catalog number 1492-SPM1**C**005 becomes catalog number 1492-SPM1**B**005. To order Trip Curve D (highly inductive) replace the **C** in the catalog number with **D**.

[2] For 1+N and 3+N versions: add the suffix **-N** to the catalog number



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Accessories

Mounting Position	Description	Contacts	Cat. No.
Right mount	Shunt trip 110...415V AC/ 110...250V DC	–	189-AST1
	Shunt trip 12...60V AC/DC	–	189-AST2
	Auxiliary/signal contact	1 N.O./N.C. (1 C.O.)	189-ASCR3
	Auxiliary contact	1 N.O./N.C. (1 C.O.)	189-AR3
		1 N.O. + 1 N.C.	189-AR11
		2 N.C.	189-AR02
		2 N.O.	189-AR20
Bottom mount	Auxiliary contact	1 N.C.	189-AB01
		1 N.O.	189-AB10

Bus Bars

	Without Aux. Contact		With Aux. Contact	
	80 A	100 A	80 A	100 A
Description	Cat. No.*	Cat. No.*	Cat. No.*	Cat. No.*
1-phase	1492-A1B8	1492-A1B1	1492-A1B8H	1492-A1B1H
2-phase	1492-A2B8	1492-A2B1	1492-A2B8H	1492-A2B1H
3-phase	1492-A3B8	1492-A3B1	1492-A3B8H	1492-A3B1H

Bus Bar Accessories

Description	Cat. No.
Terminal power feed, 35 mm² – straight lug	1492-AAT1S
Terminal power feed, 35 mm² – offset lug low profile	1492-AAT1LP
Dedicated power feed, 50 mm²	1492-AAT2
End cover, for 1-phase bus bars	1492-A1E
End cover, for 2-, 3-phase bus bars	1492-AME
Protective cover (for unused pins)	1492-AAP

* Catalog numbers listed are for 1 meter bus bars.

Specifications

Standards Compliance	UL 1077, CSA C22.2 No. 235, EN 60947-2, GB 14048.2
Certifications	UL Recognized – File No. E65138*, CSA Certified – File No. 259391*, CE Marked, CCC Certified, VDE Certified, RoHS Compliant
Rated Voltage	UL/CSA: Max. 480Y/277V AC, IEC: Ue 230/400V AC
Interrupting Capacity	UL/CSA: 5…10 kA, IEC: 15 kA

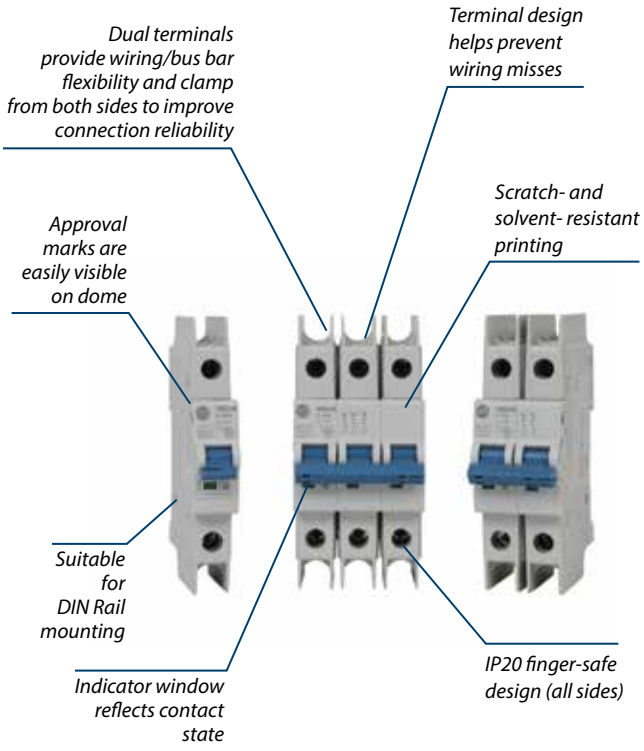
* 1+N and 3+N devices are not UL recognized or CSA certified.

Logic



Miniature Circuit Breakers 1489

- UL/CSA Listed for branch circuit protection
- Current limiting
- Finger-safe design (all sides)
- Terminal design helps prevent wiring misses
- Reversible line and load connections
- Attachments available for Lockout/Tagout
- Trip curves: C and D



1489-M thermal-magnetic circuit breakers are approved for branch circuit protection in the United States and Canada, and are certified as Miniature circuit breakers for IEC applications.

These branch protectors are compatible with many accessories to meet diverse application needs, including UL 508 Listed bus bars for convenience in panel assembly, auxiliary contacts, signal contacts and shunt trips for versatility, and lockout attachments for safety during maintenance.



Product Selection

Miniature Circuit Breakers

Continuous Current Rating (I_n) [A]	Trip Curve C [1] – Inductive, 5...10 I_n		
	1-Pole	2-Pole	3-Pole
	Cat. No.	Cat. No.	Cat. No.
0.5	1489-M1C005	1489-M2C005	1489-M3C005
1	1489-M1C010	1489-M2C010	1489-M3C010
1.6	1489-M1C016	1489-M2C016	1489-M3C016
2	1489-M1C020	1489-M2C020	1489-M3C020
3	1489-M1C030	1489-M2C030	1489-M3C030
4	1489-M1C040	1489-M2C040	1489-M3C040
5	1489-M1C050	1489-M2C050	1489-M3C050
6	1489-M1C060	1489-M2C060	1489-M3C060
7	1489-M1C070	1489-M2C070	1489-M3C070
8	1489-M1C080	1489-M2C080	1489-M3C080
10	1489-M1C100	1489-M2C100	1489-M3C100
13	1489-M1C130	1489-M2C130	1489-M3C130
15	1489-M1C150	1489-M2C150	1489-M3C150
16	1489-M1C160	1489-M2C160	1489-M3C160
20	1489-M1C200	1489-M2C200	1489-M3C200
25	1489-M1C250	1489-M2C250	1489-M3C250
30	1489-M1C300	1489-M2C300	1489-M3C300
32	1489-M1C320	1489-M2C320	1489-M3C320
35	1489-M1C350	1489-M2C350	1489-M3C350

[1] The catalog number listed represents Trip Curve C: Inductive.
To order Trip Curve D (highly inductive), replace the **C** in the catalog number with **D**. Example: Catalog number 1489-M1**C**005 becomes Catalog number 1489-M1**D**005.

Specifications

Standards Compliance	UL 1077, CSA C22.2 No. 235, EN 60947-2, GB 14048.2
Certifications	UL Recognized, CSA Certified, CE Marked, CCC Certified, VDE Certified, RoHS Compliant
Rated Voltage	UL/CSA: Max. 480Y/277V AC IEC: Ue 230/400V AC
Interrupting Capacity	UL/CSA: 10 kA IEC: 15 kA

Accessories

Description	Contacts	Cat. No.
Shunt trip 110...415V AC/110...250V DC	–	1489-AMST1
Shunt trip 12...60V AC/DC	–	1489-AMST2
Signal contact	1 N.O./N.C. (1 C.O.)	1489-AMRS3
Auxiliary contact	1 N.O./N.C. (1 C.O.)	1489-AMRA3

Bus Bars

Description	No. of Pins	No. of Circuit Breakers	Cat. No. [2,3,4]
1-phase	6	6	1489-AMCL106
	12	12	1489-AMCL112
	18	18	1489-AMCL118
2-phase	6	3	1489-AMCL206
	12	6	1489-AMCL212
	18	9	1489-AMCL218
3-phase	6	2	1489-AMCL306
	12	4	1489-AMCL312
	18	6	1489-AMCL318

Bus Bar Accessories

Description	Cat. No.
Terminal power feed, 35 mm^2	1489-AMCLT35
Dedicated power feed, 50 mm^2	1489-AMCLT50D
Protective shroud (for unused pins)	1489-AMCLPS

[2] Package quantity of 10
[3] cULus, UL 508, EN 60947-1, CE Marked
[4] Maximum of three bus bars allowed



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

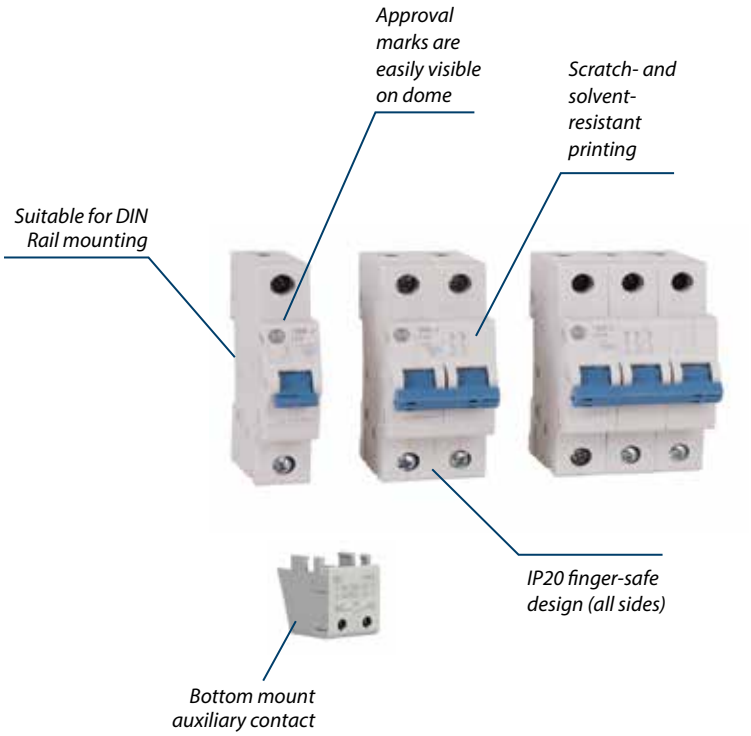
http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Control Circuit & Load Protection



Regional Circuit Breakers 188-J

- Available only in China and Europe
- 0.5…63 A; 1(+N), 2, 3(+N), 4 poles
- Current limiting
- Reversible line and load connections
- Suitable for extreme ambient conditions (-25…+55 °C)
- Trip curves: B, C, and D



188-J circuit breakers are for application at the equipment level. These products have regional certifications only and are available in China and Europe.



Product Selection

Regional Circuit Breakers

Continuous Current Rating (I_n) [A]	Trip Curve C – Inductive, 5...10 I_n [1,2]			
	1-Pole [3]	2-Pole	3-Pole [3]	4-Pole
	Cat. No.	Cat. No.	Cat. No.	Cat. No.
0.5	188-J1C005	188-J2C005	188-J3C005	188-J4C005
1	188-J1C010	188-J2C010	188-J3C010	188-J4C010
2	188-J1C020	188-J2C020	188-J3C020	188-J4C020
3	188-J1C030	188-J2C030	188-J3C030	188-J4C030
4	188-J1C040	188-J2C040	188-J3C040	188-J4C040
6	188-J1C060	188-J2C060	188-J3C060	188-J4C060
8	188-J1C080	188-J2C080	188-J3C080	188-J4C080
10	188-J1C100	188-J2C100	188-J3C100	188-J4C100
13	188-J1C130	188-J2C130	188-J3C130	188-J4C130
16	188-J1C160	188-J2C160	188-J3C160	188-J4C160
20	188-J1C200	188-J2C200	188-J3C200	188-J4C200
25	188-J1C250	188-Ja2C250	188-J3C250	188-J4C250
32	188-J1C320	188-J2C320	188-J3C320	188-J4C320
40	188-J1C400	188-J2C400	188-J3C400	188-J4C400
50	188-J1C500	188-J2C500	188-J3C500	188-J4C500
63	188-J1C630	188-J2C630	188-J3C630	188-J4C630

[1] The catalog number listed represents Trip Curve C: Inductive. To order Trip Curve B (slightly inductive) replace the **C** in the catalog number with **B**. To order Trip Curve D (highly inductive) replace the **C** in the catalog number with **D**.

[2] Trip Curve B is not available in current ratings 0.5…4 A.

[3] For 1+N and 3+N versions: add the suffix -N to the catalog number

Specifications

Standards Compliance	EN 60898-1, GB 10963
Certifications	CE Marked, CCC Certified, VDE Certified
Rated Voltage	IEC: Ue 230/400V AC
Interrupting Capacity	IEC: 10 kA

Accessories

Mounting Position	Description	Contacts	Cat. No.
Right mount	Shunt trip 110...415V AC/ 110...250V DC	–	189-AST1
	Shunt trip 12...60V AC/DC	–	189-AST2
	Auxiliary/signal contact	1 N.O./N.C. (1 C.O.)	189-ASCR3
	Auxiliary contact	1 N.O./N.C. (1 C.O.)	189-AR3
		1 N.O. + 1 N.C.	189-AR11
		2 N.C.	189-AR02
		2 N.O.	189-AR20
Bottom mount	Auxiliary contact	1 N.C.	189-AB01
		1 N.O.	189-AB10

Bus Bars

Description	Pkg. Qty.	Without Aux. Contact		With Aux. Contact	
		No. of Pins	Cat. No.	No. of Pins	Cat. No.
1-phase	1	60	189-CL1	38	189-CL1H
	20	12	189-CL112	9	189-CL1H09
	20	6	189-CL106	6	189-CL1H06
	20	2	189-CL102	2	189-CL1H02
2-phase	1	58	189-CL2	44	189-CL2H
	10	12	189-CL212	10	189-CL2H10
	10	6	189-CL206	6	189-CL2H06
	10	4	189-CL204	4	189-CL2H04
3-phase	1	60	189-CL3	48	189-CL3H
	10	12	189-CL312	12	189-CL3H12
	10	6	189-CL306	6	189-CL3H06
4-phase	1	56	189-CL4	48	189-CL4H

Description	Pkg. Qty.	No. of Pins	Cat. No.
2-phase MCB to RCD	10	4	189-CL204
4-phase MCB to RCD	10	8	189-CL408
Bus Bar Accessories			
Terminal power feed, 25 mm^2	10	–	189-CLT25
Terminal power feed, 50 mm^2	10	–	189-CLT50
Dedicated power feed, 50mm^2	10	–	189-CLT50D
End cover, for 1-phase bus bars	10	–	189-CL1EC
End cover, for 2, 3 phase bus bars	10	–	189-CL3EC
End cover, for 4 phase bus bars	10	–	189-CL4EC
Protective cover (for unused pins)	10	–	189-CLPS

For more information on our complete family of circuit and load protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Control Circuit & Load Protection

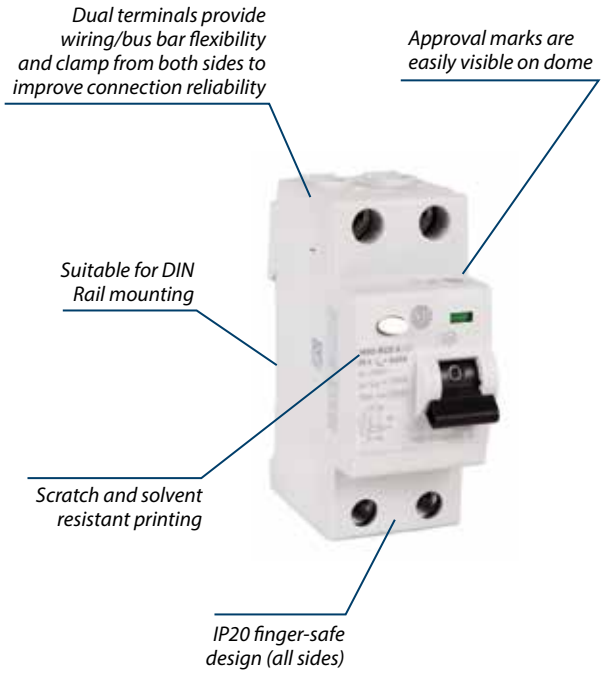
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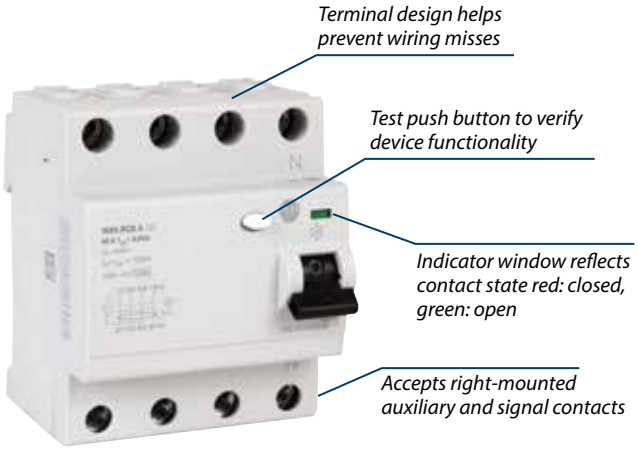


Residual Current Devices
1492-RCDA

- 25…80 A residual current devices
- 30 mA sensitivity devices for personnel protection
- Reversible line and load connections
- Suitable for protection against AC and pulsating DC (rectified AC) earth leakage current
- Dual terminals allow a more secure connection of two wires, or both a wire and bus bar

By detecting small leakage currents and disconnecting all ungrounded connectors quickly, RCDs can prevent injury to exposed personnel and damage to equipment.





Accessories



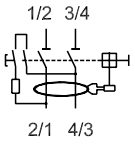
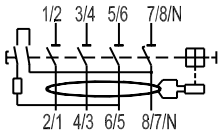
Aux/Signal Contact



Bus Bar

Product Selection

Residual Current Devices

Sensitivity (mA)	Rated Current (A)	2-Pole (1-Pole + Neutral)	4-Pole (3-Pole + Neutral)	
			Standard	With Delay
30	25	1492-RCDA2A25	1492-RCDA4A25	–
	40	1492-RCDA2A40	1492-RCDA4A40	–
	63	–	1492-RCDA4A63	–
	80	–	1492-RCDA4A80	–
100	25	1492-RCDA2B25	1492-RCDA4B25	–
	40	1492-RCDA2B40	1492-RCDA4B40	1492-RCDA4B40S
	63	–	1492-RCDA4B63	1492-RCDA4B63S
300	25	1492-RCDA2C25	1492-RCDA4C25	–
	40	1492-RCDA2C40	1492-RCDA4C40	1492-RCDA4C40S
	63	–	1492-RCDA4C63	1492-RCDA4C63S
	80	–	1492-RCDA4C80	–
500	25	–	1492-RCDA4D25	–
	40	–	1492-RCDA4D40	–
	63	–	1492-RCDA4D63	–
	80	–	1492-RCDA4D80	–
Diagram				

Accessories

Contact Blocks

Description *†∂	Contacts	Cat. No.
Auxiliary/signal contact	1 N.O./N.C. (1 C.O.)	189-ASCR3

* A maximum of one C.O. type signal contact and one C.O. type auxiliary contact *OR* two C.O. type auxiliary contacts may be installed per 1492-RCD.

† A maximum of one 189-AR11, -AR02, or AR20 auxiliary contact may be installed per 1492-RCD. They may not be combined with C.O. type contacts.

∂ A maximum of three accessories of any type may be installed per 1492-RCD. The signal contact must be mounted closest to the RCD, then the auxiliary contact(s). For allowed combinations and installation instructions, please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Bus Bars

Description	Pins	Pkg. Qty.	Cat. No.*
2-Phase MCB to RCD	4	10	189-CL204
4-Phase MCB to RCD	8	10	189-CL208

* These devices are CE marked, but not certified to any UL, CSA, or other standard.

Specifications

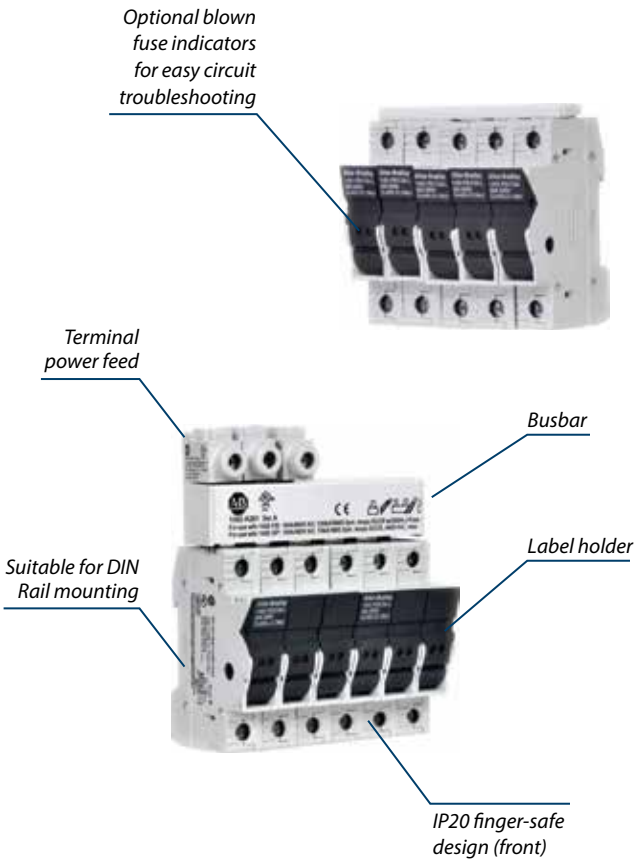
Standards Compliance	UL 1053, ANSI/NFPA 70, EN 61008, CSA C22.2 No. 144, GB 16916
Certifications	cURus Recognized, File No. E53935, CE Marked, CCC Certified, VDE Certified, RoHS Compliant
Rated Voltage	UL/CSA: Max. 480Y/277V AC IEC: Ue 230/400V AC
Interrupting Capacity	Rated conditional short-circuit 10 kA (SCPD – fuse gG 100 A) Rated residual breaking capacity 1 kA

Control Circuit & Load Protection



Fuse Holders
1492-FB

- For Class CC, J, and Midget fuses
- Compact size
- Handle isolates the fuse from top-wired power when installing or removing fuse
- Terminals are shipped in open position
- Optional blown fuse indicator



The 1492-FB fuse holder family is designed for use in many OEM applications, such as power supplies, equipment protection, primary and secondary control transformers, solenoids, lighting and heater loads, and drives.

1492-FB fuse holders provide a safe and convenient means for installation of Class CC, J, and Midget fuses. To support correct fuse type installation, the Class CC fuse holder is designed to reject a Midget fuse or international 10 x 38 mm fuse. The Class J fuse holder will reject all fuses other than a Class J fuse.

All fuse holders are UL Listed and CSA Certified for branch circuit protection. They are excellent for wire protection, small motor loads, and group protection of small motor loads. The Midget fuse holder is also CE Marked for 10 x 38 mm IEC Midget fuses.

Product Selection

Fuse Holders

Description		Midget Fuse	Class CC Fuse	Class J Fuse	
		30 A	30 A [1]	30 A	60 A
1-Pole	Fuse block	1492-FB1M30	1492-FB1C30	1492-FB1J30	1492-FB1J60
	Fuse block with indication, 110...600V [2]	1492-FB1M30-L	1492-FB1C30-L	1492-FB1J30-L	1492-FB1J60-L
	Fuse block with indication, 12...72V	1492-FB1M30-D1	1492-FB1C30-D1	–	–
	Pieces per carton	12	12	6	6
2-Pole	Fuse block	1492-FB2M30	1492-FB2C30	1492-FB2J30	1492-FB2J60
	Fuse block with indication, 110...600V [2]	1492-FB2M30-L	1492-FB2C30-L	1492-FB2J30-L	1492-FB2J60-L
	Pieces per carton	6	6	3	3
3-Pole	Fuse block	1492-FB3M30	1492-FB3C30	1492-FB3J30	1492-FB3J60
	Fuse block with indication, 110...600V [2]	1492-FB3M30-L	1492-FB3C30-L	1492-FB3J30-L	1492-FB3J60-L
	Pieces per carton	4	4	2	2

[1] All major fuse brands and current ranges have been evaluated for this fuse holder. Due to the heat they generate, the following fuses must be derated: Mersen ATQR 1.25 I = 0.42 A max., Mersen ATQR 1.40 I = 0.47 A max.

[2] 690V when used in IEC applications.

Accessories

Description	Size	Pkg. Qty.	Cat. No.
Fuse holder identification slide-in markers (blank marker squares slip into molded slot.100 markers/card)	5 mm x 5 mm	5 cards	1492-MC5X5
	6 mm x 5 mm		1492-MC6X5

Specifications

Certifications	UL Listed, File No. E34648, CSA Certified, CE Marked
Standards Compliance	UL 512, CSA 22.2 No. 39, EN 60269-2

Bus Bars

Description	Devices Per Meter	80 A	100 A
		Cat. No.	Cat. No.
1 phase	57	1492-A1B8	1492-A1B1
2 phase	29	1492-A2B8	1492-A2B1
3 phase	19	1492-A3B8	1492-A3B1

Bus Bar Accessories	
Description	**Cat. No.**
Terminal Power Feed, 35 mm^2 – offset lug	1492-AAT1
End Cover, for 1 phase bus bars	1492-A1E
End Cover, for 2, 3 phase bus bars	1492-AME
Protective cover (for unused pins)	1492-AAP



Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

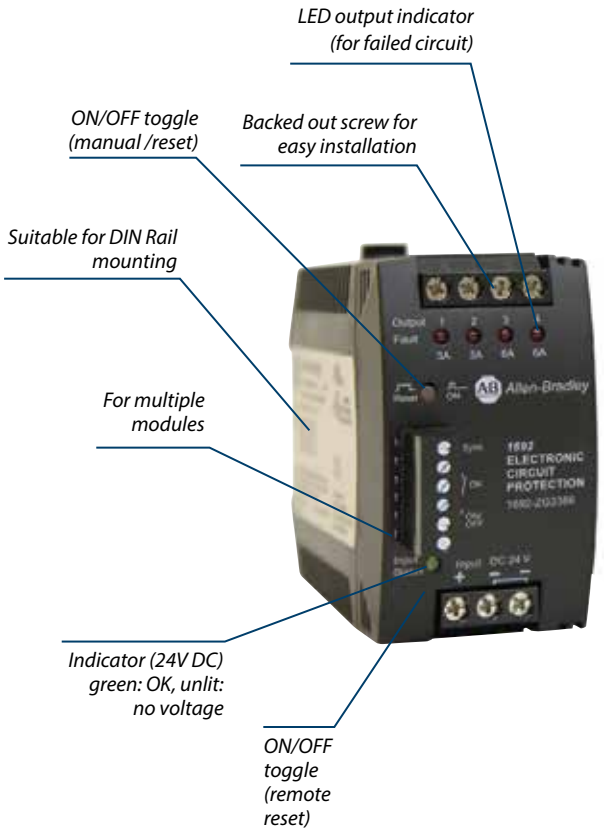
www.rockwellautomation.com/sales-partners/overview.page

Control Circuit & Load Protection



Electronic Circuit Protector 1692

- Monitors both supply voltage and load current
- Select devices offer certified NEC Class 2 circuits
- Used on power supply 24V DC secondary circuits
- Protects against equipment damage due to short circuit and overload
- Faster than the self protection of the power supply



1692 electronic circuit protection modules protect the secondary circuits of 24V DC switched mode power supplies. These modules monitor both supply voltage and load currents, and you can monitor and control the modules both locally and remotely.

Designed for 24V DC circuits, the 1692 provides comprehensive protection against short circuit and overcurrent conditions while allowing for inrush current.



Product Selection

Electronic Circuit Protector

Voltage	NEC Class 2	Output Current Rating [A]				Cat. No.
		Output 1	Output 2	Output 3	Output 4	
24V DC	Yes	1	1	1	1	1692-ZR1111
	No	2	2	2	2	1692-ZR2222
	No	3	3	3	3	1692-ZG3333
	No	4	4	4	4	1692-ZG4444
	No	6	6	6	6	1692-ZG6666
	No	10	10	10	10	1692-ZGAAAA
	No	3	3	6	6	1692-ZG3366
	No	6	6	12	12	1692-ZG66BB
	Yes	(4) NEC Class 2 circuits (100 VA /circuit max)				1692-ZRCLSS

Specifications

Standards Compliance	UL 508, UL 2367, CSA C22.2, No. 142, ISA 12.12, EN 60950-1, NEC Class 2 (select devices)
Certifications	cULus Listed (UL 508), File No. E56639, cURus Recognized, CE Marked, Class I, Div II (CSA only)
Voltage	24V DC (18...30V DC)
Output Current	1 A...12 A, select devices – NEC Class 2
Output Ratings	Isolated safety extra-low voltage (SELV)
Operating Temperature	-25…+70 °C (-13...+158 °F) (non-condensing)
Storage Temperature	-40…+85 °C (-40...+185 °F)
Humidity	5...95% (non-condensing)
Terminal Type/Wire Gauge	Screw/24...10 AWG (0.2...4mm^2)
Dimensions [in. (mm)]	1.77 x 2.95 x 3.58 (45 x 75 x 91)
Weight [lb. (g)]	0.26 (120)



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

Power Supplies



Essential Power Supplies
1606-XLE

- Basic feature set
- Rated outputs between 80…960 W (3.3…40 A at 24V DC)
- Multiple single- and three-phase inputs available for global applications
- Cost-effective solution for single-phase applications
- Redundancy modules provide a means for managing dual power supplies for back-up power

* product selection can be found on page 2-38.

Compact Power Supplies
1606-XLP

- Rated outputs between 15…100 W (0.6…4.2 A at 24V DC)
- Multiple output voltages available
- Smaller, cost-effective solution for low power applications

* product selection can be found on page 2-39.





Performance Power Supplies
1606-XLS

- World-class efficiency (up to 95%)
- Rated outputs between 80…960 W (3.3...40 A at 24V DC)
- 150% power boost feature handles startup loads
- Buffer modules for extended ride through
- Minimal heat rise

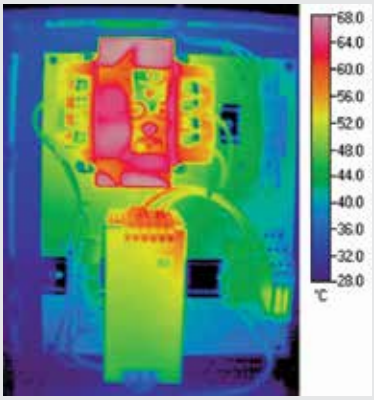
* product selection can be found on page 2-40.

Selection Criteria

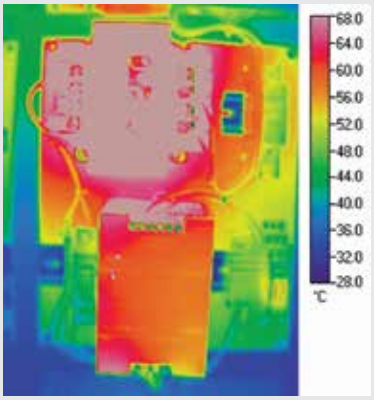
	XLE	XLP	XLS
Input Voltage	Single/multi phase	Single/multi phase	Single/multi phase
Watt Range	120…960 W	15…100 W	80…480 W
Multiple Output Voltages	X	X	X
Terminations	Screw	Cam lock spring	Cam lock spring
Auto Select Input	X	X	X
Power Boost	120%		150%/5 s
DC OK Relay Output			X
DC OK LED Indicator	X	X	X

Heat Efficiency Impacts Enclosure Sizing

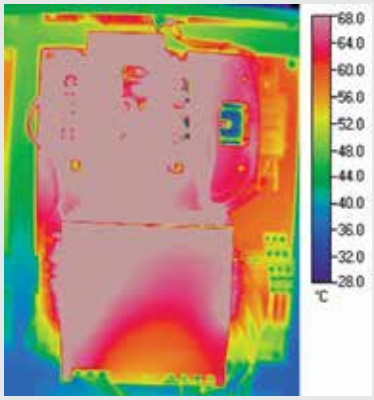
These thermal images show the difference an efficient power supply can make in a panel. All three power supplies are using the same transformer, but the Allen-Bradley power supply has the whole package running cooler due to its more efficient design.



A-B 1606-XLS
10A, 24V DC
93% Efficiency



Competitor A
10A, 24V DC
91% Efficiency



Competitor B
10A, 24V DC
84% Efficiency

For more information on our complete family of power supply products, please visit:
http://ab.rockwellautomation.com/Power-Supplies

Power Supplies

Product Selection – 1606-XLE



Essential Power Supplies – Single-phase

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC]		Cat. No.
				120	230	
100...120/200...240V AC	24...28	80	3.3	1.50	0.68	1606-XLE80E
		120	5	2.34	1.23	1606-XLE120E
		120	5	2.34	1.23	1606-XLE120EC[1]
90...132V AC		120	5	1.23	–	1606-XLE120EN
180...264V AC		120	5	–	1.17	1606-XLE120EE
100...120/200...240V AC		240	10	4.34	2.23	1606-XLE240E
90...132V AC		240	10	3.73	–	1606-XLE240EN
180...264V AC	48...52	240	10	–	2.20	1606-XLE240EE
100...120/200...240V AC	24...28	240	10	4.34	2.00	1606-XLE240EP
100...120/200...240V AC	48...52	240	5	4.34	2.23	1606-XLE240F
100...240V AC	24...28	480	20	4.36	2.33	1606-XLE480EP
100...240V AC	48...56	480	10	4.36	2.33	1606-XLE480FP

[1] The **C** suffix in the catalog number indicates that the product has conformal coating.

Essential Power Supplies – Two and Three Phases

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC]	Cat. No.
				400...480	
380...480V AC	12...15	480	20	3 x 0.65	1606-XLE96B-2
	48...56				1606-XLE240F-3
	24...28			3 x 0.85	1606-XLE120E-2
	24...28		10	3 x 0.65	1606-XLE240-3
480V AC	24		13.3		1606-XLE960DX-3N
	48	960	40	3 x 1.35	1606-XLE960MX-3N

Product Selection – 1606-XLP



Compact Power Supplies – Single-phase

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC]		Cat. No.
				120	230	
100...240V AC, 85...375V DC	5...5.5	15	3	0.28	0.17	1606-XLP15A
	12...15	15	1.3	0.28	0.17	1606-XLP15B
	24...28	15	0.6	0.28	0.17	1606-XLP15E
	5...5.5	25	5	0.60	0.30	1606-XLP25A
	10...12	30	3	0.60	0.25	1606-XLP30B
	24...28	30	1.3	0.60	0.35	1606-XLP30E
	24...28	30	1.3	0.54	0.30	1606-XLP30EQ
	±12/15	36	2.8	0.65	0.40	1606-XLP36C
	12...15	50	4.2	1.00	0.60	1606-XLP50B
	24...28	50	2.1	0.77	0.44	1606-XLP50E
	24...28	50	2.1	1.00	0.60	1606-XLP50EZ
	48...56	50	1	1.00	0.60	1606-XLP50F
100...240V AC, 110...300V DC	12...15	60	4.5	0.91	0.54	1606-XLP60BQ
		60	4.5	0.97	0.61	1606-XLP60BQT
	24...28	72	2.5	0.98	0.58	1606-XLP60EQ
		90	2.5	1.05	0.66	1606-XLP60EQT
100...120/220...240V AC, 220...375V DC		95	3	1.60	0.80	1606-XLP72E
	12...15	100	7.5	1.90	0.90	1606-XLP90B
100...200/200...240V AC, 220...375V DC	24...28	100	3.9	2.00	0.95	1606-XLP95E
		90	4.2	2.10	1.00	1606-XLP100E
	48...56	100	2.1	2.10	1.00	1606-XLP100F

Compact Power Supplies – Two-phase

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC]	Cat. No.
				400...480	
380...480V AC	24...28	90	3.75	2 x 0.36	1606-XLP90E-2
		100	4.2	2 x 0.40	1606-XLP100E-2

For more information on our complete family of power supply products, please visit:
http://ab.rockwellautomation.com/Power-Supplies

Power Supplies

Product Selection – 1606-XLS



Performance Power Supplies – Single-phase

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC]		Cat. No.
				120	230	
100...240V AC, 110...300V DC	24...48	80	3.3	1.42	0.82	1606-XLS80E
		120	5	1.10	0.62	1606-XLS120E
						1606-XLS120EX
	12...15	180	15	1.65	0.93	1606-XLS180B
	24...48	240	10	2.22	1.22	1606-XLS240E
						1606-XLS240EA[1]
						1606-XLS240EC[1]
	48...56	240	5	2.22	1.22	1606-XLS240F
	28...32	240	8	2.22	1.22	1606-XLS240K
	24...48	480	20	4.56	2.48	1606-XLS480E
						1606-XLS480EA[1]
						1606-XLS480EC[1]
200...240V AC	24...48	480	20	–	4.45	1606-XLS480EE
100...240V AC, 110...300V DC	48...56	480	10	4.56	2.48	1606-XLS480F
	36...42	480	13.3	4.56	2.48	1606-XLS480G
200...240V AC, 220...300V DC	24...28	960	34.3	–	4.6	1606-XLS960EE
	48...56	960	20	–	4.6	1606-XLS960FE

Performance Power Supplies – Three-phase

Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady-state Input Current [V AC] 400...480	Cat. No.
380...480V AC, 600V DC	24...28	480	20	3 x 0.65	1606-XLS480E-3
					1606-XLS480E-3C[1]
360...900V DC				3 x 0.85	1606-XLS480E-D
380...480V AC, 600V DC	48...56		10	3 x 0.65	1606-XLS480F-3
	36...42		13.3		1606-XLS480G-3
	24...28	960	40	3 x 1.35	1606-XLS960E-3
	48...54		20		1606-XLS960F-3

[1] The **C** suffix in the catalog number indicates that the product has conformal coating. The **A** suffix in the catalog number indicates that the product carries the ATEX rating.

Redundancy Modules
1606

- Provides back-up power in the event the primary power supply fails.
- For all switched mode power supply lines
- Status indication for each switched mode power supply





Buffer Modules
1606

- Buffer load currents during typical mains faults, switching events or load peaks
- Prevents application interruption due to short voltage dips, drops or inrush spikes
- Clear status indication by status LED and signaling terminals

DC UPS Modules
1606

- Back-up power for bridge dips, sags, or loss of power
- Extensive diagnostic and monitoring functions to aid in troubleshooting
- When power supply provides sufficient voltage, module charges the battery



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Power Supplies



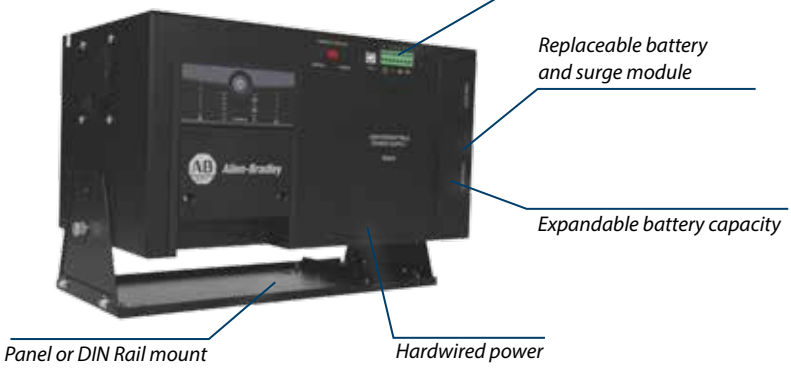
Uninterruptable Power Supplies 1609-B, 1609-D

- DIN Rail/panel/floor mount
- Hard-wired input and output
- Integrated remote on/off and dry I/O contacts
- USB communications
- Expandable battery capacity
- Available EtherNet/IP communications (1609-D only)
- Remote on/off enables UPS to deactivate when servicing electrical panel

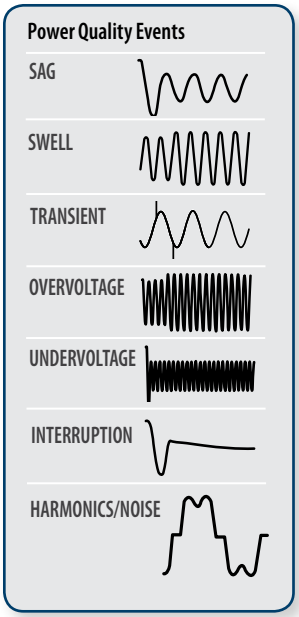
Fast Recovery from Power Failures

The 1609 is uniquely designed for the industrial market to provide back-up AC power to the control cabinet. The 1609 will bridge dips, sags, or brief losses of power.

If necessary, the 1609 will provide enough time to facilitate a safe shut-down of your industrial PC, PLC, data logging HMI, or any other critical device in the control scheme.



Product	Panel Mount	Integrated Dry I/O Contacts	Remote On/Off	Replaceable Surge Protection	EtherNet/IP	USB	Auto Voltage Regulation	Expandable Battery
1609-B	•	•	•	•		•		
1609-D	•	•	•	•	•	•	•	•



Product Selection

Uninterruptable Power Supplies

Product Family [1]	Input/ Output Voltage [V]	Output Power [VA]	Cat. No.
1609-B Basic	120	600	1609-B600N
		1000	1609-B1000N
	230	600	1609-B600
		1000	1609-B1000E
1609-D Deluxe (full featured)	120	600	1609-D600N
		1000	1609-D1000N
		1500	1609-D1500N
	230	600	1609-D600E
		1000	1609-D1000E
		1500	1609-D1500E

[1] Requires two/three (1609-B/1609-D)12V batteries that must be ordered separately from the Accessories table below.

Specifications

Input

Capacity		**VA**	**1609-B**	**1609-D**	
		600	600VA (390 W)	600VA (390 W)	
		1000	1000VA (390 W)	1000VA (650 W)	
		1500	N/A	1500VA (980 W)	
Voltage Range 120VAC/230VAC		90…145V/184…264			
Current		**Input Voltage**	**600VA**	**1000VA**	**1500VA**
	1609-B	120V	5.4 A	8.9 A	N/A
		230V	2.8 A	4.7 A	N/A
	1609-D	120V	5.5 A	8.8 A	13 A
		230V	3.3 A	4.7 A	7.1A
Capacity Frequency		50/60 Hz +/- 3 Hz			
PFC		None (load power factor is reflected in the input line)			

Output

Capacity	**VA**	**1609-B**	**1609-D**
	600	600VA (390 W)	600VA (390 W)
	1000	1000VA (390 W)	1000VA (650 W)
	1500	N/A	1500VA (980 W)

Accessories

Description	Cat. No.
Standard replacement battery 32...104 °F (0...40 °C)	1609-SBAT
High-temperature replacement battery 32...122 °F (0...50 °C)	1609-HBAT
External battery pack	1609-EXBAT
Surge protection module	1609-SPD
Replacement mounting bracket	1609-BRK



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

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Power & Energy Management



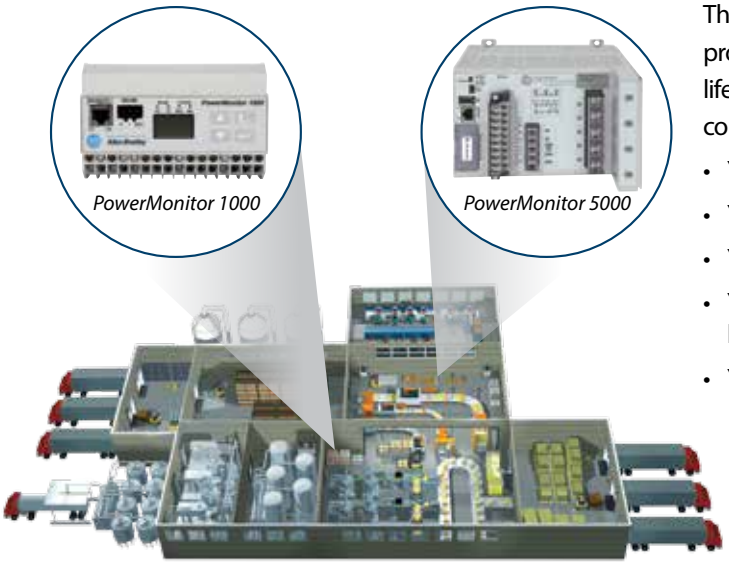
PowerMonitor 1000
1408

- Track demand and consumption over time
- Logs – Energy, Min/Max, Status, and Load
- Available EtherNet/IP, Serial DF1, Modbus RTU, Modbus TCP communications

PowerMonitor 5000
1426

- Scalable power quality platform
- Four voltage and four current channels for each electrical cycle
- Up to 20 user-configurable setpoints
- Measures up to the 127th harmonic
- EtherNet/IP communications
- Single cycle metering





Energy Management

The use of Energy Monitoring hardware and software products can improve your equipment productivity and life, reduce your power use and its costs, and increase your company's profits. When is the right time to implement them?

- You are beginning an energy savings initiative
- You notice a spike in utility bills
- You need demand and consumption measured
- You have meters implemented currently and are looking for a sub-metering option
- You want to monitor individual processes and subprocesses

Product Selection

PowerMonitor 1000

Type	Communication Network	Cat. No.
PowerMonitor 1000 BC3	Basic consumption meter w/serial	1408-BC3A-485
	Basic consumption meter w/Ethernet	1408-BC3A-ENT
PowerMonitor 1000 TS3	Consumption + Volt/Current w/serial	1408-TS3A-485
	Consumption + Volt/Current	1408-TS3A-ENT
PowerMonitor 1000 EM3	Energy management meter w/serial	1408-EM3A-485
	Energy management meter	1408-EM3A-ENT

PowerMonitor 5000

Type	Communication Network	Cat. No.
PowerMonitor 5000 M5	Ethernet	1426-M5E-A
	Ethernet and optional ControlNet	1426-M5E-CNT-A
	Ethernet and optional DeviceNet	1426-M5E-DNT-A
PowerMonitor 5000 M6	Ethernet	1426-M6E-A
	Ethernet and optional ControlNet	1426-M6E-CNT-A
	Ethernet and optional DeviceNet	1426-M6E-DNT-A
PowerMonitor 5000 M8	Ethernet	1426-M8E-A
	Ethernet and optional ControlNet	1426-M8E-CNT-A
	Ethernet and optional DeviceNet	1426-M8E-DNT-A

Accessories

PowerMonitor 5000

Description		Cat. No.
Optional communication module	DeviceNet	1426-COMM-DNT
	ControlNet	1426-COMM-CNT
Firmware upgrade	M5 to M6	1426-UPGR-56
	M5 to M8	1426-UPGR-58
	M6 to M8	1426-UPGR-68
PanelView™ Component C400 terminal with factory-installed applications		1426-DM

Specifications

PowerMonitor 1000

Parameter	Accuracy in % of Reading at 25 °C 50/60 Hz Unity Power Factor	Nominal/Range
Voltage sense inputs: V1, V2, V3	±0.5%	Line-neutral rms: 398V nominal, 15…660V Line-line rms: 690V nominal, 26…1144V
Current sense	±0.5%	5 A rms
Frequency	–	50 or 60 Hz/40…75 Hz
Power functions: kW, kVA, kVAR Demand functions: kW, kVA Energy functions: kWH, kVAH	EN62053-21:20 03 Accuracy Requirement Class 1	–
Metering update rates	100 ms V, I, Hz 200 ms Power	–

PowerMonitor 5000

Parameter	Accuracy in % of Reading at 25 °C 50/60 Hz Unity Power Factor	Nominal/Range
Voltage sense inputs: V1, V2, V3, VN	±0.1%	Line-neutral rms: 398V nominal, 15…660V Line-line rms: 690V nominal, 26…1144V
VG	–	Connect to power system earth ground only
Current sense input: I1, I2, I3, I4	±0.1%	5A nominal, 0.05…15.6 A rms
Frequency	±0.05 Hz	50 or 60 Hz nominal 40…75 Hz
Power functions: kW, kVA, kVAR Demand functions: kW, kVA Energy functions: kWH, kVAH	ANSI C12.20 -2010 Class 0.2 EN 62053-22 -2003 Class 0.2 accuracy	–
Metering update rates	Every line cycle	–

For more information on our complete family of power monitor products, please visit:
http://ab.rockwellautomation.com/Energy-Monitoring



DIN Rail AC Power Surge Protector 4983-DS

- Compact modular design
- Visual fault indicator linked to internal thermal disconnecter
- A controlled end-life occurrence will trigger SPD replacement indicator
- Equipped standard with safety remote signaling AC network connection

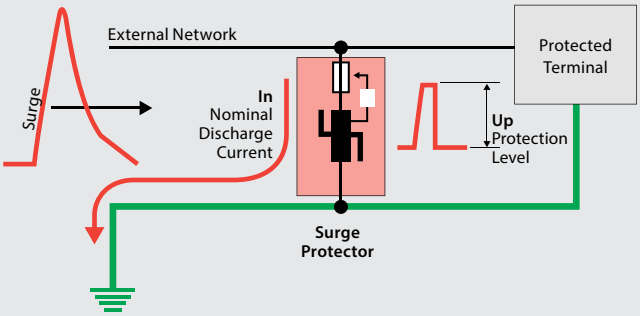
Application Information

Brief voltage spikes and surges can be caused by a wide range of factors originating from both within and outside of a production facility. Whatever their source, these transients can damage electronic equipment, requiring expensive replacement and production delays.

Bulletin 4983-DS surge protectors use metal oxide varistor (MOV) technology. Unlike most MOV-based surge protection, these devices are larger, replaceable and designed for DIN Rail mounting in an electrical environment.

The MOV technology is a high impedance component (high resistance device) When a surge occurs, the MOV changes to a low impedance (resistance) device and diverts surges away from the load and directs it to ground. MOVs have high energy capability and consistent clamping performance.

Because MOV-based surge protectors are sacrificial – they break down every time they divert surges away from a load – 4983-DS protectors can be replaced after an event. Many electronic components have some form of built-in protection and are not user-replaceable.



Relays & Timers 2-2…2-19
Programmable Controllers 2-20…2-23
Control Circuit & Load Protection 2-24…2-35
Power Supplies 2-36…2-43
Power & Energy Management 2-44…2-45
Surge & Filter 2-46…2-49

Product Selection

AC Network	Connection Mode	No. of Poles	Max. Continuous Operating Voltage (MCOV) (U_c) [V AC]	Max. Discharge Current 8/20 ms (I_{max}) [kA]	Protection Level (Up) [kV]	UL 1449 Voltage Protection Rating (VPR) [V]	Cat. No. Base and Module
120	L/G or N/G	1	150	40	0.9	700	4983-DS120-401
	L/G, N/G	2					4983-DS120-402
120/208Y	L1/G, L2/G, L3/G	3					4983-DS120-403
	L1/G, L2/G, L3/G, N/G	4					4983-DS120-404
230/400	L/G or N/G	1	275		1.25	1000	4983-DS230-401
	L/G, N/G	2					4983-DS230-402
	L1/G, L2/G, N/G	3					4983-DS230-403
277	L/G or N/G	1	420		1.8	1500	4983-DS277-401
277/480Y	L1/G, L2/G, L3/G	3					4983-DS277-403
	L1/G, L2/G, L3/G, N/G	4					4983-DS277-404
480D	L1/G, L2/G, L3/G	3	550		1.8	1800	4983-DS480-403
230/400	L/G, N/G	2	275		1.25	1000	4983-DS230-401G
	L1/G, L2/G, L3/G, N/G	4				1000	4983-DS230-403G
120	L/G or N/G	1	150	80	0.9	700	4983-DS120-801
120/208Y	L/G, N/G	2					4983-DS120-802
	L1/G, L2/G, L3/G	3					4983-DS120-803
230/ 400	L/G or N/G	1	275		1.25	1000	4983-DS230-801
	L/G, N/G	2					4983-DS230-802
	L1/G, L2/G, N/G	3					4983-DS230-803
277	L/G or N/G	1	420		1.8	1500	4983-DS277-801
277/ 480Y	L1/G, L2/G, L3/G	3					4983-DS277-803
	L1/G, L2/G, L3/G, N/G	4					4983-DS277-804
480D	L1/G, L2/G, L3/G	4	680			2500	4983-DS277-804
600D	L1/G, L2/G, L3/G	4	690				4983-DS600-804

Specifications

Connection/mounting type	Parallel/DIN Rail mount
Certifications	cURus, CSA, CE Marked
Conductor material	Cu, solid, or stranded
Conductor range	#10…4 AWG (4…28 mm^2)
Strip length	0.4 in. (10 mm)
Tightening torque	17.8…22.1 lb•in. (2.0…2.5 N•m)
No. of conductors/terminal	1
Operating temperature	-40…+80 °C

c UL us LISTED

CE

Product Certifications

Global certifications available online:

www.rockwellautomation.com/global/certification/overview.page

For more information on our complete family of circuit and load protection products, please visit:
http://ab.rockwellautomation.com/Circuit-and-Load-Protection

Surge & Filter



Filter Protective Devices

4983-PF

- Filter for low-level transients and high-frequency noise
- UL 1283, CSA, CE
- Features Islatrol® filter technology
- LED power indication
- Panel (flange) mount

4983-DC

- UL 1449 Third Edition, UL 1283, CE
- Small combination (filter and SPD) package size
- Features Islatrol filter technology
- LED power indication
- Form C contact for remote status indication

Bulletin 4983-PF and 4983-DC filter protective devices address low-level voltage transients and high-frequency noise disturbances that, over time, cause premature aging. The long term effects of noise are just as damaging as high voltage transients. The 4983-PF and 4983-DC devices feature Islatrol filter technology. Islatrol filter technology continually tracks and monitors the input signal to provide clean and reliable AC power for critical equipment.

Bulletin 4983-PF and 4983-DC filters are connected in series. Protection is best when the devices are installed directly in front of the load requiring protection. Typical applications include any microprocessor based products such as PLCs, motion control systems, and computers exposed to harsh environments.



Relays & Timers 2-2…2-19

Programmable Controllers 2-20…2-23

Control Circuit & Load Protection 2-24…2-35

Power Supplies 2-36…2-43

Power & Energy Management 2-44…2-45

Surge & Filter 2-46…2-49

Product Selection

Operating Voltage [V AC]	Max. Continuous Operating Voltage [V AC]	Line Frequency [Hz]	Ampacity [A]	4983-PF	4983-DC
				Cat. No.	Cat. No.
120	150	47…63	2.5	4983-PF120-02	–
			3	–	4983-DC120-03
			5	4983-PF120-05	4983-DC120-05
			10	–	4983-DC120-10
			15	4983-PF120-15	–
			20	–	4983-DC120-20
			30	4983-PF120-30	–
240	275		2.5	4983-PF240-02	–
	320		3	–	4983-DC240-03
	275		5	4983-PF240-05	–
	320		5	–	4983-DC240-05
	320		10	–	4983-DC240-10
	275		15	4983-PF240-15	–
	320		20	–	4983-DC240-20
	275		30	4983-PF240-30	–

Specifications

	4983-PF	4983-DC
Connection/Mounting Type	Series/panel (flange) mount	Series/DIN Rail mount
Enclosure	Grey, high-impact plastic	Metal
Modes of Protection	Line – Neutral	
	Line – Line	
	Line – PE	
	Neutral – PE	
Certifications	UR Recognized component, CE Marked	UR Recognized, CSA, CE Marked
Typical Cat. A Ringwave Rating	< 10V peak	< 60V peak
Typical Cat. B Ringwave Rating	< 50V peak	< 100V peak
Response Time	Normal mode: < 0.5 ns	
	Common mode: < 5 ns	
Operating Temperature	-40…+60 °C derate linearly to 60% @ +70 °C	
Fusing	Appropriate external fusing is required	
Frequency Response (Forward - Reverse) 100 kHz…50 MHz	Normal mode – 90 dB min.	Normal mode (100 kHz…50 MHz) – 90 dB min.
	Common mode – 60 dB min.	Common mode (5…50 MHz) – 60 dB min.
	3 kHz cut-off frequency	50 kHz cut-off frequency

Additional Logic Products



FactoryTalk EnergyMetrix

FactoryTalk® EnergyMetrix™ is a web-enabled management software package that gives you access to critical energy information from virtually any location. With FactoryTalk EnergyMetrix, you can capture, analyze, store, and share energy data with key stakeholders using a standard web browser. This makes it simple to distribute the knowledge necessary to optimize energy consumption, manage power quality, correlate energy usage, determine cost to production, negotiate energy rates, and improve efficiency.

PowerMonitor 500 1420

The PowerMonitor 500 features an on-device LCD display in a space-saving design which mounts directly on the panel door giving you instant visibility into your energy use. This compact product provides full integration with FactoryTalk EnergyMetrix asset management software for a complete energy management solution.





i-Sense/i-Grid Intelligent Network 1608S

The i-Sense® voltage event monitor is ideal for analyzing the feed into your facility with limited investment. Voltage quality data is viewed on the i-Grid® cloud-based application, which means that there is no software to install or maintain. Instant event e-mail and text notifications will keep power quality data at your fingertips.

Relays & Timers	Programmable Controllers	Control Circuit & Load Protection	Power Supplies	Power & Energy Management	Surge & Filter
					
2-2…2-19	2-20…2-23	2-24…2-35	2-36…2-43	2-44…2-45	2-46…2-49

DySC Voltage Sag Correctors 1608

DySC® voltage sag correctors protect against voltage sags and momentary outages that account for a significant amount of manufacturing downtime and damaged equipment.

- Single- and three-phase portfolio
- Up to five seconds of ride-through
- 1608N Mini DySC (0.25...14 kVA)
- 1608P Pro DySC (10...165 kVA)
- 1608M Mega DySC (300...2000 kVA)





Global Control Circuit Transformers 1497

- Designed to reduce supply voltages to control circuits, providing greater safety to operators.
- P2X finger-safe terminal covers and fuse covers
- 1497 global control transformers (63…2000 VA (50, 60 and 50/60 Hz)
- 1497A machine tool transformers 50...3000 VA (50/60 Hz)
- 1497B control power transformers 50...3000 VA (60 Hz)
- 1497D general purpose transformers 0.050...25.0 kVA (60 and 50/60 Hz)

ArmorPower On-Machine Power Supplies 1607-XT

ArmorPower™ On-Machine™ Power Supplies are for applications where voltage drop occurs due to line loss, and where compact size, high efficiency, and reliability are critical.

- IP67 and NEC Class 2 ratings
- Vacuum encapsulation technology
- Quick connectors
- Smooth surface, suitable for washdown



For more information on our complete family of power monitoring products, please visit:
http://ab.rockwellautomation.com/Energy-Monitoring

Additional Logic Products



Electromechanical Temperature Controls 837

The electromechanical temperature controls family of condition sensing products includes rugged, industrial-grade temperature controls use vapor pressure technology to sense changes in temperature.

- Adjustable ranges from -60...570 °F
- Adjustable differential from 2...87 °F
- Open type or Type 1, 4/13, 4X, 7/9 and 4/13 combined enclosures

Temperature Controllers 900-TC

Temperature/process controllers offer quick setup and provide precise temperature management and control for a variety of applications.

- Single-loop, high value, ON/OFF, or analog output controllers
- High visibility 4-digit, 11-segment status displays
- Auto-tuning and self-tuning available to simplify startup





Hockey Puck Solid State Relay 700-SH

As a solid-state relay, the “hockey puck” is flexible yet rugged. Built for long life and high-frequency switching, these relays use less energy than equivalent electro-mechanical relays, but are highly compatible to reduce downtime and spare parts.



Push Buttons

22 mm Push Buttons, Pilot Lights, and Selector Switches 3-2
22 mm E-Stops 3-6
22 mm Monolithic Push Buttons, Pilot Lights, and Selector Switches 3-8
30 mm Push Buttons, Selector Switches, Pilot Lights, and Push-Pulls 3-10
30 mm E-Stops 3-16
Piezoelectric Push Buttons 3-18
16 mm Push Buttons, Pilot Lights, Selector Switches, and E-Stops 3-20

Signaling

Panel Mount alarms 3-22
Control Tower™ Stack Lights 3-24
Wall Mount Signal Lights 3-26
Industrial Horns 3-28
Industrial Beacons 3-30

Graphic Terminals

PanelView™ 800 Graphic Terminals 3-32

Additional Operator Interface Products 3-34

Push Buttons



22 mm Push Buttons, Pilot Lights, and Selector Switches 800F

- 800FP plastic operators
  - IP65/66, Type 4/4X/13
  - Engineering grade thermoplastics
  - Chemical-resistant for harsh environments
- 800FM metal operators
  - IP65/66, Type 4/13
  - Die-cast metal construction
  - Chrome-plated

800F Push Buttons

- Momentary or alternate action
- Illuminated or non-illuminated
- Flush or extended
- 2-color molded legend caps
- Multi-operators

800F Pilot Lights

- LED and incandescent
- Multiple voltages
- 24V, 120V, 240V
- 6 color options

800F Selector Switches

- 2-, 3-, and 4-position
- Illuminated or non-illuminated
- Maintained or spring return
- Key selector switches



Dependable Sealing

- *IP66 and Type 4/13*
- *Superior ingress protection*
- *Diaphragm seals*

Selection Switches feature Positive Detent

- *No hang-up between positions*
- *Constant energy solution*
- *Vibration insensitive*



Rotating Latch Collar

- *Easier installation*
- *One-hand removal*
- *Plastic or metal*







Product Selection – 22 mm Device



Momentary Contact Push Button Units – Flush and Extended, Non-Illuminated

Color	Flush		Extended	
	Plastic	Metal	Plastic	Metal
	Cat. No.	Cat. No.	Cat. No.	Cat. No.
Black	800FP-F2	800FM-F2	800FP-E2	800FM-E2
Green	800FP-F3	800FM-F3	800FP-E3	800FM-E3
Red	800FP-F4	800FM-F4	800FP-E4	800FM-E4



Pilot Light Operators

Color	Plastic	Metal
	Cat. No.	Cat. No.
Green	800FP-P3	800FM-P3
Red	800FP-P4	800FM-P4
Yellow	800FP-P5	800FM-P5
Clear	800FP-P7	800FM-P7



Momentary Contact Push Button Units – 2-Color Molded Legend Caps, Non-Illuminated

Button Color	Text Color	Legend Text	Flush		Extended	
			Plastic	Metal	Plastic	Metal
			Cat. No.	Cat. No.	Cat. No.	Cat. No.
Green	White	START	800FP-F301	800FM-F301	–	–
		I	800FP-F306	800FM-F306	–	–
Red	White	STOP	–	–	800FP-E402	800FM-E402
		O	–	–	800FP-E405	800FM-E405



Reset Operators – Mechanical and/or Electrical Reset

Button Color	Legend Text	Flush – Round	
		Plastic	Metal
		Cat. No.	Cat. No.
Blue	R	800FP-R611	800FM-R611
	No legend	800FP-R6	800FM-R6



Momentary Contact Push Button Units – Flush and Extended, Illuminated

Color	Flush		Extended	
	Plastic	Metal	Plastic	Metal
	Cat. No.	Cat. No.	Cat. No.	Cat. No.
Green	800FP-LF3	800FM-LF3	800FP-LE3	800FM-LE3
Red	800FP-LF4	800FM-LF4	800FP-LE4	800FM-LE4



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

For more information on our complete family of 22 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/IEC-22-mm-Push-Buttons

Product Selection – Selector Switch Operators



2-Position, Non-Illuminated

Color	Knob Type	Plastic Cat. No.	Metal Cat. No.
Black with white insert	Standard	800FP-SM22	800FM-SM22



3-Position, Non-Illuminated

Color	Knob Type	Plastic Cat. No.	Metal Cat. No.
Black with white insert	Standard knob	800FP-SM32	800FM-SM32
	Knob lever	800FP-HM32	800FM-HM32



2-Position, Illuminated

Color	Knob Type	Plastic Cat. No.	Metal Cat. No.
Green	Standard	800FP-LSM23	800FM-LSM23
Red	Standard	800FP-LSM24	800FM-LSM24
Yellow	Standard	800FP-LSM25	800FM-LSM25



3-Position, Illuminated

Color	Knob Type	Plastic Cat. No.	Metal Cat. No.
Green	Standard	800FP-LSM33	800FM-LSM33
Red	Standard	800FP-LSM34	800FM-LSM34
Yellow	Standard	800FP-LSM35	800FM-LSM35



2-Position, Key-Operated

Key Removal Position	Plastic Cat. No.	Metal Cat. No.
Left	800FP-KM21	800FM-KM21
Both	800FP-KM23	800FM-KM23



3-Position, Key-Operated

Key Removal Position	Plastic Cat. No.	Metal Cat. No.
Left	800FP-KM31	800FM-KM31
All	800FP-KM33	800FM-KM33
Center	800FP-KM34	800FM-KM34
Center (spring return from both)	800FP-KB34	800FM- KB34

800F Accessories



Mounting Latches

Description	Pkg. Quantity	Cat. No.
Plastic mounting latch	10	800F-ALP [1]
	100	800F-ALP-BP [2]
Metal mounting latch	10	800F-ALM [1]
	100	800F-ALM-BP [2]

[1] Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.

[2] Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.



Legend Plates

Type	Description	Cat. No. (Blank) [4, 5]
30 x 40 mm 2-piece snap-in plate and frame	Red with white text	800F-11RE100
	White with black text	800F-11WE100
	Black with white text	800F-11BE100
	Aluminum with black text	800F-11AE100
30 x 50 mm 2-piece snap-in plate and frame	White with black text	800F-12WE100
	Black with white text	800F-12BE100
	Aluminum with black text	800F-12AE100
30 x 40 mm snap-in plate only	Red with white text	800F-17RE100
	White with black text	800F-17WE100
	Black with white text	800F-17BE100
	Aluminum with black text	800F-17AE100
30 x 50 mm snap-in plate only	White with black text	800F-18WE100
	Black with white text	800F-18BE100
	Aluminum with black text	800F-18AE100

[4] Blank legend frames sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.

[5] Legend plates with text or symbols are also available.



Power Modules

Description	Volts	Cat. No.
Integrated LED module	24…120V AC/DC	800F-NUx [3]
	24V AC/DC	800F-N3x [3]
	120V AC	800F-N5x [3]
	240V AC	800F-N7x [3]
Incandescent module	No bulb	800F-D0C
	6V AC/DC	800F-D1C
	12V AC/DC	800F-D2C
	24V AC/DC	800F-D3C
	48V AC/DC	800F-D4C
	120V AC/DC	800F-D5C

[3] To complete the catalog number, replace the **x** with one of the following letters for the desired color: **R** = Red, **G** = Green, **W** = White.



Contact Blocks

Contact Type	Cat. No.
N.O.	800F-X10 [6]
N.C.	800F-X01 [6]
N.O.E.M.	800F-X10E [6]
N.C.L.B.	800F-X01L [6]
N.C.E.B.	800F-X01B
Self-monitoring	800F-X01S
N.O. low voltage – QuadConnect™	800F-X10V [6]
N.C. low voltage – QuadConnect	800F-X01V [6]
Dual circuit of 2 N.O.	800F-X20D
Dual circuit of 2 N.C.	800F-X02D
Dual circuit of 1 N.O.-1 N.C.	800F-X11D

[6] For a base mounted contact block, add a **B** to the catalog number before the X. Example: Catalog number 800F-X10 becomes Catalog number 800F-**B**X10.

For more information on our complete family of 22 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/IEC-22-mm-Push-Buttons

Push Buttons



22 mm E-Stops 800F/800FD

- Trigger action
- 30, 40, 60, and 90 mm operating heads
- Meets UL Category NISD
- Self-monitoring contact blocks for increased safety
- Global certifications

Rockwell Automation® safety products and solutions improve the functional operation of your machinery while helping to increase personnel safety, efficiency and productivity. 800F 22 mm E-stops offer a wide variety of devices to meet individual customer application requirements.



Self-Monitoring Contact Blocks (SMCB)

- Opens controlled circuit in unlikely event contact block is separated from operator
- Monitors proper installation between:
  - Operator and latch
  - Latch and SMCB





Styles include illuminated or non-illuminated and with or without key operation

Push Buttons



3-2…3-21

Signaling



3-22…3-31

Graphic Terminals



3-32…3-33

Product Selection – Emergency Stop Operators

Twist-to-Release/Push-Pull, Non-Illuminated



Color	Size [mm]	Pkg. Qty.	Twist-to-Release	
			Plastic	Metal
			Cat. No.	Cat. No.
Red	30	1	800FP-MT34	800FM-MT34
	40		800FP-MT44	800FM-MT44
	60		800FP-MT64	800FM-MT64
Color	**Size [mm]**	**Pkg. Qty.**	**Push-Pull**	
			Plastic	**Metal**
			Cat. No.	**Cat. No.**
Black	40	1	800FP-MP42	800FM-MP42
Red	40		800FP-MP44	800FM-MP44
	90		800FP-MP94	800FM-MP94

Twist-to-Release/Push-Pull, Illuminated



Color	Size [mm]	Pkg. Qty.	Twist-to-Release	
			Plastic	Metal
			Cat. No.	Cat. No.
Red	40	1	800FP-LMT44	800FM-LMT44
	60		800FP-LMT64	800FM-LMT64
Color	**Size [mm]**	**Pkg. Qty.**	**Push-Pull**	
			Plastic	**Metal**
			Cat. No.	**Cat. No.**
Green	40	1	800FP-LMP43	800FM-LMP43
Red			800FP-LMP44	800FM-LMP44
Yellow			800FP-LMP45	800FM-LMP45

Key Release Mushroom Operator



Color	Size [mm]	Pkg. Qty.	Ronis Key Lock	
			Plastic	Metal
			Cat. No.	Cat. No.
Red	40	1	800FP-MK44	800FM-MK44

Twist-to-Release/Push-Pull



Color	Size [mm]	Pkg. Qty.	Contact Type	Plastic Cat. No.
Red	40	1	1 N.C.	800FD-MT44X01

Accessories

Mounting Latches

Description	Pkg. Quantity	Cat. No.
Metal mounting latch	10	800F-ALM [1]
	100	800F-ALM-BP [2]
Plastic mounting latch	10	800F-ALP [1]
	100	800F-ALP-BP [2]

[1] Sold only in multiples of 10. Order (quantity of) 10 to receive one package of 10 pieces.

[2] Sold only in multiples of 100. Order (quantity of) 100 to receive one package of 100 pieces.

Legend Plate

Description	Cat. No.
E-stop legend plate	800F-15YSE112

Contact Blocks

Contact Type	Cat. No.
N.O.	800F-X10
N.C.	800F-X01
Self-monitoring	800F-X015

For more information on our complete family of 22 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/IEC-22-mm-Push-Buttons

Push Buttons



22 mm Monolithic Push Buttons, Pilot Lights, and Selector Switches 800FD

- Single-piece construction with integrated contact block
- Cost-effective design
- Low back-of-panel profile (45.7 mm)
- Designed to meet worldwide standards
- Compatible with 800F accessories and enclosures

800FD monolithic push buttons feature a self-contained design that combines the contact block and operator for ease of ordering, stocking, and installation.



Push Button Operator



Pilot Light Device

Products

- Non-illuminated
  - Momentary push button
  - 2-position push-pull/twist-to-release E-stop
  - 2-position selector switch
  - 3-position selector switch
- Illuminated
  - Pilot light, LED
  - Pilot light, incandescent

Push Buttons
3-2…3-21

Signaling
3-22…3-31

Graphic Terminals
3-32…3-33

Product Selection

Momentary Push Button Operators, Non-Illuminated



Operator Type	Cap Color	Contact Configuration		
		1 N.O.	1 N.C.	1 N.O. & 1 N.C.
		Cat. No.	Cat. No.	Cat. No.
Flush	Black	800FD-F2X10	800FD-F2X01	800FD-F2X11
	Green	800FD-F3X10	800FD-F3X01	800FD-F3X11
	Red	800FD-F4X10	800FD-F4X01	800FD-F4X11

Pilot Light Devices – LED



Lens & LED Color	Voltage		
	24V AC/DC	120V AC	240V AC
	Cat. No.	Cat. No.	Cat. No.
Green	800FD-P3N3	800FD-P3N5	800FD-P3N7
Red	800FD-P4N3	800FD-P4N5	800FD-P4N7
Yellow	800FD-P5N3	800FD-P5N5	800FD-P5N7

Pilot Light Devices – Incandescent



Lens & LED Color	Voltage	
	24V AC/DC	120V AC
	Cat. No.	Cat. No.
Green	800FD-P3D3	800FD-P3D5
Red	800FD-P4D3	800FD-P4D5
Yellow	800FD-P5D3	800FD-P5D5

Selector Switch Operators, Non-Illuminated



Operator Type	Contact Configuration	2-Position	3-Position
		Cat. No.	Cat. No.
Maintained	1 N.O.	800FD-SM22X10	–
	1 N.C.	800FD-SM22X01	–
	2 N.O.	800FD-SM22X20	800FD-SM32X20
	2 N.C.	800FD-SM22X02	800FD-SM32X02
	1 N.O. & 1 N.C.	800FD-SM22X11	800FD-SM32X11
Spring return from both	2 N.O.	–	800FD-SB32X20
	2 N.C.	–	800FD-SB32X02
	1 N.O. & 1 N.C.	–	800FD-SB32X11

Accessories



Replacement Lamps

Type	Typical Current	Voltage	ANSI No.	Cat. No.
Full voltage incandescent	150 mA	6V AC/DC	755	800F-N65
	80 mA	12V AC/DC	756	800F-N141
	70 mA	24V AC/DC	757	800F-N157
	50 mA	48V AC/DC	1835	800F-N48
	22 mA	130V AC/DC	949	800F-N130
Neon	2 mA	240V AC	–	800F-N240

Replacement Lenses

Lens Color	Cat. No.
Amber	800FD-AP0
Green	800FD-AP3
Red	800FD-AP4

Lens Color	Cat. No.
Yellow	800FD-AP5
Blue	800FD-AP6
Clear	800FD-AP7

For more information on our complete family of 22 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/IEC-22-mm-Push-Buttons

Push Buttons



30 mm Push Buttons, Selector Switches, Pilot Lights, and Push-Pulls 800T/H

- Heavy industrial stations and operators
- Type 4/13 watertight/oiltight (800T)
- Type 4/4X/13 watertight/corrosion-resistant/ oiltight (800H)
- Universal LED for long life, simplified product selection and reduced energy usage
- Class I, Div. 2 solutions available

Imitated, But Never Duplicated

800T and 800H push button product lines are in a class by themselves. They are designed and constructed to perform in the most demanding industrial environments. Bold yet functional, rugged yet attractive, Allen-Bradley® push buttons represent the world's most innovative and unique offering.

Operator Bushing
Die-cast zinc alloy gives strength and stability in installation

Diaphragm Seal
Provides a complete blanket of protection from liquids, particles, and corrosive agents

Actuator Shaft
Rugged, dependable performance assured by zinc alloy casting

Riveted Construction
Operator bushing, diaphragm seal, and base plate are secured together by four steel rivets, providing durability and tamper resistance



Solid-Color Button Cap
Thermoplastic polyester resin delivers excellent resistance to corrosive agents/color identification is never lost (no insert to lose)

Return Spring
Stainless steel formed wire delivers consistent operation and long life

Explosion-Protected Contact Block

- Class I Div. 2 certified
- Ideal for high shock and vibration applications
- 1 N.O., 1 N.C., A600-rated
- Positive opening N.C. contact



Push Buttons
3-2…3-21

Signaling
3-22…3-31

Graphic Terminals
3-32…3-33

Product Selection – Momentary Contact Push Button Units



Non-Illuminated

Contact Type	Button Color	Type 4/13		Type 4/4X/13	
		Flush Head	Extended Head	Booted [1]	Bootless Flush Head
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
No Contact	Green	800T-A1	800T-B1	800H-R1	800H-AR1
	Black	800T-A2	800T-B2	800H-R2	800H-AR2
	Red	800T-A6	800T-B6	800H-R6	800H-AR6
1 N.O.	Green	800T-A1D1	800T-B1D1	800H-R1D1	800H-AR1D1
	Black	800T-A2D1	800T-B2D1	800H-R2D1	800H-AR2D1
	Red	800T-A6D1	800T-B6D1	800H-R6D1	800H-AR6D1
1 N.C.	Green	800T-A1D2	800T-B1D2	800H-R1D2	800H-AR1D2
	Black	800T-A2D2	800T-B2D2	800H-R2D2	800H-AR2D2
	Red	800T-A6D2	800T-B6D2	800H-R6D2	800H-AR6D2
1 N.O. – 1 N.C.	Green	800T-A1A	800T-B1A	800H-R1A	800H-AR1A
	Black	800T-A2A	800T-B2A	800H-R2A	800H-AR2A
	Red	800T-A6A	800T-B6A	800H-R6A	800H-AR6A

[1] Underlying operators are extended head. Boot material is chlorosulfonated polyethylene.



Illuminated – LED

Type	Voltage	Color	Type 4/13		Type 4/4X/13	
			Extended Head without Guard [2]	Extended Head with Guard [2]	Extended Head without Guard [2]	Extended Head with Guard [2]
			Cat. No.	Cat. No.	Cat. No.	Cat. No.
Universal	12…130V AC/DC	Red	800T-QBH2R	800T-QAH2R	800H-QRBH2R	800H-QRAH2R
		Green	800T-QBH2G	800T-QAH2G	800H-QRBH2G	800H-QRAH2G
		Amber	800T-QBH2A	800T-QAH2A	800H-QRBH2A	800H-QRAH2A

[2] Includes as standard one catalog number 800T-XA (1 N.O. - 1 N.C.) contact block.



Need Help?

The Rockwell Automation Support Center
is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

For more information on our complete family of 30 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/NEMA-30-mm-Push-Buttons

Product Selection – Selector Switch Units



2-Position, Non-Illuminated

Contact Type	Operator Position		M = Maintained S = Spring Return	Type 4/13		Type 4/4X/13	Type 4/13 Cylinder Lock		
				Standard Knob	Knob Lever	Standard Knob	Key Removal (Left) [2]	Key Removal (Right) [2]	Key Removal (Both) [2]
				Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
No contacts	–	–	M M	800T-H2	800T-H17	800H-HR2	800T-H31	800T-H32	800T-H33
			S→M	800T-H4	800T-H18	800H-HR4	–	–	–
			M←S	800T-H5	800T-H19	800H-HR5	800T-H48	–	–
1 N.O.	0	X	M M	800T-H2D1	800T-H17D1	800H-HR2D1	800T-H31D1	800T-H32D1	800T-H33D1
			S→M [1]	800T-H4D1	800T-H18D1	800H-HR4D1	–	800T-H42D1	–
			M←S	800T-H5D1	800T-H19D1	800H-HR5D1	800T-H48D1	–	–
1 N.O. - 1 N.C.	0 X	X 0	M M	800T-H2A	800T-H17A	800H-HR2A	800T-H31A	800T-H32A	800T-H33A
			S→M [1]	800T-H4A	800T-H18A	800H-HR4A	–	800T-H42A	–
			M←S	800T-H5A	800T-H19A	800H-HR5A	800T-H48A	–	–

[1] Target tables are reversed from those shown.
[2] Keys removable from maintained positions only.



3-Position, Non-Illuminated

Contact Type	Operator Position			M = Maintained S = Spring Return	Type 4/13		Type 4/4X/13	Type 4/13 Cylinder Lock		
					Standard Knob	Knob Lever	Standard Knob	Key Removal (Left) [2]	Key Removal (Right) [2]	Key Removal (All) [2]
					Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
No contacts	–	–	–	M M M	800T-J2	800T-J17	800H-JR2	800T-J41	800T-J42	800T-J44
				S→M M	800T-J4	800T-J18	800H-JR4	–	800T-J50	–
				M M←S	800T-J5	800T-J19	800H-JR5	800T-J69	800T-J38	–
				S→M←S	800T-J91	800T-J20	800H-JR91	–	800T-J631	–
1 N.O. - 1 N.C.	0 X	0 0	X 0	M M M	800T-J2A	800T-J17A	800H-JR2A	800T-J41A	800T-J42A	800T-J44A
				S→M M	800T-J4A	800T-J18A	800H-JR4A	–	800T-J50A	–
				M M←S	800T-J5A	800T-J19A	800H-JR5A	800T-J69A	800T-J38A	–
				S→M←S	800T-J91A	800T-J20A	800H-JR91A	–	800T-J631A	–

[1] Target tables are reversed from those shown.
[2] Keys removable from maintained positions only.

Push Buttons



3-2…3-21

Signaling



3-22…3-31

Graphic Terminals



3-32…3-33

Product Selection



Pilot Light Units – LED

Contact Type	Volts	Color	Type 4/13		Type 4/4X/13	
			Pilot Light	Push-to-Test [1]	Pilot Light	Push-to-Test [1]
			Cat. No.	Cat. No.	Cat. No.	Cat. No.
Universal	12…130V AC/DC	Red	800T-QH2R	800T-QTH2R	800H-QRH2R	800H-QRTH2R
		Green	800T-QH2G	800T-QTH2G	800H-QRH2G	800H-QRTH2G
		Amber	800T-QH2A	800T-QTH2A	800H-QRH2A	800H-QRTH2A

[1] Includes one standard catalog number 800T-XA (1 N.O. - 1 N.C.) contact block.



2-Position Push-Pull and Push-Pull/Twist Release Units, Non-Illuminated

Contact Type	Operator Position		Type 4/13		Type 4/4X/13
			Push-Pull	Push-Pull/Twist Release	Push-Pull/Twist Release
	Out	In	Cat. No.	Cat. No.	Cat. No.
N.C.L.B	X	0	800T-FX6D4	800T-FXT6D4	800H-FRXT6D4
N.O. - N.C.L.B	0 X	X 0	800T-FX6A1	800T-FXT6A1	800H-FRXT6A1
N.C.L.B - N.C.L.B	X X	0 0	800T-FX6A5	800T-FXT6A5	800H-FRXT6A5
S.M.C.B.	X	0	800TC-FX6D4S	800TC-FXT6D4S	800HC-FRXT6D4S
N.O. - S.M.C.B.	0 X	X 0	800TC-FX6A1S	800TC-FXT6A1S	800HC-FRXT6A1S
S.M.C.B - S.M.C.B	X X	0 0	800TC-FX6A5S	800TC-FXT6A5S	800HC-FRXT6A5S



2-Position Push-Pull and Push-Pull/Twist Release Units, Illuminated – LED

Contact Type	Volts	Contacts	Operator Position		Type 4/13		Type 4/4X/13
					Push-Pull	Push-Pull/Twist Release	Push-Pull/Twist Release
			Out	In	Cat. No.	Cat. No.	Cat. No.
Universal	12…130V AC/DC	N.O. - N.C.L.B	0 X	X 0	800T-FXQH2RA1	800T- FXTQH2RA1	800H-FRXTQH2RA1

For more information on our complete family of 30 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/NEMA-30-mm-Push-Buttons

Push Buttons

800T/H Accessories



Enclosures

	Die Cast ❄↗ (Type 4/13)	Stainless Steel ❄ (Type 4/4X/13)	Glass-Filled Polyester (Type 4/4X/13)	Fiberglass ❖ (Type 4/4X/13)	Thermoplastic Polyester ✪ (Type 4/4X)
Operator Openings	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1	800T-1TZ	800H-1HZ4	800H-1HZ4R	800H-1HZ4Y	800H-1HZ4C
2	800T-2TZ	800H-2HZ4	800H-2HZ4R	800H-2HZ4Y	800H-2HZ4C
3	800T-3TZ	800H-3HZ4	800H-3HZ4R	800H-3HZ4Y	800H-3HZ4C
4	800T-4TZ	800H-4HZ4	800H-4HZ4R	–	800H-4HZ4C
6	800T-6TZ	800H-6HZ4	800H-6HZ4R	–	–

❄ Bottom conduit entry. Grounding screw provided.
↗ Enclosure depth will accommodate one shallow and one mini-contact block stacked.
❖ Extra deep – accommodates two levels of explosion-protected contact blocks.
✪ No conduit openings provided.



Contact Blocks

Contact Type	Shallow Block * Cat. No.	Mini Block * Cat. No.	PenTUFF (Low Voltage) Block * Cat. No.	Explosion-Protected Block † Cat. No.	Self-Monitoring Contact Block Cat. No.	Max Duty Block Cat. No.
1 N.O.	800T-XD1	800T-XD5	800T-XD1V	–	–	800T-XD1M
1 N.C.	800T-XD2	800T-XD6	800T-XD2V	–	–	800T-XD2M
1 N.O.E.M.	800T-XD3	–	800T-XD3V	–	–	–
1 N.C.L.B.	800T-XD4	–	800T-XD4V	–	–	800T-XD4M
1 N.O. – 1 N.C.	800T-XA	–	800T-XAV	800TC-XAF	–	–
2 N.O.	800T-XA2	–	–	–	–	–
2 N.C.	800T-XA4	–	–	–	–	–
1 N.C.L.B. – 1 N.O.	800T-XA1	–	–	–	–	–
1 N.C.L.B. – 1 N.C.	800T-XA7	–	–	–	–	–
1 N.C.L.B. (wired in series with 1 N.O. monitoring contact)	–	–	–	–	800TC-XD4S	–

* Contact blocks with normally closed contacts meet direct drive positive opening standard requirements when properly fused to IEC 269-1 and 269-2. Shallow/mini contacts: 10 A gl or N type cartridge fuse. PenTUFF contacts: 6 A gl or N type cartridge fuse.
† 800T operators using explosion protected, sealed switch or logic reed contact blocks and installed in a suitable enclosure are UL Listed as suitable for use in Class I, Division 2 hazardous locations.

Push Buttons



3-2…3-21

Signaling



3-22…3-31

Graphic Terminals



3-32…3-33

800T/H Accessories



Blank and Custom Legend Plates

	Start/Stop Legend Plates	Emergency Stop Legend Plates		
	Grey	Yellow	Yellow (Large Size)	Yellow IEC Ring
Type	**Cat. No.**	**Cat. No.**	**Cat. No.**	**Cat. No.**
Push-to-Stop Pull-to-Start or Push-to-Stop Twist or Pull Release	800T-X618	800T-X618Y	800T-X647Y	–
Blank	–	–	800T-X645Y	800T-X646
Custom	–	–	800T-X645YE	–
Emergency Stop	–	–	–	800T-X646EM



Standard Legends

Marking	Aluminum, Type 4/13 Cat. No.	Grey Plastic, Type 4/4X Cat. No.
AUTO-OFF-HAND	800T-X501	800H-W154
AUTO-MAN-OFF	800T-X625	800H-W059
CLOSE	800T-X502	800H-W101
DOWN	800T-X503	800H-W102
EMERG. STOP (Yellow)	800T-X504Y	–
EMERG. STOP (Red) [1]	800T-X504	800H-W372
EMERGENCY STOP (Red) [1]	800T-X648	800H-W373
FAST	800T-X505	800H-W104
JOG FORWARD	800T-X518	800H-W111
JOG REVERSE	800T-X519	800H-W112
JOG RUN	800T-X520	800H-W135
JOG-STOP- RUN	800T-X521	800H-W057
LOW	800T-X524	800H-W113
OFF	800T-X527	800H-W116
OFF-ON	800T-X529	800H-W133
ON	800T-X530	800H-W117

Marking	Aluminum, Type 4/13 Cat. No.	Grey Plastic, Type 4/4X Cat. No.
ON-OFF	800T-X622	–
OPEN	800T-X531	800H-W118
OPEN-CLOSE	800T-X532	800H-W134
OPEN-OFF-CLOSE	800T-X533	800H-W153
POWER ON	800T-X639	800H-W001
FOR.-REV.	800T-X506	800H-W132
FOR.-OFF-REV.	800T-X507	800H-W152
FORWARD	800T-X508	800H-W105
HAND-AUTO	800T-X510	800H-W131
HAND-OFF-AUTO	800T-X511	800H-W151
HIGH	800T-X512	800H-W107
HIGH-LOW	800T-X513	800H-W030
HIGH-OFF-LOW	800T-X514	800H-W058
JOG	800T-X517	800H-W110
RESET	800T-X538	800H-W121
REVERSE	800T-X539	800H-W122

Marking	Aluminum, Type 4/13 Cat. No.	Grey Plastic, Type 4/4X Cat. No.
RUN	800T-X540	800H-W123
RUN-JOG	800T-X541	800H-W032
SAFE-RUN	800T-X542	800H-W033
SPEED [2]	800T-X608	800H-W081
SLOW	800T-X544	800H-W125
SLOW-FAST	800T-X545	800H-W136
SLOW-OFF-FAST	800T-X546	800H-W157
START	800T-X547	800H-W126
START-JOG	800T-X548	800H-W138
START-STOP	800T-X549	800H-W137
STOP (Red)	800T-X550	800H-W371
STOP-START	800T-X551	800H-W038
TEST	800T-X554	800H-W128
UP	800T-X556	800H-W009
UP-DOWN	800T-X557	800H-W039
UP-OFF-DOWN	800T-X558	800H-W160

[1] These legend plates do not comply with E-Stop standards that specify a yellow background, such as IEC 60947-5-5 and NFPA 79.

[2] Potentiometer type with graduated markings.

For more information on our complete family of 30 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/NEMA-30-mm-Push-Buttons

Push Buttons

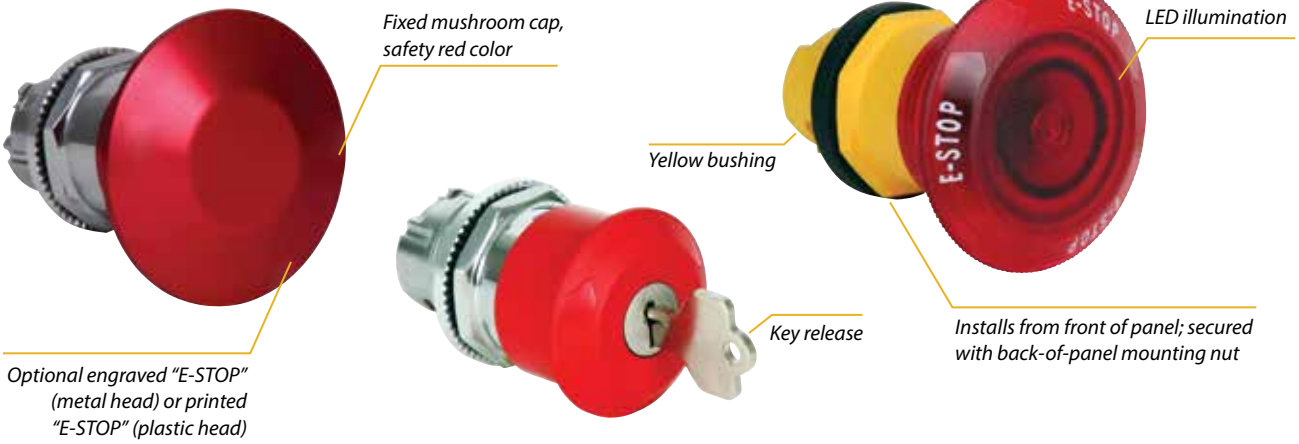


30 mm E-Stops
800T/H

- Trigger action
- Certified UL Category NISD and NNTO Emergency Stop Devices
- Complies with EN ISO 13850 and EN 60947-5-5
- Tamper-resistant front-of-panel mounting
- Non-removable mushroom cap
- Non-teasible with standard normally closed (N.C.) contacts

State-of-the-art, Tamper-resistant Design

Trigger action functionality provided in the 800T/H trigger action E-stop delivers operators that meet global requirements and are ideal for installation in heavy duty applications. The twist release design conforms to functional safety guidelines where intentional action is required to reset the E-stop device.



Self-Monitoring Contact Block



- Opens controlled circuit in the unlikely event the contact block becomes separated from the operator
- 10 A max., A600 rated
- Bifurcated spanner with pure fine silver contacts
- Color-coded yellow for easy identification
- IP2X finger-safe protection standard

Product Selection – 2-Position Red Trigger Action Twist-to-Release



Non-Illuminated

	Operator Position		Type 4/13			Type 4/4X/13
			45 mm Plastic	63 mm Metal	Key Release	45 mm Plastic
Contact Type	Out	In	Cat. No. [1,2,3]	Cat. No. [1,4]	Cat. No. [1]	Cat. No. [1,2,3]
No contacts	–	–	800T-TFXT6	800T-TFXLT6	800T-TFXK6	800H-TFRXT6
1 N.C.	X	0	800T-TFXT6D2	800T-TFXLT6D2	800T-TFXK6D2	800H-TFRXT6D2
1 N.O. - 1 N.C.	0 X	X 0	800T-TFXT6A	800T-TFXLT6A	800T-TFXK6A	800H-TFRXT6A
1 S.M.C.B. [5]	X	0	800TC-TFXT6D4S	800TC-TFXLT6D4S	800TC-TFXK6D4S	800HC-TFRXT6D4S
2 N.C.	X X	0 0	800T-TFXT6A4	800T-TFXLT6A4	800T-TFXK6A4	800H-TFRXT6A4
2 S.M.C.B.	X X	0 0	800TC-TFXT6A5S	800TC-TFXLT6A5S	800TC-TFXK6A5S	800HC-TFRXT6A5S

[1] For finger-safe contact block terminals, add a **C** to the catalog number Example: Catalog number 800T**C**-TFXT6 or 800H**C**-TFRXT6.

[2] To order a device with a jumbo (60 mm) plastic head add the letter **J** after X. Example: Catalog number 800T-TFX**J**T6A or 800H-TFRX**J**T6A.

[3] To order a jumbo head device with "E-STOP" printed on the cap add the letters **JE** after X. Example: Catalog number 800T-TFX**JE**T6 or 800H-TFRX**JE**T6.

[4] To order a device with "E-STOP" engraved on the cap add the letter **E** after L. Example: Catalog number 800TC-TFXL**E**T6D4S.

[5] Self-monitoring contact block.



Illuminated

			Operator Position		Type 4/13			Type 4/4X/13
					45 mm	60 mm	45 mm	60 mm
Type	Voltage	Contact Type	Out	In	Cat. No. [6]	Cat. No. [6,7]	Cat. No. [6]	Cat. No. [6,7]
Operator only [8]		No contacts			800T-TFXTS00R	800T-TFXJTS00R	800H-TFRXTS00R	800H-TFRXJTS00R
Universal	12…130V AC/DC	N.O. - N.C.	0 X	X 0	800T-TFXTQH2RA	800T-TFXJTQH2RA	800H-TFRXTQH2RA	800H-TFRXJTQH2RA

[6] For finger-safe contact block terminals, add a **C** to the catalog number Example: Catalog number 800T**C**-TFXTS00R or 800H**C**-TFRXTS00R.

[7] To order a device with "E-STOP" printed on the cap add the letter **E** after J. Example: Catalog number 800T-TFXJ**E**TQH2RA or 800H-TFRXJ**E**TQH2RA.

[8] Operator-only supplied without power module, lamp, or contact blocks.

Accessories

See "800T/H Accessories" on page 3-14.



Safety

Our innovative safety products and solutions improve the functional operation of your machinery while helping to increase personnel safety, efficiency and productivity.

http://ab.rockwellautomation.com/Safety

For more information on our complete family of 30 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/NEMA-30-mm-Push-Buttons



Piezoelectric Push Buttons
800K

- IP69K rating
- 22.5 mm and 30.5 mm
- 316 stainless-steel
- Smooth, crevice-free surface
- No moving parts
- Potted circuitry
- Custom engraving (text and symbols) available

The 800K Piezoelectric push buttons represent an innovative rethinking of push button technology and its industrial applications. The potted piezoelectric circuit detects pressure on the surface of the button to provide a momentary actuation signal with no moving parts. These push buttons are ideal for food, beverage and other industries where high-pressure, caustic washdowns can challenge even the most robust push buttons.

Smooth, Crevice-free Surface

- *Easier to clean*
- *Minimizes areas on the button in which contaminates can potentially be lodged*



Illumination

Red, green, white, blue or yellow

316 Stainless-steel

Corrosion resistant to caustic wash-down solutions



Potted Circuit

- *Helps prevent fluids from corroding operator components*
- *Provides an additional barrier of protection*

No Moving Parts

By using piezoelectric technology, moving seals and crevices can be eliminated from the push button

Mounting Ring

Nickel-plated Brass



Anti-rotation Washer

316 Stainless Steel





Push Buttons



3-2…3-21

Signaling



3-22…3-31

Graphic Terminals



3-32…3-33

Product Selection



Hole Size	Operator Type	Color	Contact Type	Termination Type	Cat. No. [1]
22.5 mm	Momentary	Non-illuminated	N.O.	Screw	800K-22FMN24X10
		Green	N.O.		800K-22FMG24X10
		Red	N.C.		800K-22FMR24X01
		White	N.O.		800K-22FMW24X10
		Blue	N.O		800K-22FMB24X10
		Yellow	N.O		800K-22FMY24X10
30.5 mm	Momentary	Non-illuminated	N.O.	Screw	800K-30FMN24X10
		Green	N.O.		800K-30FMG24X10
		Red	N.C.		800K-30FMR24X01
		White	N.O.		800K-30FMW24X10
		Blue	N.O		800K-30FMB24X10
		Yellow	N.O		800K-30FMY24X10

[1] Custom engraving available.



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

For more information on our complete family of specialty push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/Specialty-Push-Buttons

Push Buttons

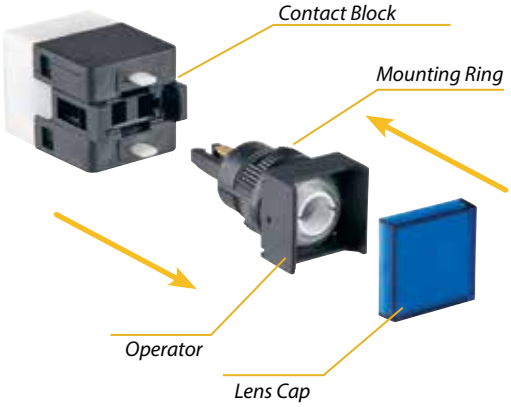


16 mm Push Buttons, Pilot Lights, Selector Switches, and E-Stops 800B

- Ergonomic design
- Designed to global standards
- IP66 and Type 4/13
- Excellent for panels with limited space
- Illuminated and non-illuminated
- Trigger action E-stop

800B 16 mm push buttons can meet your light industrial and instrumentation application needs with their highly configurable and flexible design. These operators are excellent for applications with limited panel space or a small footprint. They are made of corrosion-proof plastic to ensure long push button life.

Ease of Installation





Push Buttons & Pilot Lights

- Momentary or maintained options
- Bright, bold, consistent operators (green, red, yellow, blue, white)
- Contoured button surface for comfort
- Diaphragm seals



Selector Switches

- 2 or 3 position
- V seal – High pressure sealing
- Gold-plated snap action contacts



E-stop

- Anti-tease feature
- Trigger-action design
- K seal – Dual wiping action

Push Buttons


3-2…3-21

Signaling

3-22…3-31

Graphic Terminals

3-32…3-33

Product Selection



Push Button & Pilot Light Operators

Operator Type	Round Cat. No.	Square Cat. No.	Rectangle Cat. No.	Large Square Cat. No.
Momentary, push button/pilot light	800B-EPA	800B-EPB	800B-EPC	800B-EPD
Maintained, push button	800B-EAA	800B-EAB	800B-EAC	800B-EAD

Note: All operators are sold without a lens cap and diffuser.



Lens Cap with Diffuser

Lens Color	Round Cat. No.	Square Cat. No.	Rectangle Cat. No.	Large Square Cat. No.
Green	800B-ALA3	800B-ALB3	800B-ALC3	800B-ALD3
Red	800B-ALA4	800B-ALB4	800B-ALC4	800B-ALD4
Yellow	800B-ALA5	800B-ALB5	800B-ALC5	800B-ALD5
Blue	800B-ALA6	800B-ALB6	800B-ALC6	800B-ALD6
White	800B-ALA7	800B-ALB7	800B-ALC7	800B-ALD7



Selector Switch Operators

Operator Type	Maintained Cat. No.	Return from Right Cat. No.	Keyed, Maintained Cat. No.	Keyed, Return from Right Cat. No.
2-position	800B-SM2A	800B-SR2A	800B-KM2A	800B-KR2A
Operator Type	**Maintained Cat. No.**	**Return from Both Cat. No.**	**Keyed, Maintained Cat. No.**	**Keyed, Return from Both Cat. No.**
3-position	800B-SM3A	800B-SB3A	800B-KM3A	800B-KB3A

Emergency Stop Operator



Operator Type	Cat. No.
Emergency stop operator	800B-MT



Illumination

Description	Lamp Color	Lamp Voltage	Cat. No.
LED bulb [1]	Green	12…24V AC/DC	800B-N3G
		120V AC	800B-N5G
	Red	12…24V AC/DC	800B-N3R
		120V AC	800B-N5R
	White	12…24V AC/DC	800B-N3W
		120V AC	800B-N5W
Incandescent bulb [2]	Clear	6V AC/DC	800B-N1C
		12V AC/DC	800B-N2C
		24V AC/DC	800B-N3C

[1] Not available in 6V AC/DC.

[2] Not available in 120V AC.



Contact Block/Latch Module

Description	Cat. No.
Push Button/Selector Switch	
1 N.O./1 N.C. snap action	800B-PS11
2 N.O./2 N.C. snap action	800B-PS22
Pilot Light	
Dummy block	800B-PL
Emergency Stop/Push Button/Selector Switch	
1 N.C. slow make/break	800B-PT01
2 N.C. slow make/break	800B-PT02
1 N.O./1 N.C. slow make/break	800B-PT11

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



For more information on our complete family of 16 mm push button products, please visit:
http://ab.rockwellautomation.com/Push-Buttons/IEC-16-mm-Push-Buttons



Panel Mount Alarms
855P

- Visual, audible, or combined indication
- Completely enclosed front, suitable for harsh washdown environments
- Ingress protection rating UL Type 4/4X/13, IP65
- Rear-securing and finger-safe terminals
- Mount in a standard 22.5 mm hole or 30.5 mm hole with adapter

855P panel mount alarms allow local indication of the status of a machine or equipment while enhancing space efficiency with devices ready to be installed in a control panel. These devices include features that preserve the control panel integrity and reduce installation time. Alarm options include sounders, status indicator beacons, xenon strobes, and sounders with status indicator combination, as well as dual-circuit alarms.

Bulletin 855PB LED Beacon

Mounting ring to secure device to the rear of the panel



855P Sounders

Removable plug-in terminal block
Keyed to avoid wiring mistakes





855PC Combined Sounder w/ LED beacon

Completely enclosed front tamper/vandal resistant suitable for wash down environments

Bulletin 855PS Xenon Strobe Beacon

Voltage color coding for easy identification of the circuit







2-Color Half-Lens (with barrier)

Signal up to two different conditions on a machine with only one device

Product Selection

855P Panel Mount Sounders

Voltage	Size [mm]	Cat. No.
12…24V AC/DC	30 (72 dB)	855P-B30SE22
	30 (80 dB)	855P-B30SH22
	45	855P-B30ME22
	65	855P-B30LE22
120V AC	30 (72 dB)	855P-B10SE22
	30 (80 dB)	855P-B10SH22
	45	855P-B10ME22
	65	855P-B10LE22

Accessories

Description	Cat. No.
22.5…30.5 mm hole adapter kit	855P-AHA1

Specifications

Housing Material	**Base**	Polycarbonate (black)
	Lens	Polycarbonate (red, amber, yellow, green, blue, and clear)
Environmental Ratings		UL Type 4/4X/13, IP65
Operation Temperature Range		-25…+60 °C (-13…+140 °F)
Mounting		Central mounting for bore holes 22 mm or 30.5 mm with hole adapter kit (Cat. No. 855P-AHA1)
Certifications		cULus Listed, CE Marked



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

855PS Panel Mount Strobes and 855PB Selectable Steady or Flashing LED Beacons

Voltage	Diameter [mm]	Lens Color	Panel Mount Strobe Cat. No.	Selectable Steady/ Flashing LED Beacon Cat. No.
24V AC/DC	30	Green	855PS-B24SE322	855PB-B24SE322
		Red	855PS-B24SE422	855PB-B24SE422
	45	Green	855PS-B30ME322	855PB-B24ME322
		Red	855PS-B30ME422	855PB-B24ME422
	65	Green	855PS-B30LE322	855PB-B24LE322
		Red	855PS-B30LE422	855PB-B24LE422
120V AC	30	Green	855PS-B10SE322	855PB-B10SE322
		Red	855PS-B10SE422	855PB-B10SE422
	45	Green	855PS-B10ME322	855PB-B10ME322
		Red	855PS-B10ME422	855PB-B10ME422
	65	Green	855PS-B10LE322	855PB-B10LE322
		Red	855PS-B10LE422	855PB-B10LE422

855PC Combined Sounders with LED Beacon and 855PD Dual-Circuit Alarms

Function	Voltage	Diameter [mm]	Color(s)	Combined Sounder with LED Beacon Cat. No.	Dual Circuit Alarm Cat. No.
Sounder with LED	24V AC/DC	45	Green	855PC-B24ME322	855PD-B24MEC1322
			Red	855PC-B24ME422	855PD-B24MEC1422
		65	Green	855PC-B24LE322	855PD-B24LEC1322
			Red	855PC-B24LE422	855PD-B24LEC1422
	120V AC	45	Green	855PC-B10ME322	855PD-B10MEC1322
			Red	855PC-B10ME422	855PD-B10MEC1422
		65	Green	855PC-B10LE322	855PD-B10LEC1322
			Red	855PC-B10LE422	855PD-B10LEC1422
Half-lens, steady LED beacon [1]	24V AC/DC	30	Red & Green	–	855PD-B24SEH4322
		45			855PD-B24MEH4322
		65			855PD-B24LEH4322
	120V AC	45	Red & Green	–	855PD-B10MEH4322
		65			855PD-B10LEH4322

[1] Full lens style with 2 LED beacons also available

For more information on our complete family of audible signaling device products, please visit:
http://ab.rockwellautomation.com/Signaling-Devices/Audible-Signaling-Devices

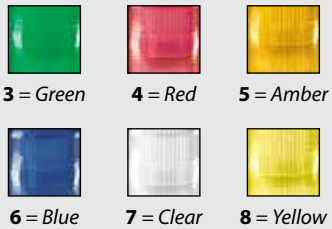


Control Tower Stack Lights 854J (40 mm) & 854K (60 mm)

- Suitable for indoor and outdoor use
- IP66 rated enclosure
- Versatile installation for application needs
- Expandable to five levels per stack or up to ten modules in a single arrangement via the double-sided base option
- Piezoelectric sound modules maintain the ingress rating when mounted in the stack
- Cage-clamp style terminal blocks

The Control Tower stack lights are designed to communicate status of different conditions alerting you to critical equipment and systems needs on plant floor. Available in a wide variety of light and sound functions, sizes, colors, voltages and mounting options help monitor some of your most challenging control panel and on-machine applications.

Lens Colors Options



3 = *Green* **4** = *Red* **5** = *Amber*

6 = *Blue* **7** = *Clear* **8** = *Yellow*





Piezo Sound Module

Light Modules

- *LED or incandescent*
- *Multiple color options*

Five circuits maximum in one stack

Terminal Block mounted on top of the base for easy wiring

Mounting Options

- *Pole*
- *Quick release*
- *Surface*
- *Tube*
- *Vertical*
- *Double-sided base*
- *Half-inch NPT base*
- *Surface mount with M12-5 pin connector*

854K (60mm)



Tool-free lens assembly

Up to ten circuits maximum on double sided base

854J (40mm)

Product Selection

Pre-configured Devices*

Voltage	Mounting Base	Level 1		Level 2		Level 3		Piezo Sound Module	40 mm	60 mm
		LED Module	Color	LED Module	Color	LED Module	Color		Cat. No.	Cat. No.
24V AC/DC	10 cm pole mount	Steady	Red	–	–	–	–	–	854JC-P10B24Y4	854KC-P10B24Y4
	10 cm pole mount	–	–	–	–	–	–	Yes	854JC-P10B24P1	854KC-P10B24P1
	10 cm pole mount	Steady	Blue	Steady	Green	Steady	Red	–	854JC-P10B24Y6Y3Y4	854KC-P10B24Y6Y3Y4
	1/2 in. NPT thread	Steady	Green	Steady	Red	Steady	Amber	–	854JC-NPTB24Y3Y4Y5	854KC-NPTB24Y3Y4Y5

Accessories

Description	For use with 854J	For use with 854K
	Cat. No.	Cat. No.
10 cm plastic base extension, black	854J-ABBE	854K-ABBE
Plastic vertical bracket for pole foot, black	854J-ABPB	854J-ABPB
O-rings for lenses	854J-ALSG [1]	854K-ALSG [1]
O-rings for bases	854J-ABSG [1]	–
Gasket for SH surface mount bases	854J-ASG2 [1]	854K-ASG2 [1]
Upper base with terminal block, black	854J-ABUB	854K-ABUB
Cap, black	854J-ABCAP	854K-ABCAP
Conduit mount adapter for threaded tube base (1/2 in. NPT to M20x1.5)	854J-ACMK	854J-ACMK
L-bracket for threaded tube base (vertical mount kit)	854J-ABVM	854J-ABVM
Direct mount kit for threaded tube base	854J-ARDM	854J-ARDM

[1] Order quantity of 1 to receive package of 5.

Specifications

Housing Material	**Modules (lenses, caps, bases)**	Polycarbonate
	Seals and Gaskets	Nitrile Rubber
	Pole and Base	Aluminum pole with polycarbonate base
	Mounting screw washers	Polypropylene
Environmental Ratings		UL Type 4/4X/13, IP66
Operating Temperature Range		-25…+60 °C (-13…+140 °F)
Mounting		Surface mount base, vertical base, aluminum pole base dual sided base, quick release base,threaded tube, or NPT conduit mounting for indoor and outdoor use
Flash Frequency		Flashing Modules: 1.5 Hz (Time On/Time Off = 1:1) Strobe Modules: 2 Hz (flash duration 1/50,000 second)
Sound Module dB Rating		Max. 80 dB (non-adjustable) at 1m from sound module for 854J or Max. 90 dB (adjustable) at 1m from sound module for 854K
Certifications		cULus Listed, CE Marked, RoHS Compliant

* ***Configure the Control Tower Stack Lights to meet your application needs through Product Selection: http://ab.rockwellautomation.com/signaling-devices/854j-854k-control-tower-stack-lights***



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

For more information on our complete family of visual signaling device products, please visit:
http://ab.rockwellautomation.com/Signaling-Devices/Visual-Signaling-Devices



Wall Mount Signal Lights 855W

- Up to six different conditions can be indicated (five visual and one audible) in the same device
- Wall mount does not add extra height to machine or equipment
- Units can be mounted vertically or horizontally
- IP65 ingress protection rating for indoor/outdoor and harsh environment use
- 24V AC/DC, 120V AC, and 240V AC
- Easy wiring via terminal block

855W wall mount signal lights are designed to communicate the status of different conditions in the machine or critical equipment in a compact size housing. Our signal lights are available in configurations from two- to five-light indicators with optional sound in the same unit.



Product Selection

Voltage	Level 1		Level 2		Level 3		Level 4		Level 5		Grey Housing	Chrome Housing
	LED Module	Color	LED Module	Color	LED Module	Color	LED Module	Color	LED Module	Color	Cat. No. [1]	Cat. No. [1]
24V AC/DC	Steady	Green	Steady	Red	–	–	–	–	–	–	855W-G24Y3Y4	855W-C24Y3Y4
	Steady	Clear	Steady	Green	–	–	–	–	–	–	855W-G24Y7Y3	855W-C24Y7Y3
	Steady	Green	Flashing	Red	–	–	–	–	–	–	855W-G24Y3L4	855W-C24Y3L4
	Steady	Green	Steady	Amber	Steady	Red	–	–	–	–	855W-G24Y3Y5Y4	855W-C24Y3Y5Y4
	Steady	Red	Steady	Amber	Steady	Green	–	–	–	–	855W-G24Y4Y5Y3	855W-C24Y4Y5Y3
	Steady	Green	Flashing	Yellow	Flashing	Red	–	–	–	–	855W-G24Y3L8L4	855W-C24Y3L8L4
	Steady	Green	Steady	Red	Flashing	Amber	–	–	–	–	855W-G24Y3Y4L5	855W-C24Y3Y4L5
	Steady	Amber	Steady	Blue	Steady	Green	Steady	Red	–	–	855W-G24Y5Y6Y3Y4	855W-C24Y5Y6Y3Y4
	Steady	Clear	Steady	Green	Steady	Amber	Steady	Red	–	–	855W-G24Y7Y3Y5Y4	855W-C24Y7Y3Y5Y4
	Steady	Red	Steady	Amber	Steady	Blue	Steady	Green	Steady	Clear	855W-G24Y4Y5Y6Y3Y7	855W-C24Y4Y5Y6Y3Y7
	Flashing	Blue	Flashing	Amber	Flashing	Red	Flashing	Green	Flashing	Yellow	855W-G24L6L5L4L3L8	855W-C24L6L5L4L3L8
	Flashing	Clear	Steady	Red	Steady	Blue	Steady	Amber	Steady	Yellow	855W-G24L7Y4Y6Y5Y8	855W-C24L7Y4Y6Y5Y8
120V AC	Steady	Green	Steady	Red	–	–	–	–	–	–	855W-G10Y3Y4	855W-C10Y3Y4
	Steady	Green	Flashing	Red	–	–	–	–	–	–	855W-G10Y3L4	855W-C10Y3L4
	Flashing	Red	Steady	Yellow	–	–	–	–	–	–	855W-G10L4Y8	855W-C10L4Y8
	Flashing	Blue	Flashing	Clear	–	–	–	–	–	–	855W-G10L6L7	855W-C10L6L7
	Steady	Green	Steady	Amber	Steady	Red	–	–	–	–	855W-G10Y3Y5Y4	855W-C10Y3Y5Y4
	Flashing	Red	Flashing	Amber	Flashing	Blue	Flashing	Yellow	–	–	855W-G10L4L5L6L8	855W-C10L4L5L6L8
	Steady	Blue	Steady	Green	Steady	Amber	Steady	Red	–	–	855W-G10Y6Y3Y5Y4	855W-C10Y6Y3Y5Y4
	Steady	Clear	Steady	Blue	Steady	Green	Steady	Amber	Steady	Red	855W-G10Y7Y6Y3Y5Y4	855W-C10Y7Y6Y3Y5Y4

[1] For a signal light with piezo sound module add **P1** to the end of the catalog number For example, Catalog number 855W-G24Y3Y4 becomes Catalog number 855W-G24Y3Y4**P1**.

Specifications

Housing Material	**Base**	Polycarbonate (94V-0)
	Lens	Polycarbonate (94V-0)
	Rubber Seals and Gaskets	NBR 70
Environmental Ratings		UL Type 4/4X/13, IP65

Operation Temperature Range	-25…+50 °C (-13…+122 °F)
Mounting	Surface mounting. Can be mounted in any orientation.
Flashing LED Frequency	2 Hz
Piezo Sounder dB Rating	90 dBA (potentiometer adjustable down to 70 dB) determined at a distance of 1 meter from sound module

For more information on our complete family of visual signaling device products, please visit:
http://ab.rockwellautomation.com/Signaling-Devices/Visual-Signaling-Devices



Industrial Horns 855H/855HM

- Multi-tone, multi-stage (circuits), and voice playback capabilities
- Visualization option for enhanced industrial applications
- Surface and wall mount styles
- Multi-horn synchronization for most models
- Plastic and metal housings are heat and shock resistant, corrosion-free, suitable for harsh environments and outdoor applications

855H audible devices include general purpose, high-performance, and recordable electronic horns that provide multi-stage, multi-tone voice messaging and volume control capabilities. The high-performance and recordable horns are available as stand-alone devices or with beacons attached.

General Purpose



Mounting Options
- Surface mount
- Semi-flush mount

Sound Options
- 108…113 dB tones
- Three tones

Environmental Ratings
- Semi-flush Mount: UL Type 3R/13, IP54
- Surface Mount: UL Type 4/4X/13/3R, IP66

High Performance



855H



855HM

Mounting Options

Surface mount

Illumination Options
- 855H – Xenon tube (strobe, 5 J)
- 855HM – LED

Sound Options
- 855H – 10…126 dB outputs
- 855HM – 119 dB output
- Up to 45 tones and 3 circuits

Environmental Ratings
- 855H – Frame C and E: UL Type 3R, 4/4X, 13, IP66
- 855H – Frame A, B, and D: UL Type 13/3R, IP56
- 855HM – UL Type 4/4X/13/3R, IP66

Recordable



Mounting Options
- Surface mount
- Adjustable bracket (flare style)

Illumination Options

LED beacon (red, green, or amber)

Sound Options
- 101…111 dB voice
- 110…126 dB tone
- Up to 45 tones

Environmental Ratings
- Frame C and E: UL Type 3R, 4/4X, 13, IP66
- Flare: UL Type 3R, 4/4X, 13, IP66/IP67

Product Selection

855H General Purpose Horns

Mounting Type	Function	Supply Voltage	Cat. No.
Surface base with conduit entrance	Standard (1 stage)	24V AC/DC	855H-SG24GPA
		120V AC	855H-SG10GPA
		240V AC	855H-SG20GPA
	Enhanced (2 stages)	10…30V DC	855H-SG30GPE
		40…260V AC/DC	855H-SG45GPE
Semi-flush wall plate	Standard (1 stage)	24V AC/DC	855H-FG24GPA
		120V AC	855H-FG10GPA
		240V AC	855H-FG20GPA

855H High Performance Horns and Combination Units with Optional Attached Beacon

Sound Output	Supply Voltage	Horn Only Cat. No.	Horn with Beacon Cat. No. *
100 dB max. at 1 m, 2 circuit DC, 1 circuit AC, 10 selectable tones Frame A	24V DC	855H-BD30AD	855H-BCD24ADR3
	115V AC, 50/60 Hz	855H-BA10AD	855H-BCA10ADR3
	230V AC, 50/60 Hz	855H-BA20AD	855H-BCA20ADR3
104 dB max. at 1 m, 3 circuit AC or DC, 32 selectable tones Frame B	24V DC	855H-BD30BD	855H-BCD24BDR3
	115V AC, 50/60 Hz	855H-BA10BD	855H-BCA10BDR3
	230V AC, 50/60 Hz	855H-BA20BD	855H-BCA20BDR3
112 dB max. at 1 m, 3 circuit AC or DC, 32 selectable tones Frame C	24V DC	855H-BD30CD	855H-BCD24CDR3
	115V AC, 50/60 Hz	855H-BA10CD	855H-BCA10CDR3
	230V AC, 50/60 Hz	855H-BA20CD	855H-BCA20CDR3
119 dB max. at 1 m, 3 circuit AC or DC, 45 selectable tones Frame D	24V DC	855H-BD30DD	855H-BCD24DDR3
	115V AC, 50/60 Hz	855H-BA10DD	855H-BCA10DDR3
	230V AC, 50/60 Hz	855H-BA20DD	855H-BCA20DDR3
126 dB max. at 1 m, 3 circuit AC or DC, 45 selectable tones Frame E	24V DC	855H-BD30ED	855H-BCD24EDR3
	115V AC, 50/60 Hz	855H-BA10ED	855H-BCA10EDR3
	230V AC, 50/60 Hz	855H-BA20ED	855H-BCA20EDR3

* Catalog number listed is for a green beacon. For a different color, replace the **3** at the end of the catalog number with a **4** (red), **5** (amber), **6** (blue), **7** (clear), or **8** (yellow). Example: Catalog number 855H-BCD24ADR**3** becomes Catalog number 855H-BCD24ADR**5** for a horn with amber beacon.

855H Recordable Horns with Optional Attached Beacon

Description	Supply Voltage	Horn Only Cat. No.	Horn with Beacon Cat. No. *
101 db(A) voice, 110 dB(A) tone at 1 m, 45 selectable tones, 4 stages, Frame C	10…30V DC	855H-R30C	855H-RC30C3
	90…260V AC, 50/60 Hz	855H-R45C	855H-RC45C3
111 db(A) voice, 126 dB(A) tone at 1 m, 45 selectable tones, 4 stages, Frame E	14…30V DC	855H-R30E	855H-RC30E3
	90…260V AC, 50/60 Hz	855H-R45E	855H-RC45E3
111 db(A) voice, 126 dB(A) tone at 1 m, 45 selectable tones, 4 stages, Flare style	14…30V DC	855H-R30F	–
	90…260V AC, 50/60 Hz	855H-R45F	–

* Catalog number listed is for a green beacon. For a different color, replace the **3** at the end of the catalog number with a **4** (red) or **5** (amber). Example: Catalog number 855H-RC30C**3** becomes Catalog number 855H-RC30C**5** for a horn with amber beacon.

855HM High Performance Horn, Metal

Description	Supply Voltage	Horn Only Cat. No.	Horn with Beacon Cat. No. *
119 dB max. at 1 m, 3 circuit AC or DC, 45 selectable tones	12…30V DC	855HM-GMD30D	855HM-CGMD30DL3
	115V AC, 50/60 Hz	855HM-GMA10D	855HM-CGMA10DL3
	230V AC, 50/60 Hz	855HM-GMA20D	855HM-CGMA20DL3

* Catalog number listed is for a green beacon. For a different color, replace the **3** at the end of the catalog number with a **4** (red), **5** (amber), **6** (blue) or **7** (clear). Example: Catalog number 855HM-CGMD30DL**3** becomes Catalog number 855HM-CGMD30DL**5** for a horn with amber beacon.



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

For more information on our complete family of audible signaling device products, please visit:
http://ab.rockwellautomation.com/Signaling-Devices/Audible-Signaling-Devices



Industrial Beacons
855B

- Three diameter sizes
- Illumination options: LED, halogen, and xenon tube
- Six colors available: green, red, amber, blue, clear, and yellow
- 855BS, 855BM, 855BL
  - Surface, NPT conduit, or tube mounting options
  - UL Type 4/4X/13, IP65
- 855B-GMS
  - Surface mount only
  - UL Type 3R, IP66

855B industrial beacons offer flexibility in size, mounting, voltages, colors, and illumination options to fit your application needs. The three diameter sizes are available in steady halogen, flashing halogen and rotating halogen versions. The 90 mm size offers also LED steady, flashing, strobe and three-color functionality.



855BS – 90 mm *

Illumination Options
- *Halogen bulb (steady/ flashing/rotating)*
- *LED (steady/flashing/ strobe/3-color)*
- *Xenon tube (strobe)*

** LED option shown*



855BM – 120 mm

Illumination Options
- *Halogen bulb (steady/ flashing/rotating)*
- *Xenon tube (strobe)*



855BL – 160 mm

Illumination Options
- *Halogen bulb (steady/ flashing/rotating)*
- *Xenon tube (strobe)*



855B-GMS – Square

Illumination Options
- *Xenon tube (strobe)*



Product Selection

855BS 90 mm LED Round Beacons

	Steady/Flashing	Strobe	Multi-Color (green/red/amber)
Surface mount [1]	855BS-S◆SL❑	855BS-S■BL❑	855BS-S●ML345❑
0.5 in. NPT mount	855BS-N◆SL❑	855BS-N■BL❑	855BS-N●ML345❑
25 mm tube mount	855BS-T◆SL❑	855BS-T■BL❑	855BS-T●ML345❑

[1] Surface mount base must be installed with rough wall plate (Catalog number 855BS-AWP) for UL Type 4/4X/13 rating, otherwise UL Type 1 only.

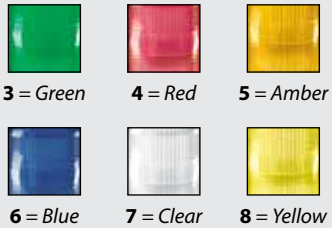
◆ Voltage Code: **35** = 24/48V AC/DC, **45** = 120/240V AC/DC

■ Voltage Code: **35** = 24/48V AC/DC, **10** = 120V AC, **20** = 240V AC

● Voltage Code: **24** = 24V AC/DC, **10** = 120V AC, **20** = 240V AC

❑ Add lens color option code from table at right.

Lens Colors Options



3 = *Green* **4** = *Red* **5** = *Amber*

6 = *Blue* **7** = *Clear* **8** = *Yellow*

855BM 120 mm Round Beacons

	Steady	Rotating	Flashing	Strobe
Surface mount [2]	855BM-S❍DH❑	855BM-S❍RH❑	855BM-S❍FH❑	855BM-S❍BR❑
0.5 in. NPT mount	855BM-N❍DH❑	855BM-N❍DH❑	855BM-N❍FH❑	855BM-N❍BR❑

[2] Surface mount base must be installed with rough wall plate (Catalog number 855BM-AWP) for UL Type 4/4X/13 rating, otherwise UL Type 1 only.

❍ Voltage Code: **24** = 24V AC/DC, **10** = 120V AC

❑ Add lens color option code from table at right.

855BL 160 mm Round Beacons

	Steady	Rotating	Flashing	Strobe
Surface mount [3]	855BL-S❍DH❑	855BL-S❍RH❑	855BL-S❍FH❑	855BL-S❍BR❑
1 in. NPT mount	855BL-N❍DH❑	855BL-N❍DH❑	855BL-N❍FH❑	855BL-N❍BR❑

[3] Surface mount base must be installed with rough wall plate (Catalog number 855BL-AWP) for UL Type 4/4X/13 rating, otherwise UL Type 1 only.

❍ Voltage Code: **24** = 24V AC/DC, **10** = 120V AC

❑ Add lens color option code from table at right.

855B Mini Square Beacon

Supply Voltage	Cat. No.
24V AC/DC	855B-GMS24R❑
115V AC, 50/60 Hz	855B-GMS10R❑

❑ Add lens color option code from table at right.



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Graphic Terminals



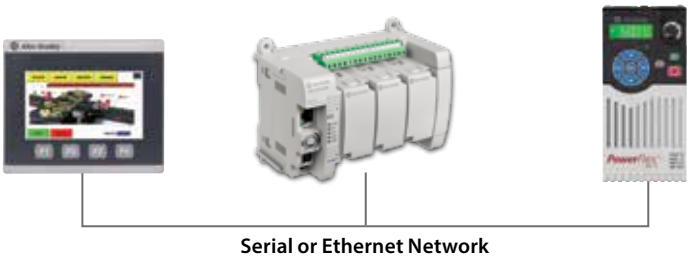
PanelView 800 Graphic Terminals 2711R

- High-resolution display with LED backlight supporting 65K colors
- Communicate to micro controllers (MicroLogix™, Micro800®) and other devices using serial (RS232, RS422/485) protocols and Ethernet
- Review alarm status, history and time/date of equipment events even after power cycle
- Languages supported: French, German, Italian, Portuguese, Spanish and Simplified Chinese

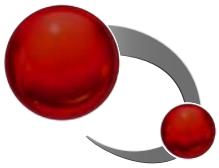
The PanelView 800 Graphic Terminal features a high-speed processor, high-resolution display with LED backlight and internal memory; helping to improve productivity and maintenance, while enjoying the convenience and efficiencies of single-source buying.

Landscape and Portrait Modes





Optimized for use with the Micro800 and MicroLogix controllers.



Download the Connected Components Workbench Software!

http://www.rockwellautomation.com/go/lit/ccws

Connected Components Workbench Software

Connected Components Workbench is a single software platform supporting Allen-Bradley HMI, component-class drives, configurable safety relays, soft starters, motion products and Micro800 controllers in your standalone machine.

PanelView 800 Specifications

Feature	4-inch	7-inch	10-inch
			
Catalog Number	**2711R-T4T**	**2711R-T7T**	**2711R-T10T**
Resolution	480 x 272 WQVGA	800 x 480 WVGA	800 x 600 SVGA
Display type	TFT touch screen, wide LCD		
Display hour	40,000 hours		
Colors	65K colors		
Backlight	LED		
Operator input	Resistive touch and tactile function keys	Resistive touch	
Power supply	24V DC		
Processor, CPU speed	800 MHz		
Internal storage	128 MB	256 MB	
RAM	128 MB DDR	256 MB DDR	
Operation system	Microsoft Windows CE 6.0		
Real-time clock with battery	Yes		
Operating temperature	0…50 °C		
RS232/RS422/485 (isolated)	Separate RS232 and RS422/RS485 connectors		
Ethernet 10/100 Mbps	1		
USB host (USB 2.0)	Yes		
microSD™ slot	Yes		
Product dimension (mm) (height x width x depth)	116 x 138 x 43	144 x 197 x 54	225 x 287 x 55
Panel cutout (mm) (height x width)	99 X 119	125 X 179	206 X 269
Weight	0.35 kg (0.76 lb)	0.68 kg (1.48 lb)	1.57 kg (3.41 lb)
Front bezel protection	IP65, NEMA 4X, 12, 13		
Certifications	cULus listed; Class 1 Div 2, Groups A,B,C,D, T4A, CE, RCM, KC, RoHS		
Software	Connected Components Workbench software release 8.00 or later		
Catalog Number	–	**2711R-APK7**	**2711R-APK10**
Accessories	–	7" Adapter plate kit	10" Adapter plate kit

For more information on our complete family of PanelView 800 Component products, please visit:
http://ab.rockwellautomation.com/Graphic-Terminals/2711R-PanelView-800-Graphic-Terminals

Additional Operator Interface Products







Hazardous Location Push Buttons 800G, 800H, and 800R

Hazardous location push buttons are designed for use in process applications where dangerous gases or other materials may be present. Units are available as factory assembled stations or as components for field assembly.

- 800G – Class I, Div. 2 (Groups A, B, C, and D)
- 800H – Classes I, II, and III, Div. 1 and 2
- 800R – Classes I and II, Div. 2

Hazardous location signaling devices are designed to communicate status of different applications, alerting you to critical equipment and system needs on the plant floor.

Hazardous Location Horns & Beacons 855X

- UL Type 4/4X/13, IP66
- 1/2 in. NPT conduit entry & pre-wired with flying leads
- Electronic horn sounder, multi-tone, and multi-stage
- Xenon strobe beacon
- Class I, Div. 2 (Groups A, B, C, D) and Class 2, Div. 2 (Groups F and G) rated devices





Hazardous Location Horns & Beacons 855XM

- Marine-grade aluminum housing
- UL Type 4/4X/13, IP66
- Class I, Div. 2 (Groups A, B, C, D) and Class 2, Div. 2 (Groups F and G) and Class 3, Div. 1 & 2
- ATEX/IECEx Zone 2, Zone 22 and Class/Zone ratings for US and Canada
- 4 stages / circuits and 64 tones to select via DIP switch
- Optional Xenon strobe beacon in clear, red or amber

Push Buttons



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Signaling



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Graphic Terminals



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Control Tower Stack Lights
855E (50 mm) & 855T (70 mm)

Control Tower stack lights provide multi-status indication of your application with a variety of light and sound functions, colors, voltages, and mounting options. Stack lights can be pre-assembled to save time or ordered as separate light and sound modules for customized field assembly.

- UL Type 4/4X/13, IP65
- Stacking configurations 1…5 modules high
- Continuous or pulsing piezo sound modules
- Transducer sound modules up to 15 tones





Compact Control Tower Stack Lights
855D (30 mm) & 855F (70 mm)

Compact Control Tower stack lights provide multi-status indication to meet the most challenging panel and on-machine applications.

- UL Type 4/4X/13, IP65
- Steady and flashing LED light modules
- Continuous or pulsing piezo sound modules
- Multiple mounting options
- Factory pre-assembled and pre-wired

Panel Light Bars
855L

These LED panel lights offer a long life and low voltage option for OEMs and panel builders.

- Low voltage potential in panel
- Low heat output
- Low weight due to absence of heavy ballast
- Ideal for environments with high shock and vibration



For more information on our complete family of push button and signaling products, please visit:
http://ab.rockwellautomation.com/Push-Buttons-and-Signaling-Devices

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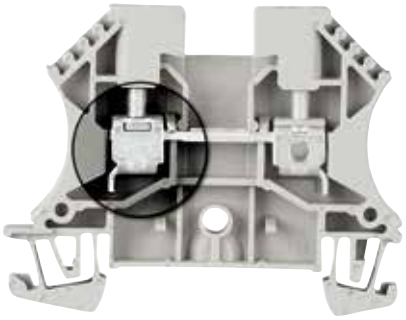
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Terminal Blocks

Connectivity



Screw Type Terminal Blocks 1492-J

- All screw clamps have self-locking feature for unmatched connection reliability
- UL tested and approved for multiple wire terminations per connection terminal
- Use strong clamping materials to help form gas-tight connection

* product selection begins on page 4-4.

Leading the industry in efficiency and productivity, our family of IEC terminal blocks includes a broad range of DIN Rail mountable products. With screw and spring clamp connections available, they are designed for safety, installation ease, and ruggedness.

Screw Type & Spring Clamp Terminal Blocks are Available in the Following Styles:

Standard Feed-through Terminal Blocks

- Designed for single-circuit feed-through applications

Multi-circuit Feed-through Terminal Blocks

- Designed for high-density wiring applications

Sensor Terminal Blocks

- Provide all connections needed for three-wire applications in one terminal block

Grounding Terminal Blocks

- Provides easy to identify grounding bus that is mounted on the Din Rail

Plug-in Style Terminal Blocks

- Allow for insertion of fixed components into control circuits (resistor, diodes, surge suppression circuit and shunt bars)

Fuse Blocks

- Provide better overcurrent protection in hinged-arm design

All IEC Terminal Blocks are:

- IP2x finger-safe
- DIN Rail mount
- High fault short-circuit current rating (SCCR) with fuses and circuit breakers
- Meet IEC, UL, CSA and ATEX standards

Terminal Blocks



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Wiring Systems



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Network Media

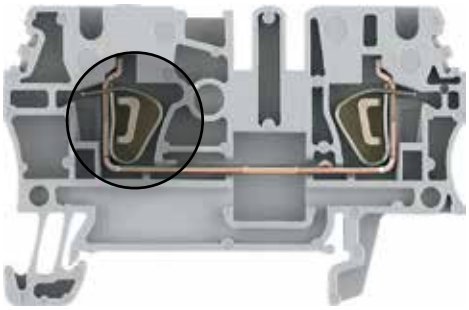


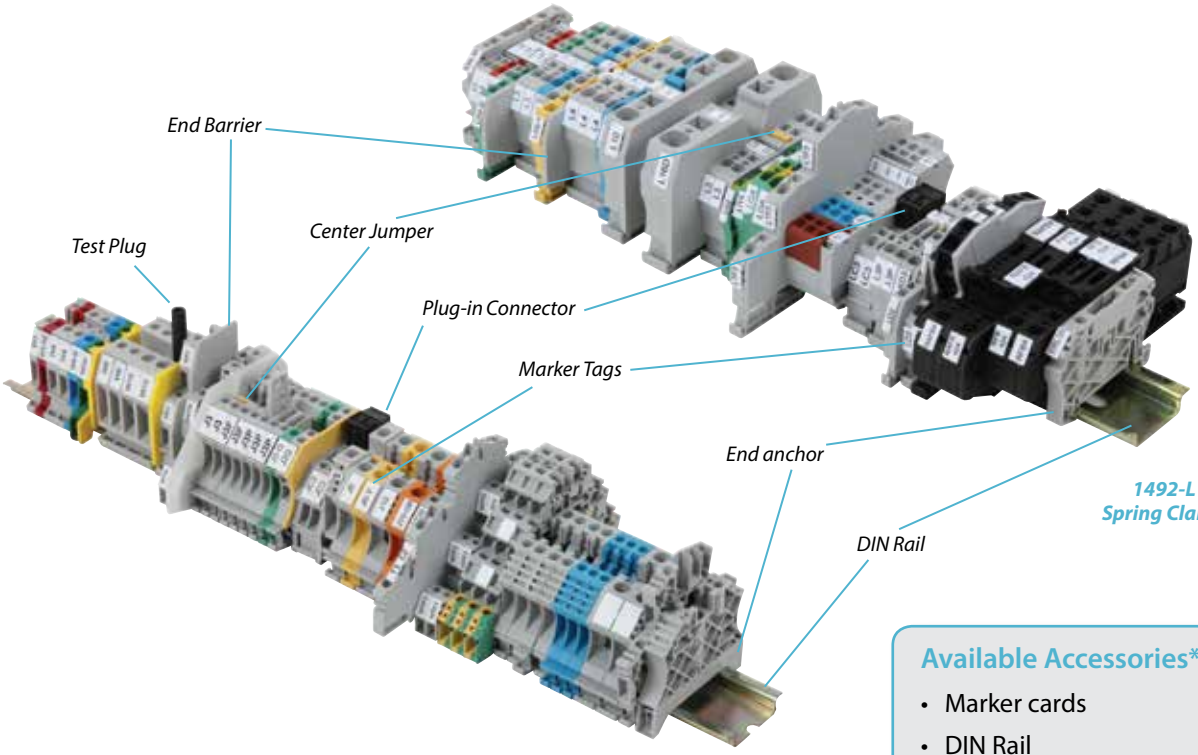
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Spring Clamp Terminal Blocks 1492-L

- Help reduce wiring connection time by up to 30…50%
- Excellent reliability performance in high-vibration environments
- Easy top-wire installation

* product selection begins on page 4-11.





Color Options

Standard:

Also available for some products:

Available Accessories*

- Marker cards
- DIN Rail
- Jumpers
- Partition Plates
- End Anchor

* Din Rail and End Anchors can be found on page 4-19. All accessory options can be found online.

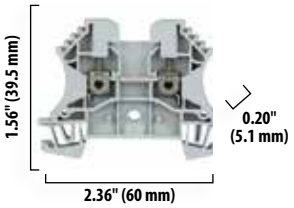
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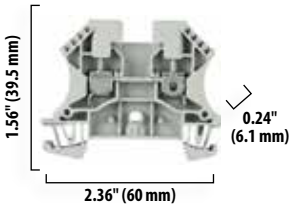
Product Selection

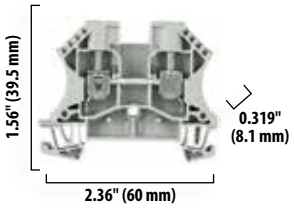
Standard Feed-through Terminal Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.







	1492-J3				1492-J4				1492-J6			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage rating [V AC/DC]	600		800	550	600		800	690	600		800	550
Maximum current [A]	25	20	24	21	35	25	32	28	50		41	36
Wire range (Rated Cross Section)	#28... 12 AWG	#26... 12 AWG	2.5 mm^2	2.5 mm^2 (#20... 14 AWG)	#22... 10 AWG	#26... 10 AWG	4 mm^2	4 mm^2 (#20... 12 AWG)	#22... 8 AWG		6 mm^2	6 mm^2 (#20... 10 AWG)
Terminal block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-J3		100		1492-J4		100		1492-J6		100	
Color: †	1492-J3-*		100		1492-J4-*		100		1492-J6-*		100	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End barrier	1492-EBJ3		50		1492-EBJ3		50		1492-EBJ3		50	
Screw center jumper 10-pole	1492-CJJ5-10		20		1492-CJJ6-10		20		1492-CJJ8-10		20	
Screw center jumper 2-pole	1492-CJJ5-2		50		1492-CJJ6-2		50		1492-CJJ8-2		50	
Plug-in center jumper 10-pole	1492-CJLJ5-10		20		1492-CJLJ6-10		20		–			
Plug-in center jumper 2-pole	1492-CJLJ5-2		60		1492-CJLJ6-2		60		–			
Partition plates	1492-EBJ16		20		1492-EBJ16		20		1492-EBJ16		20	
Snap-in marker cards	1492-MR5X12		5 cards (120/card)		1492-MR6X12		5 cards (120/card)		1492-MR8X12		5 cards (84/card)	

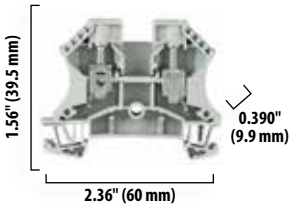
† For colored terminal blocks, replace the * in the catalog number with the following: **RE** = Red, **B**= Blue, **BL** = Black, **G**= Green, **Y**= Yellow, **OR**= Orange, **BR**= Brown, **W**=White, to the end of the catalog number.

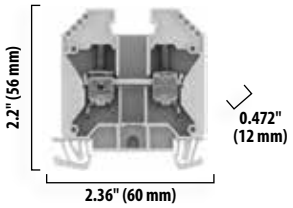
Product Selection

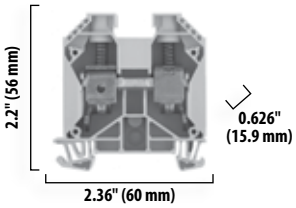
Standard Feed-through Terminal Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.







	1492-J10				1492-J16				1492-J35			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage rating [V AC/DC]	600		1000	550	600		1000	690	1000	600	1000	690
Maximum current [A]	65	50	57	50	85		76	66	150	120	125	109
Wire range (rated cross section)	#18... 6 AWG		10 mm^2	10 mm^2 #16... 8 AWG)	#18... 4 AWG		16 mm^2	16 mm^2 #16... 6 AWG)	12... 1/0 AWG	12... 2 AWG	35 mm^2	35 mm^2 (#14... 2 AWG)
Terminal block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-J10		50		1492-J16		50		1492-J35		40	
Color: †	1492-J10-*		50		1492-J16-*		50		–		–	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End barrier	1492-EBJ3		50		1492-EBJ16		20		1492-EBJ16		20	
Screw center jumper – 10-pole	1492-CJJ10-10		20		1492-CJJ12-10		10		1492-CJJ16-10		10	
Screw center jumper – 2-pole	1492-CJJ10-2		50		1492-CJJ12-2		20		1492-CJJ16-2		20	
Partition plates	1492-EBJ16		20		1492-PPJD3		20		1492-PPJD3		20	
Snap-in marker cards	1492-M7X12		5 cards (108/card)		1492-M7X12		5 cards (108/card)		1492-M7X12		5 cards (108/card)	

† For colored terminal blocks, replace the * in the catalog number with the following: **RE** = Red, **B**= Blue, **BL** = Black, **G**= Green, **Y**= Yellow, **OR**= Orange, **BR**= Brown, **W**=White, to the end of the catalog number.

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

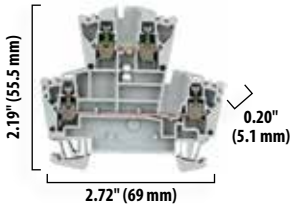
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http://ab.rockwellautomation.com/Terminal-Blocks

Product Selection

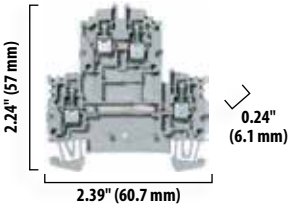
Multi-circuit Feed-through Terminal Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.

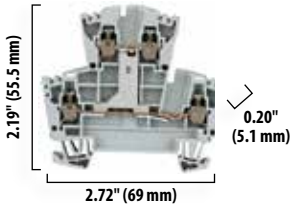


1492-JD3

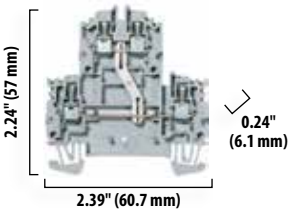


1492-JD4

Two-level, Feed-through terminal block



1492-JD3C



1492-JD4C

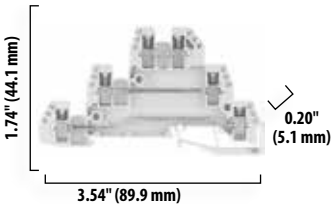
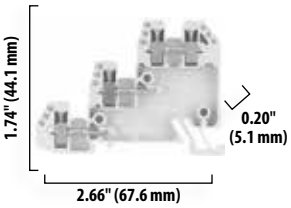
Two-level, Feed-through terminal block with commoning bar

Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage rating [V AC/DC]	600	300	400	275	600	300	800	550
Maximum current [A]	20	10	24	21	35	30	32	28
Wire range (rated cross section)	#22... 12 AWG	#26... 12 AWG	2.5 mm^2	2.5 mm^2 #20... 14 AWG)	#26...10 AWG		0.5...4 mm^2	4 mm^2 #20... 12 AWG)
Terminal block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-JD3		100		1492-JD4		100	
Color:†	1492-JD3-*		100		1492-JD4-*		100	
Grey w/commoning bar	1492-JD3C		100		1492-JD4C		100	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End barrier	1492-EBJD3		20		1492-EBJD4		20	
Center jumper – 10-pole	1492-CJJ5-10		20		1492-CJLJ6-10		20	
Center jumper – 2-pole	1492-CJJ5-2		50		1492-CJLJ6-2		60	
Partition plates	1492-PPJD3		20		1492-PPJD3		20	
Snap-in marker cards	1492-MR5X8		5 cards (120/card)		1492-MR6X8		5 cards (120/card)	
Snap-in marker cards	1492-M5X5		5 cards (200/card)		1492-M6X5		5 cards (200/card)	

† For colored terminal blocks, replace the * in the catalog number with the following: **RE** = Red, **B**= Blue, **BL** = Black, **G**= Green, **Y**= Yellow, **OR**= Orange, **BR**= Brown, **W**=White, to the end of the catalog number.

Product Selection

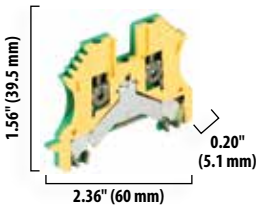
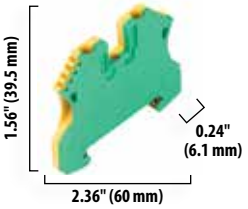
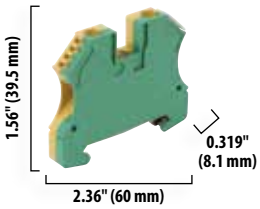
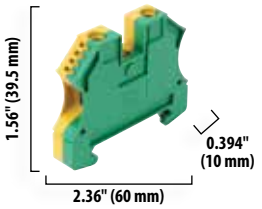
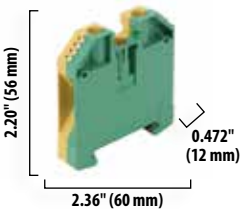
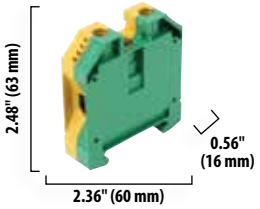
Sensor Terminal Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.							
		1492-WTF3			**1492-WTS3**		
Standards		UL	CSA	IEC	UL	CSA	IEC
Voltage rating [V AC/DC]		300		250	300		250
Maximum current [A]		10		24	10		24
Wire range (rated cross section)		#26…14 AWG		0.5…2.5 mm²	#26…14 AWG		0.5…2.5 mm²
Terminal block	**Type**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
	Grey	1492-WTF3		50	1492-WTS3		50
	Blue	–		–	1492-WTS3-B		50
	Grey for PNP devices	1492-WTF3LP		50	1492-WTS3LP		50
	Grey for NPN devices	1492-WTF3LN		50	1492-WTS3LN		50
End barrier		1492-EBTF3		50	1492-EBTS3		50
Center jumpers	**50-pole**	1492-CJT5-50		5	1492-CJT5-50		5
	10-pole	1492-CJT5-10		10	1492-CJT5-10		10
	3-pole	1492-CJT5-3		10	1492-CJT5-3		10
	2-pole	1492-CJT5-2		10	1492-CJT5-2		10
Partition plate		1492-PPTS3		50	1492-PPTS3		50
Snap-in marker cards		1492-MS5X9		5 cards (80/card)	1492-MS5X9		5 cards (80/card)

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http://ab.rockwellautomation.com/Terminal-Blocks

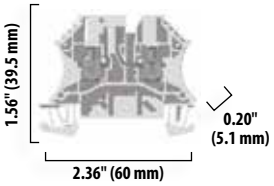
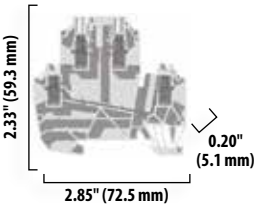
Product Selection

Grounding Terminal Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.												
	1492-JG3				**1492-JG4**				**1492-JG6**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Wire range (Rated cross section)	#22…12 AWG		2.5 mm²	2.5 mm² (#20... 14 AWG)	#22…10 AWG		4 mm²	4 mm² (#20... 12 AWG)	#22…8 AWG		6 mm²	6 mm² #20... 10 AWG)
Terminal block **Type**	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Terminal block **Green/ Yellow**	1492-JG3		100		1492-JG4		100		1492-JG6		50	
End barrier **Yellow**	1492-EBJ3-Y		50		Not required		–		Not required		–	
Snap-in markers	1492-MR5X12 (120/card)		5		1492-MR6X12 (120/card)		5		1492-MR8X12 (84/card)		5	
Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.												
	1492-JG10				**1492-JG16**				**1492-JG35**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Wire range (Rated cross section)	#16…6 AWG		10 mm²	10 mm² #16... 8 AWG)	#14…4 AWG		16 mm²	16 mm² #16... 6 AWG)	#12… 1 AWG	#12… 2 AWG	35 mm²	35 mm² (#14... 2 AWG)
Terminal block **Type**	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Terminal block **Green/ Yellow**	1492-JG10		50		1492-JG16		50		1492-JG35		25	
End barrier	Not required		–		Not required		–		Not required		–	
Snap-in markers	1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)	

Product Selection

Plug-in Style Terminal Blocks, Screw Type

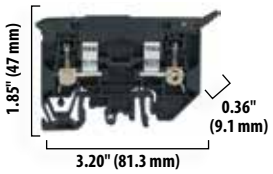
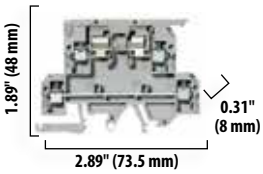
Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.							
		1492-J3P			**1492-JD3P**		
Standards		UL	CSA	IEC	UL	CSA	IEC
Voltage rating [V AC/DC]		600	300	500	300		500
Maximum current [A]		20	10	24	20		24
Wire range (Rated cross section)		#30…12 AWG		2.5 mm^2	#24…12 AWG	#30…12 AWG	2.5 mm^2
Terminal Block	**Type**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
	Grey	1492-J3P		100	1492-J3DP		50
	Red	1492-J3P-RE		100	–		–
End barrier		1492-EBJ3		50	1492-EBJD3P		20
Center jumpers	**10-pole**	1492-CJLJ5-10		20	1492-CJJ5-10		20
	2-pole	1492-CJLJ5-2		60	1492-CJJ5-2		50
Disconnect plug		1492-DPL		50	1492-DPL		50
Component plug		1492-CPL		50	1492-CPL		50
Fuse plugs	**Without blown fuse indicator**	1492-FPK2		20	1492-FPK2		20
	10...36V blown fuse indicator	1492-FPK224		20	1492-FPK224		20
	35...75V blown fuse indicator	1492-FPK248		20	1492-FPK248		20
	60...150V blown fuse indicator	1492-FPK2120		20	1492-FPK2120		20
	140...250V blown fuse indicator	1492-FPK2250		20	1492-FPK2250		20
Snap-in marker cards		1492-MR5X12		5 cards (120/card)	1492-M5X5		5 cards (200/card)
Snap-in marker cards		1492-M5X5		5 cards (200/card)	1492-MS5X10		5 cards (144/card)

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Terminal Blocks

Product Selection

Fuse Blocks, Screw Type

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.										
		1492-H...			**1492-WFB4...**			**1492-JD3FB/-JDG3FB**		
Specifications		Single-circuit fusible terminal block with or without fuse indication (1/4" x 1-1/4" Fuse)			Single-circuit fuse block with or without fuse indication (5 x 20 mm Fuse)			2-Level fuse block for 5 x 20 mm fuse with or without ground connection		
Standards		UR	CSA	IEC	UR	CSA	IEC	UR	CSA	IEC
Voltage Rating	**H6/WFB4/JD3FB/ JDG3FB**	300V AC/DC		500V AC/DC	300V AC/DC		500V AC/DC	300V AC/DC	–	500V AC/DC
	H5/WFB424/ JD3FB24/JDG3FB24	10…57V AC/DC			10…57V AC/DC			10…36V AC/DC		
	JD3FB48/JDG3FB48	–			–			30…70V AC/DC		
	JD3FB120/JDG3FB120	–			–			60…150V AC/DC		
	H4/WFB4250/ JD3FB250/JDG3FB250	100…300V AC			85…264V AC			100…250V AC/DC		
Maximum Current		15 A			15 A		15 A*	–		
Fuse Circuit		–			–			10 A	10 A/250V AC/DC	6.3A*
Feed-Through Circuit		–			–			20 A	25 A/300V AC/DC	
Wire Range (Rated Cross Section)		#30...12 AWG		0.5…4 mm²	#30...12 AWG		0.5…4 mm²	#22... 12 AWG	#26... 12 AWG	0.5… 4 mm²
Terminal Block		**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
Black (non-indicating)		1492-H6		25	1492-WFB4		50	–		–
Grey (non-indicating) 2-level without Ground		–		–	–		–	1492-JD3FB		50
Grey (non-indicating) 2-level with Ground		–		–	–		–	1492-JDG3FB		50
Black with Blown Fuse Indication (10...57V AC/DC)		1492-H5		25	1492-WFB424		50	–		–
Black with Blown Fuse Indication (100...300V AC/DC)		1492-H4		25	1492-WFB4250		50	–		–
Accessories		**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
End Barrier		1492-N37		50	Not required		–	1492- EBJD3FB		20
Marker Card for Base Block		1492- MS8X12		5 (56/card)	1492- MS8X12		5 (56/card)	1492-M6X5		5 (200/card)
		1492-MS8X9		5 (56/card)	1492-MS8X9		5 (56/card)	–		–
Marker Card for Handle		1492- MS8X12		5 (56/card)	1492-MS8X9		5 (56/card)	1492-M7X12		5 (108/card)

* IEC standards for 5 x 20 mm fuses do not include rating above 6.3 A.

Terminal Blocks



4-2…4-21

Wiring Systems



4-22…4-23

Signal Interface



4-24…4-27

Connection Systems



4-28…4-37

Safety Connection Systems



4-38…4-41

Network Media



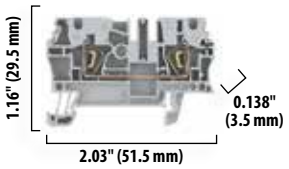
4-42…4-49

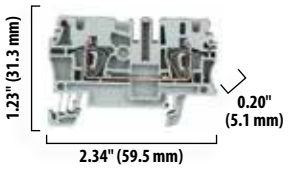
Product Selection

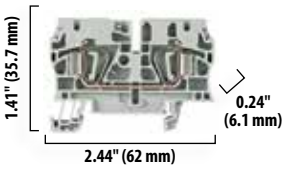
Standard Feed-through Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.







	1492-L2				1492-L3				1492-L4			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage rating [V AC/DC]	300		500	550	600		800	550	600		800	550
Maximum current [A]	15	20	17.5	15	25	27	24	21	33	35	32	28
Wire range (rated cross section)	#26...14 AWG		1.5 mm^2	1.5 mm^2 (#20... 16 AWG)	#26...12 AWG	#26...12 AWG	2.5 mm^2	2.5 mm^2 (#20... 12 AWG)	#26...10 AWG		4 mm^2	4 mm^2 (#20... 10 AWG)
Terminal block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-L2 †		50		1492-L3 †		100		1492-L4 †		50	
Color	1492-L2- ø		50		1492-L3- ø		100		1492-L4- ø		50	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End barrier (Grey)	1492-EBL2 *		50		1492-EBL3 *		50		1492-EBL4 *		50	
Plug-in center jumper 10-pole	1492-CJL4-10		20		1492-CJK5-10		20		1492-CJK6-10		20	
Plug-in center jumper 2-pole	1492-CJL4-2		60		1492-CJK5-2		60		1492-CJK6-2		60	
Marker card (edge marking)	1492-M3X5		5 cards (120/card)		1492-M5X10		5 cards (144/card)		1492-M6X10		5 cards (120/card)	
Marker card (center marking)	1492-M3X12		5 cards (200/card)		1492-MR5X8		5 cards (200/card)		1492-M6X5		5 cards (200/card)	

† For blocks with 1-in and 2-out, add a "**T**" after the L3 or L4. For blocks with 2-in and 2-out a "**Q**" after the L3 or L4. Example: catalog number 1492-L3**T**, 1492-L4**Q**, 1492-L3**T**-RE, 1492-L4**Q**-BL.

ø For colored blocks, add suffix **RE** = Red, **B** = Blue, **BL** = Black, **G** = Green, **Y** = Yellow, **OR** = Orange, **BR** = Brown, **W** = White to the end of the catalog number.

* You must also add a "**T**" or "**Q**" to the end barrier part number when using 3 or 4 connection terminal blocks.
Example: The end barrier for Bulletin 1492-L3T is catalog number 1492-EBL3**T**. For the Bulletin 1492-L2Q, the end barrier is catalog number1492-EBL2**Q**.



Looking for More?

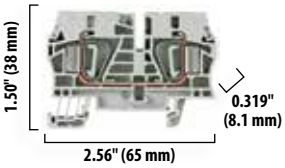
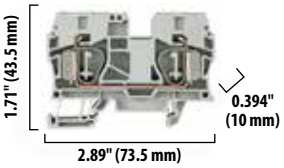
This catalog highlights only our most essential components; for a complete product selection, visit us at:

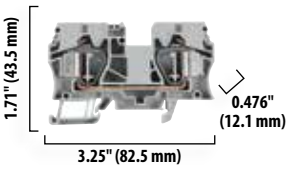
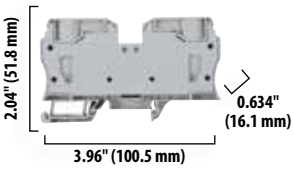
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Product Selection

Standard Feed-through Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.								
	1492-L6				**1492-L10**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	600		800	550	600		800	550
Maximum Current [A]	50		41	36	60	55	57	50
Wire Range (Rated Cross Section)	#22...8 AWG	#20...8 AWG	6 mm²	6 mm² (#20...8 AWG)	#16...6 AWG		10 mm²	10 mm² (#16...8 AWG)
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-L6 †		50		1492-L10		25	
Color	1492-L6- ø		50		1492-L10- ø		25	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Grey)	1492-EBL6 *		50		1492-EBL10		50	
Plug-in Center Jumper 2-pole	1492-CJL8-2		60		1492-CJL10-2		60	
Marking Systems: Marker Card (Corner Marking)	1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)	
Marker Card (Center Marking)	1492-M8X5		5 cards (160/card)		1492-M8X5		5 cards (160/card)	

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.								
	1492-L16				**1492-L35**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	600		800	550	600		800	690
Maximum Current [A]	65		76	66	120		125	109
Wire Range (Rated Cross Section)	#14...4 AWG		16 mm²	16 mm² (#16...6 AWG)	#12...2 AWG		35 mm²	35 mm² (#14...2 AWG)
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-L16		25		1492-L35		10	
Color	1492-L16- ²		25		1492-L35- ²		25	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Grey)	1492-EBL16		20		Not required		–	
Marker card (edge marking)	1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)	
Marker Card (Center Marking)	1492-M8X5		5 cards (160/card)		1492-M8X5		5 cards (160/card)	

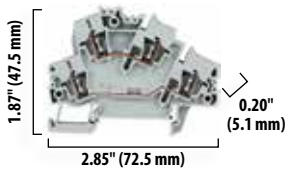
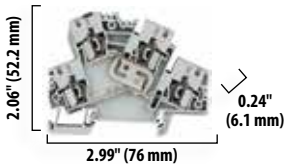
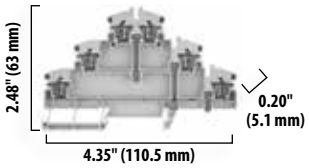
† For blocks with 1-in and 2-out, add a "**T**" after the L6. Example: catalog number 1492-L6**T**, 1492-L6**T**-BR.

ø For colored blocks, add suffix **RE** = Red, **B** = Blue, **BL** = Black, **G** = Green, **Y** = Yellow, **OR** = Orange, **BR** = Brown, **W** = White to the end of the catalog number.

* You must add a "**T**" to the end barrier catalog number when selecting the end barrier for catalog number 1492-L6T. Example: catalog number 1492-EBL6**T**.

Product Selection

Multi-circuit Feed-through Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.			
	1492-LD3	**1492-LD4**	**1492-LTF3**
Specifications	Two-circuit feed-through terminal block (LD3) Two-circuit feed-through terminal block with commoning bar (LD3C)	Two-circuit feed-through terminal block (LD4) Two-circuit feed-through terminal block with commoning bar (LD4C)	Three-circuit feed-through terminal block with optional cross- connection links to common multiple levels

Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	600		800	550	600		800		300		500	
Maximum Current [A]	20	25	24	20	25	30	32		15		20	
Wire Range (Rated Cross Section)	#30...12 AWG		2.5 mm²	0.5…2.5 mm² (#20...14 AWG)	#26...10 AWG		4 mm²		#26...12 AWG		0.5…2.5 mm²	
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Two-circuit Feed-through **Grey**	1492-LD3		25		1492-LD4		20		–		–	
Two-circuit Feed-through **Color**	1492-LD3-*		25		1492-LD4-*		20		–		–	
Two-circuit Block with Commoning Bar **Grey**	1492-LD3C		25		1492-LD4C		25		–		–	
Three-circuit Feed-through Block with Commoning Link	–		–		–		–		1492-LTF3		25	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Grey)	1492-EBLD3		20		1492-EBLD4		20		1492-EBLTF3		20	
Plug-in Center Jumper 10-pole	1492-CJK5-10		20		1492-CJK6-10		20		1492-CJK5-10		20	
Plug-in Center Jumper 2-pole	1492-CJK5-2		60		1492-CJK6-2		60		1492-CJK5-2		60	
Vertical Cross Connector	–		–		–		–		1492-CJL5D		20	
Marker Card	1492-M5X10		5 cards (144/card)		1492-M6X10		5 cards (120/card)		1492-M5X5		5 cards (200/card)	

* For colored blocks, add suffix **RE** = Red, **B** = Blue, **BL** = Black, **G** = Green, **Y** = Yellow, **OR** = Orange, **BR** = Brown, **W** = White to the end of the catalog number.

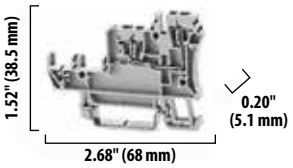
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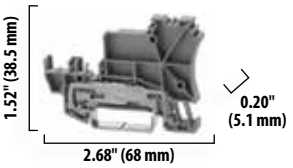
Product Selection

Sensor Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.







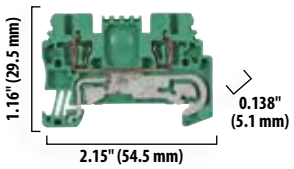
		1492-LS2-3/-LS2-4			1492-LSG2-3/-LSG2-4			1492-LS2-B/-LS2-BR/-LSG2		
Standards		UR	CSA	IEC	UR	CSA	IEC	UR	CSA	IEC
Voltage Rating [V AC/DC]		300		250	300		250	300		250
Maximum Current [A]		10		17.5	10		17.5	10		17.5
Wire Range (Rated Cross Section)		#26...14 AWG		1.5 mm²	#26...14 AWG		0.5… 1.5 mm²	#26...14 AWG		1.5 mm²
Terminal Block	**Color**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
3-Conductor	**Grey**	1492-LS2-3		50	–		–	–		–
	Green	–		–	1492-LSG2-3		20	–		–
3-Conductor LED Indication	**Grey**	1492-LS2-3L		50	–		–	–		–
4-Conductor	**Grey**	1492-LS2-4		50	–			–		–
	Green	–		–	1492-LSG2-4		20	–		–
4-Conductor LED Indication	**Grey**	1492-LS2-4L		50	–		–	–		–
Self- Linking Plug-In Connection Blocks	**Blue**	–		–	–		–	1492-LS2-B		100
	Brown	–		–	–		–	1492-LS2-BR		100
	Green	–		–	–		–	1492-LSG2		100
Accessories		**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
End Barrier	**3-Conductor**	1492-EBLS2-3		50	1492-EBLS2-3		50	Not required		–
	4-Conductor	1492-EBLS2-4		50	1492-EBLS2-4		50	Not required		–
Screw Center Jumper (50-Pole)		1492-CJK5-50		10	–		–	–		–
Screw Center Jumper (10-Pole)		1492-CJK5-10		20	–		–	–		–
Plug-in Center Jumper (2-Pole)		1492-CJK5-2		60	–		–	–		–
Marker Card		1492-MS5X5		5 (200/card)	1492-MS5X5		5 (200/card)	–		–

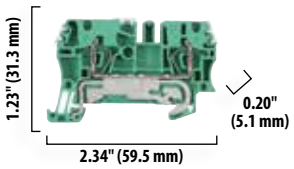
Product Selection

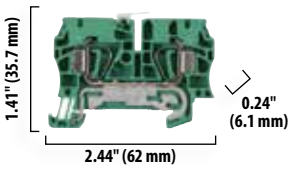
Grounding Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.



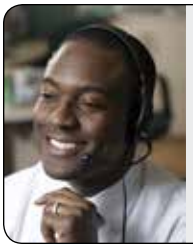




	1492-LG2				1492-LG3				1492-LG4			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Wire Range (Rated Cross Section)	#26...14 AWG		0.5 . . . 1.5 mm^2	0.5 . . . 1.5 mm^2 (#20... 16 AWG)	#30...12 AWG	#26...12 AWG	2.5 mm^2	2.5 mm^2 (#20... 12 AWG)	#26...10 AWG		4 mm^2	4 mm^2 (#20... 10 AWG)
Maximum Current	Grounding				Grounding				Grounding			
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Green/Yellow	1492-LG2 †		50		1492-LG3 †		50		1492-LG4 †		50	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Yellow)	1492-EBL2-Y ø		50		1492-EBL3-Y ø		50		1492-EBL4-Y ø		50	
Marker card (edge marking)	1492-M3X12		5 cards (120/card)		1492-M5X10		5 cards (144/card)		1492-M6X10		5 cards (120/card)	
Marker Card (Center Marking)	1492-M3X5		5 cards (100/card)		1492-MR5X8		5 cards (120/card)		1492-MR6X8		5 cards (120/card)	

† For blocks with 1-in and 2-out, add a "**T**" after the LG3 or LG4. For blocks with 2-in and 2-out, add a "**Q**" after the LG3 or LG4. Example: catalog number 1492-LG3**T**, 1492-LG4**Q**.

ø You must also add a "**T**" or "**Q**" to the end barrier part number when using 3 or 4 connection terminal blocks. Example: The end barrier for Bulletin 1492-LG3**T** is catalog number 1492-EBL3**T**-Y. For the Bulletin 1492-LG2**Q**, the end barrier is catalog number 1492-EBL2**Q**-Y.



Need Help?

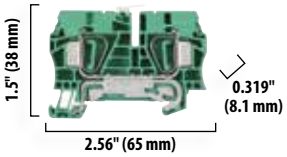
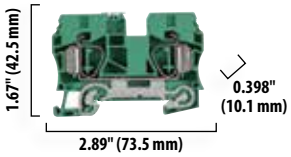
The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

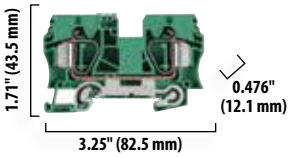
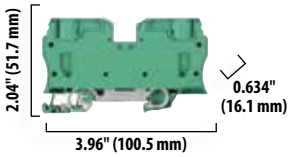
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For more information on our complete family of terminal block products, please visit:
http://ab.rockwellautomation.com/Terminal-Blocks

Product Selection

Grounding Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.								
	1492-LG6				**1492-LG10**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	–				–			
Maximum Current	Grounding				Grounding			
Wire Range (Rated Cross Section)	#22...8 AWG	#20...8 AWG	6 mm²	6 mm² (#20... 8 AWG)	#16...6 AWG		10 mm²	10 mm² (#16... 8 AWG)
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Green/Yellow	1492-LG6 †		50		1492-LG10		25	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Yellow)	1492-EBL6-Y ø		50		1492-EBL10-Y		20	
Marker card (edge marking)	1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)	
Marker Card (Center Marking)	1492-M8X5		5 cards (160/card)		1492-M8X5		5 cards (160/card)	

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.								
	1492-LG16				**1492-LG35**			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	–				–			
Maximum Current	Grounding				Grounding			
Wire Range (Rated Cross Section)	#14...6 AWG	#14...4 AWG	16 mm²	16 mm² (#16... 6 AWG)	#12...2 AWG		35 mm²	35 mm² (#14... 2 AWG)
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Green/Yellow	1492-LG16 †		25		1492-LG35		10	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Yellow)	1492-EBL16-Y		20		Not required		–	
Marker card (edge marking)	1492-MR8X12		5 cards (84/card)		1492-MR8X12		5 cards (84/card)	
Marker Card (Center Marking)	1492-M8X5		5 cards (160/card)		1492-M8X5		5 cards (160/card)	

† For blocks with 1-in and 2-out, add a "**T**" after the LG6. Example: catalog number 1492-LG6**T**.

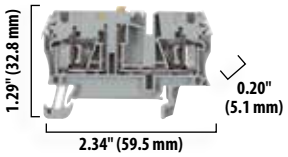
ø You must also add a "**T**" to the end barrier catalog number when selecting the end barrier for catalog number 1492-LG6T. Example: catalog number 1492-EBL6T-**Y**.

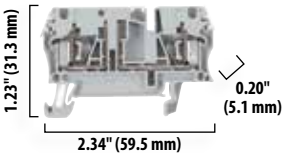
Product Selection

Isolation & Plug-in Terminal Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes.

Note: Height for dimension is measured from top of rail to top of terminal block.



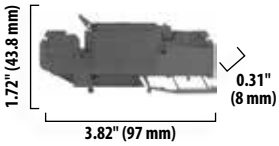
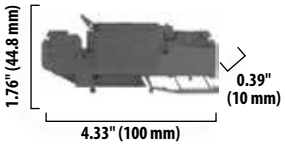
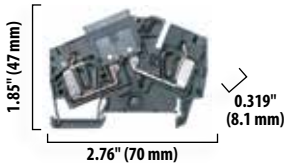


	1492-LKD3				1492-L3P			
Standards	UR	CSA	IEC	ATEX	UR	CSA	IEC	ATEX
Voltage Rating [V AC/DC]	600		500		600	600	500	
Maximum Current	20		24		20	20	24	
Wire Range (Rated Cross Section)	#30...12 AWG		2.5 mm^2		#30...12 AWG	#30...12 AWG	4 mm^2	
Terminal Block	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
Grey	1492-LKD3		25		1492-L3P		25	
Accessories	**Cat. No.**		**Pkg. Qty.**		**Cat. No.**		**Pkg. Qty.**	
End Barrier (Grey)	1492-EBL3		50		1492-EBL3		50	
Plug-in Center Jumper (10-Pole)	1492-CJK5-10		20		1492-CJK5-10		20	
Plug-in Center Jumper (2-Pole)	1492-CJK5-2		60		1492-CJK5-2		60	
Fuse Plug Non-indicating	–		–		1492-FPK2		20	
10…36V LED	–		–		1492-FPK224		20	
35…70V LED	–		–		1492-FPK248		20	
60…150V LED	–		–		1492-FPK2120		20	
140…250V LED	–		–		1492-FPK2250		20	
Disconnect Pulu	–		–		1492-DPL		50	
Component Plug	–		–		1492-CPL		50	
Snap-in Marker Cards	1492-MR5X8		5 cards (120/card)		1492-MR5X8		5 cards (120/card)	

For more information on our complete family of terminal block products, please visit:
http://ab.rockwellautomation.com/Terminal-Blocks

Product Selection

Fuse Blocks, Spring Clamp

Dimensions are not intended to be used for manufacturing purposes. Note: Height for dimension is measured from top of rail to top of terminal block.										
		1492-RFB4...			**1492-RAFB4...**			**1492-LAFB6...**		
Specifications		Single-circuit fuse terminal block with or without fuse indication 5...20 mm fuse			Single-circuit fuse terminal block with or without fuse indication 1/4 x 1-1/4" fuse			Automotive style fuse block		
Standards		UR	CSA	IEC	UR	CSA	IEC	UR	CSA	IEC
Voltage Rating	**RFB4/RAFB4/LAFB6**	300V AC/DC		500V AC/DC	300V AC/DC		500V AC/DC	300V AC/DC		250V AC/DC
	RFB424/RAFB424/ LAFB624	10…57V AC/DC			10…57V AC/DC			10…36V AC/DC		
	RFB4250/ RAFB4250	85…264V AC			85…264V AC			–		
Leakage Current	**RFB424/RAFB424/ LAFB624**	2 mA @ 24V			2 mA @ 24V			2 mA @ 24V		
	RFB4250/ RAFB4250	1 mA @ 264V			1 mA @ 264V			–		
Maximum Current		15 A*			15 A			30 A	25 A	30 A
Wire Range (Rated Cross Section)		#22...12 AWG		0.5…4 mm^2	#22...12 AWG		0.5…4 mm^2	#22...12 AWG	#22...10 AWG	0.5…6 mm^2
Terminal Block		**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
Black (non-indicating)		1492-RFB4		25	1492-RAFB4		25	1492-LAFB6		25
Black with Blown Fuse Indication (10...57V AC/DC)		1492-RFB424		25	1492-RAFB424		25	1492-LAFB624		25
Black with Blown Fuse Indication (85...264V AC/DC)		1492-RFB4250		25	1492-RAFB4250		25	–		–
Accessories		**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**	**Cat. No.**		**Pkg. Qty.**
Plug-in Center Jumper (10-Pole)		1492-CJR8-10		10	–		–	1492-CJL8-32 (32-pole)		10
Plug-in Center Jumper (2-Pole)		1492-CJR8-2		20	1492-CJRA10-2		10	1492-CJL8-2		60
Center Jumper Link		1492-CJRL6		60	1492-CJRL5		10	–		–
Marker Card for Base Block		1492-MS8X12		5 (56/card)	1492-MS8X12		5 (56/card)	1492-M5X8		5 (144/card)
Marker Card for Handle		1492-MS6X9		5 (80/card)	1492-MS6X9		5 (80/card)	–		–

* IEC standards for 5 x 20 mm fuses do not include ratings above 6.3 A.

Accessories

End Anchors and End Retainers

	Dimensions (W x L x H)	Tightening Torque	Markers	Used With	Color	Pkg. Qty.	Cat. No
	0.31 x 2.20 x 1.85 in. (8 x 56 x 47 mm)	4.4 lb•in (0.5 N•m)	1492-M7X12 1492-M8X5	199-DR1, 199-DR2, 1492-DR4, 1492-DR5, 1492-DR6, 1492-DR7, 1492-DR8, 1492-DR9	Grey	100	1492-EAJ35
	0.48 x 2.20 x 2.48 in. (12.2 x 56 x 63 mm)	7.0 lb•in (0.8 N•m)	1492- M7X12 1492- M5X5	199-DR1, 199-DR2, 1492-DR4, 1492-DR5, 1492-DR6, 1492-DR7, 1492-DR8, 1492-DR9	Grey	50	1492-EAHJ35
	0.24 x 2.19 x 1.63 in. (6 x 55.6 x 41.5 mm)	–	1492- M5X10 1492- M5X5	500V AC/DC	Grey	20	1492-ERL35

DIN Mounting Rails

	Description	Pkg. Qty.	Cat. No
	• Symmetrical rail • 35 x 7.5 mm • 3.28 ft (1 m) long • Zinc-plated • Chromated steel • EN60715 • Din#3	10	1492-DR1
	• Symmetrical rail • 35 x 7.5 mm • 6.56 ft (2 m) long • Zinc-Plated • Chromated steel • EN60715 • Din#3	20	1492-DR2
	• Symmetrical rail • 35 x 7.5 mm • 2.26 in. (57.4 mm) high • 3.28 ft (1 m) long • Copper-free • Aluminum • For 1492 terminal blocks only • Din#3	2	1492-DR6
	• Symmetrical rail • 35 x 7.5 mm • 2.80 in. (71.0 mm) high • 3.28 ft (1 m) long • Angled 30˚ Zinc-plated • Chromated steel • Din#3	2	1492-DR7

All accessory options can be found in our online catalog.

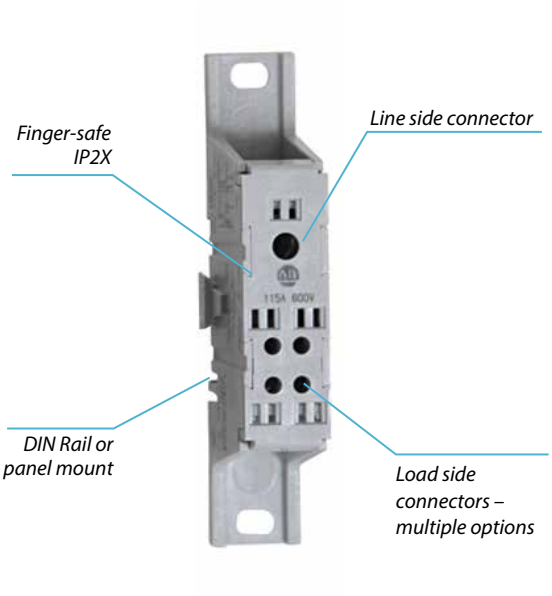


Power Distribution Blocks
1492-PDE

- IP2X Finger-safe protection
- Power distribution through 510 A
- DIN Rail and panel mountable
- Numerous connector configurations
- High fault SSCR up to 100 kA

Finger-safe power distribution terminal blocks are designed to prevent accidental contact with live connectors – without the use of additional barriers or shields. These panel mount devices have a compact footprint, and are available with either aluminum or copper terminals. Captive termination screws ensure that parts never get lost and the rugged thermoplastic housing will resist physical damage.

These single-pole devices are available with DIN or panel mount options and can easily be assembled together to create multi-pole solutions.





Product Selection

Power Distribution Blocks

Amps (Cu Wire) 75° C	No. of Poles	Line			Load			Flexible Copper Wire *	Cat. No.
		Connector Diagram	Wire Range [kcmil / AWG (mm²)]	Openings per Pole	Connector Diagram	Wire Range [kcmil / AWG (mm²)]	Openings per Pole		
115	1-pole		#2...#14 (35...2.5)	1		#2...#14 (35...2.5) †	1	Yes	1492-PDME1111 ß
						#10...#14 (6...2.5) ø	4	Yes	1492-PDME1141 ß
200			2/0...#14 (70...2.5)	1		2/0...#14 (70...2.5)	1	Yes	1492-PDE1112 ß
									1492-PDE1C112 Δ, ß
						#2...#14 (35...2.5) †	4	Yes	1492-PDE1142 ß
									1492-PDE1C142 Δ, ß
510			250 ... #6 (120...16)	2		250...#6 (120...16)	2	Yes (line side)	1492-PDE1225
									1492-PDE1C255 Δ
335			(1) 400...#6 (185...16) (1) 2/0...#14 (70..2.5)	1		#2...#14 (35...2.5) †	8	Yes (line side)	1492-PDE1183
									1492-PDE1C183 Δ

† Wire openings rated for #2-14 AWG are multiple wire rated: (2) #6 CU Str, (2) #8 CU Str, (2-4) #10 CU Str, (2 to 4) #12 CU Str, and (2 to 4) #14 CU Str.

ø Wire openings rated for #2/0 -14 AWG are multiple wire rated: (2) #4 CU Str, (2) #6 CU Str, (2) #8 CU Str, (2) #10 CU Str, (2) #12 CU Str.

* Flexible copper wire connections approved for flexible wire, stranding Classes G, H, I, K and DLO wire without the need for additional crimp connectors.

Δ The **C** in the catalog number designates copper terminals. The catalog numbers without the **C**, have aluminum connectors.

ß UL 1953 Listed E 313475 Guide QPQS.

Standards Compliance and Certifications

Standards Compliance	UL 1059, UL 1953, CSA C22.2 No. 158, EN/IEC 60947-1, -7-1
Certifications	CE Marked, CSA Certified (File No. 72582, Class 6228-01) , UL Component Recognized (File No. E40735, Guide No. XCFR2), UL Listed (File No. E313475, Guide No. QPQS), RoHS
Flammability Ratings	94V-0

For more information on our complete family of terminal block products, please visit:
http://ab.rockwellautomation.com/Terminal-Blocks



Wiring Systems
1492

- Interface modules (IFM) connect through pre-wired cables to digital and analog I/O
- Simplified design reduces bill of materials – one IFM module and cable replaces multiple terminal blocks, wires and terminations
- Design flexibility – feed-through, LED indication, fusing, and interposing relay IFMs are available to meet application variables

Value Add of Wiring Systems

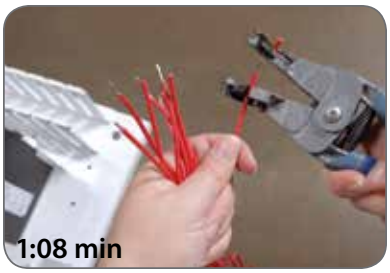
You can achieve up to 75% savings on your control wiring time and reduce wiring errors when using a Bulletin 1492 Wiring System compared with wiring to traditional terminal blocks.

1492 Wiring Systems



Replace multiple terminal blocks, wires and terminations with single IFM and cable.

Conventional Wiring



Cables:

- Pre-wired
- IFM Ready
- I/O Ready



Interface Modules (IFM):

Digital

- Straight Feed-through
- LED indicating
- Fused
- Relay





Analog

- Straight Feed-through
- Fused
- Specialty



Wiring systems replace the point-to-point wiring between a PLC I/O module and individual terminal blocks – providing quicker, more accurate connections between control and factory devices.

ControlLogix® Controllers
1756



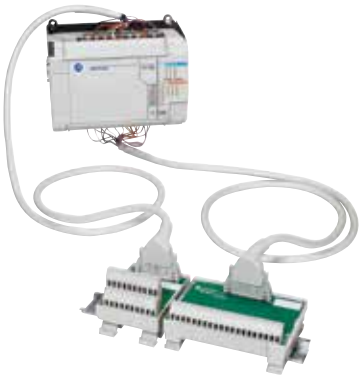
CompactLogix™ Controllers
1769



MicroLogix™ 1200 Controllers *(40 Embedded I/O)*
1762



MicroLogix™ 1500 Controllers
1764



Flex™ I/O *(with Flex D-Shell Base Modules)*
1794



CompactLogix™ L1/L2 *(Embedded I/O)*
5370



For more information on our complete family of wiring systems products, please visit:
http://ab.rockwellautomation.com/Connection-Devices

Signal Interface



Signal Conditioners
931 S/H/U

- Isolation of analog measurement and control signals with 2 way isolation or 3 way isolation
- Conversion of specialty signals to commonly used type signals
- Amplification, linearization, and transmission of low level sensor signals
- Transmission of analog signals over long distances
- Provides local display using a splitter or remote status indications and alarms via relay contact closures based on the analog signals

Signal Conditioners are designed for use with I/O systems to provide reduced installation and maintenance costs in process applications. A wide range of products are available for use wherever temperature, pressure, speed, weight, level, and flow are measured and controlled as part of a continuous or batch production process.

A variety of product types are offered to meet your application needs, including:

931U Universal

Programmable – allowing the devices to be used on a wide variety of analog signals, available in 12.5 mm and 45 mm wide sizes



931H High-Density

Cost-effective analog signal conditioning in a high-density (6 mm wide) housing



931S Standard

Solutions for a wide variety of analog signals, available in compact sizes ranging from 12.5 mm to 22.5 mm wide



Product Selection

Signal Conditioners

Description	Width (mm)	Input Ratings	Output Ratings	Power	Cat. No.
Current/Voltage					
Passive isolator, 1 channel	6.0	0(4)...20 mA	0(4)...20 mA	ILP[4]	931H-A1A1N-IP
Active converter, 3 way	6.1	0...20 mA, 4…20 mA, 0…10V DC	0...20 mA, 4…20 mA, 0…10V DC	AUX	931H-C2C2D-DC
Active converter, 3 way	17.5	0(4)...20 mA	0(4)...20 mA	AUX	931S-A1A1N-DC
Passive isolator, 2 channel	17.5	0(4)...20 mA	0(4)...20 mA	ILP[4]	931S-A1A1N-IP2
Active isolator	12.5	4...20 mA	4...20 mA	AUX	931S-A2A2N-DC
Passive isolator, splitter	17.5	4...20 mA	(2x) 4...20 mA	OLP[5]	931S-A2A5N-OP
Passive converter	17.5	0...20 mA, 4…20 mA, 0…5V DC, 0…10V DC	4...20 mA	OLP[5]	931S-C1A2D-OP
Active converter, 3 way	12.5	±0.1 mA…±100 mA[3], ±20 mV…±200V DC[3]	0...±20 mA, 0…+10V DC	AUX[1]	931S-C4C5D-BC
Temperature – RTD/Thermocouple					
Active converter, PT100/RTD	6.0	PT100, 2 or 3 conds (0...200 °C)	4...20 mA	OLP[5]	931H-P2A2N-OP
Active converter, 3 way, RTD	17.5	Pt100, Ni100 2, 3 or 4 conds; Pot.: 0...100 kΩ; Res.: 0...4.5 kΩ	0...20 mA, 4…20 mA, 0…10V DC	AUX	931S-P1C2D-DC
Thermocouple, Type J	6.1	Type J (0…700 °C)	0...20 mA, 4…20mA, 0…5V DC, 0…10V DC	AUX	931H-T1C1D-DC
Thermocouple, Type K	6.1	Type K, (0…1000 °C)	0...20 mA, 4…20 mA, 0…5V DC, 0…10V DC	AUX	931H-T2C1D-DC
Universal thermocouple, 3 way	17.5	Type K, J, T, E, N, R, S, B (-200…+1820 °C)	0...20 mA, 4…20 mA, 0…10V DC	AUX	931S-T9C2D-DC
Line Monitoring					
Passive converter, monitoring	22.5	0…1 A or 0…5 A or 0…10 A (AC)	4...20 mA	OLP[5]	931S-A3A2D-OP
Active converter, monitoring	22.5	0…1 A or 0…5 A or 0…10 A (AC)	0...20 mA, 4…20 mA, 0…10V DC	AUX	931S-A3C2D-DC
Application Specific					
Bridge converter, 3 way	17.5	-500 mV...+500 mV (Excitation = +10V DC, +5V DC or 4.8...10.2V DC adjustable)	0...20 mA, 4…20 mA, 20…0 mA, 20…4 mA, 0…5V DC, 0….10V DC, 5…0V DC, 10…0V DC	AUX	931S-B1C6D-DC
Frequency converter, 3 way	12.5	2 or 3 wire PNP/NPN, NAMUR initiator, push-pull step	0...20 mA, 4…20 mA, 0…10V DC	AUX	931S-F1C2D-DC
Active isolator, 3 way, Hart	6.1	4...20 mA (HART)	0...20 mA, 4…20 mA, 0…10V DC (HART)	AUX	931H-A2C2D-DCHart
Universal					
Active converter, universal	12.5	**Current/Voltage:** -10…20 mA; -5…10V DC/ -10…20 mA; -5…10V / -100…200 mV; **TC:** B, C, E, J, K, L, N, R, S, T, W3, W5 (-200…+2300 °C); **RTD:** Pt100/200, Ni100, Cu100 2/3/4 cond. (-200…+850 °C)	4…20 mA	OLP[5]	931U-C9A2C-OP[6]
Active converter, 3 way, universal	45.0	**Current/Voltage:** -20…50 mA; -200…500 mV, -20…50V DC; **TC:** B, E, J, K, L, N, R, S, T; **RTD:** PT100, PT1000, Ni100, Ni1000, Cu10, Cu25, Cu50, Cu100 2/3/4 cond; **Pot:** 100 Ω…100 kΩ; **Res.:** 10 Ω…5 kΩ **Freq.:** 2 Hz…100 kHz	0…20 mA, -10…10 V DC (programmable); 2 relays	AUX[2]	931U-C9C7C-BC[6]
Programming cable	NA	NA	NA	NA	931U-CABLE
Accessories					
Endbarrier	1.5	NA	NA	NA	931H-EB1

*All non-marked AUX are 24V DC

[1] 22…230V AC/DC

[2] 18…264V AC/DC

[3] These ranges are scalable

[4] Input Loop Powered

[5] Output Loop Powered

[6] Software Programmable

For more information on our complete family of signal interface products, please visit:
http://ab.rockwellautomation.com/Signal-Interface

Signal Interface



Intrinsic Safety Modules 937 Z/T/C

- For analog and digital signals in hazardous locations
- Simple maintenance with integrated diagnostics and quick change of modules during ongoing operation
- Comprehensive standards compliance, including up to SIL3 compliance for easy and reliable planning and documentation
- Horizontal or vertical mounting with no reduction in operational ratings
- Power Rail for drastically reduced wiring, collective error messaging, efficient troubleshooting and installation

Bulletin 937 Intrinsic Safety Modules connect intrinsically safe rated equipment – such as transmitters, solenoids, proximity sensors and encapsulated assemblies – with control systems.

Product Range Overview

- *From simple switch amplifiers to highly functional signal converters*
- *Modules available with galvanic isolation*
- *Low heat dissipation thanks to low power consumption*
- *Broad supply voltage range including AC, DC and universal power supply (AC/DC)*

Easy Configuration

- *DIP switches or Pushbuttons with LCD display*
- *FDT Interface between devices and control system*

Power Rail System

- *Allows simple snap-in of modules*
- *Power supply and monitoring of lead breakages/short circuit on gold-plates rails*
- *Reduces wiring*
- *Vertical and horizontal mounting*
- *Simplifies future expansions*



Compact Size

- *12.5 mm housing allowed for 2 channel densities*

Removable Terminals

- *Rapid connection*
- *Up to 2.5mm/14 AWG wiring*
- *Keyed terminals eliminate misconnection*

Power Feed Module

- *Link power supply to the Power Rail*
- *Group fusing*
- *Redundancy options*
- *Alarming for lead breakage, short circuit, and power failure*
- *Reduces I/O overhead*
- *Front switch for mode of operation*

Product Selection

Isolated/Converter Barriers

Module Type	Signal Type	Device Power	Channels	Signal Splitter	Width	Cat. No.
Switch amplifier	Digital input, Transistor output	24V DC	1-channel	Yes	12.5 mm	937TH-DISTS-DC1
			2-channel	No		937TH-DISAT-DC2
	Digital input, Relay output		1-channel	Yes		937TH-DISRS-DC1
			2-channel	No		937TH-DISAR-DC2
		115V AC	1-channel	Yes	20 mm	937TS-DISRS-KD1
			2-channel	No		937TS-DISAR-KD2
		230V AC	1-channel	Yes		937TS-DISRS-KF1
			2-channel	No		937TS-DISAR-KF2
Solenoid driver	Digital output	Input loop powered	1-channel	No	12.5 mm	937TH-DOSND-IP1
SMART transmitter supply	Analog input	24V DC	1-channel	No	12.5 mm	937TH-AITXP-DC1
			1-channel	Yes	12.5 mm	937TH-AITXS-DC1
			2-channel	No	20 mm	937TS-AITXP-DC2
Temperature repeater	Analog input		1-channel	No	12.5 mm	937TH-AIRRP-DC1
SMART current driver	Analog output			No	12.5 mm	937TH-AOSCD-DC1
Universal temp converter	Analog input			–	20 mm	937CS-AITMP-DC1*
Transmitter supply converter	Analog input				40 mm	937CU-AITXF-DC1
HART loop converter	Analog input					937CU-AIHLP-DC1
Strain gauge converter	Analog input					937CU-AISTR-DC1
Frequency converter	Digital input					937CU-DIFRQ-DC1
	Digital input	20-90V DC/48-253 V AC				937CU-DIFRQ-BC1

* Configured via Field Device Tool (FDT) software such as Rockwell Software FactoryTalk AssetCentre or PACTware.

Zener Barriers

Signal Type	Max Resistance	Other Functionality	Channels	Width	Cat. No.
Positive polarity DC	646 Ohm		2-channel	12.5 mm	937ZH-DPAN-2
	327 Ohm		1-channel		937ZH-DPBN-1
	36 + 0.9V Ohm	Diode return	2-channel		937ZH-DPCD-2
	327 Ohm		2-channel		937ZH-DPBN-2
	250 Ohm	Diode return, high power	2-channel		937ZH-DPDP-2

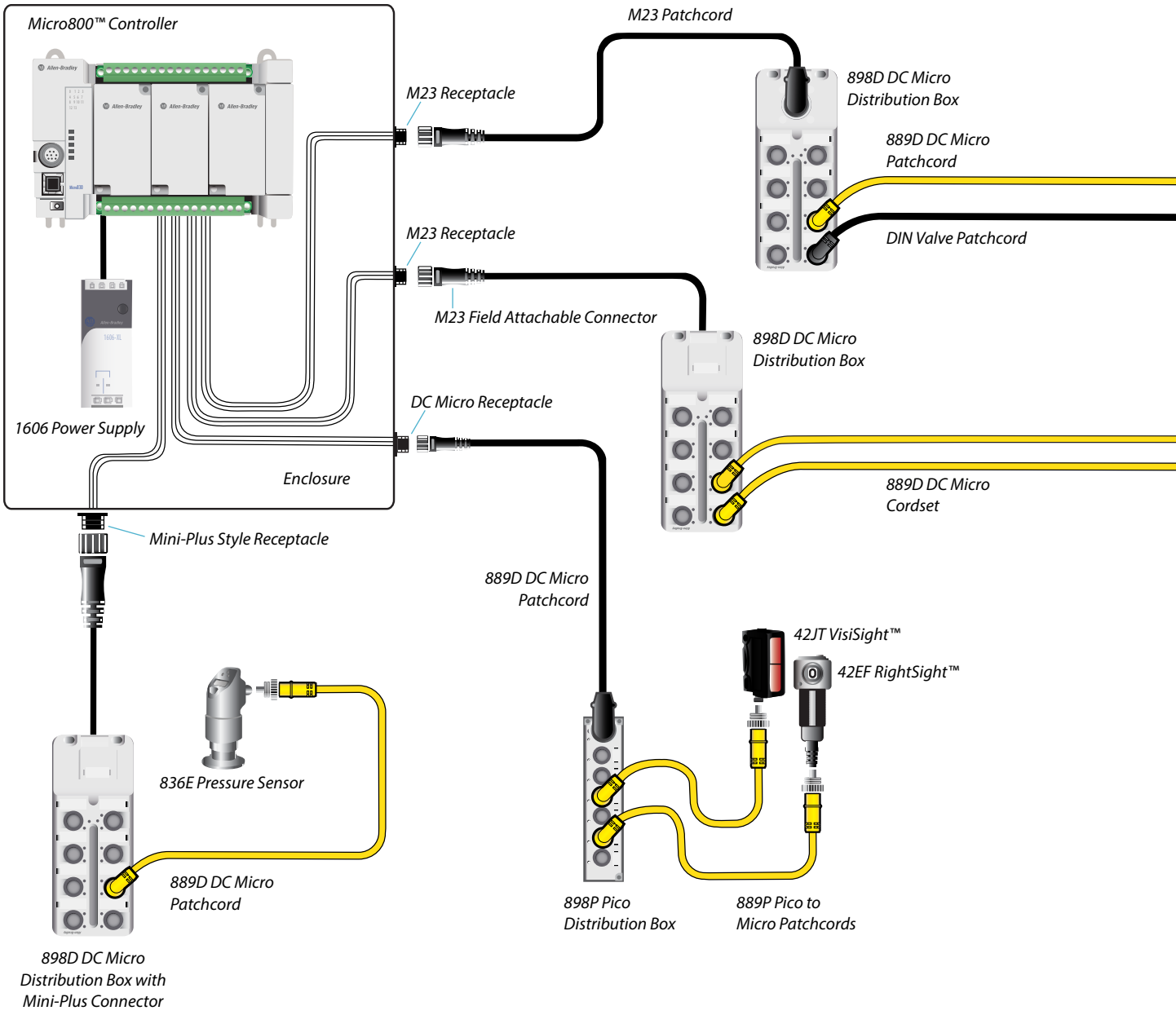
Accessories

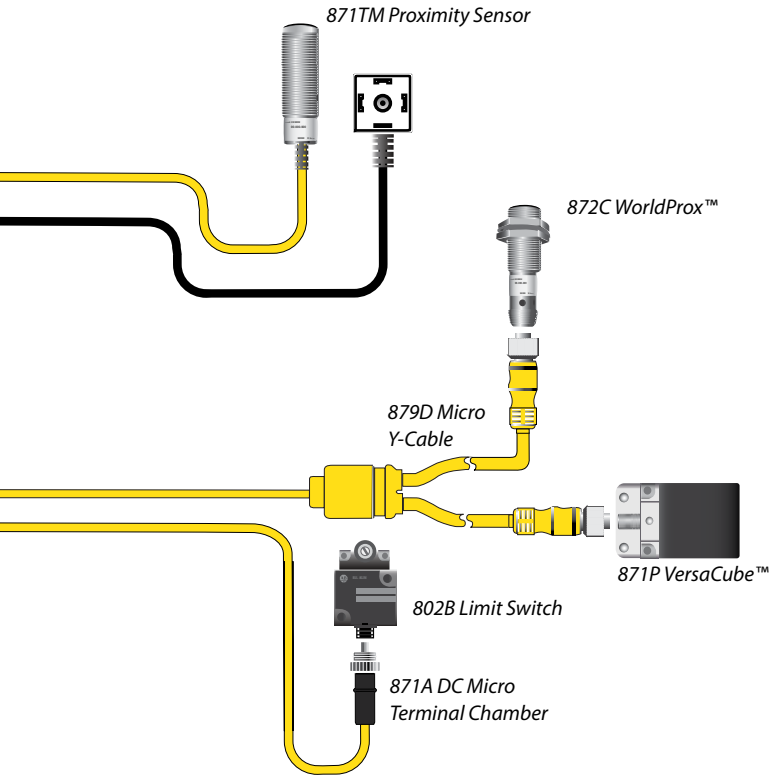
Power rail feed module	Power feed module for power rail system	Width: 20 mm	937A-PSFD
Power rail 0.8 meter	Power rail with cover and 2 end caps	Length: 0.8 M	937A-PR08
Power rail 2 meter	Power rail with cover and 2 end caps	Length: 2 M	937A-PR20
Power rail end caps	Power rail end caps	–	937A-PREC
USB interface cable	USB interface programming cable	–	937A-USBA
Cold junction compensation connector	Cold junction compensation for 937CS-AITMP-DC1 (thermocouples)	–	937A-TCJC

For more information on our complete family of signal interface products, please visit:
http://ab.rockwellautomation.com/Signal-Interface

Non-network Connectivity Solutions

Allen-Bradley® passive connectivity components make up a complete plug & play solution that simplifies and consolidates wiring, while providing secure connections for proximity sensors, limit switches, photoelectric sensors, and other field devices.





Application

Non-network Connectivity is ideal for compact machines, cost-sensitive applications or those where minimal diagnostics are required.

A complete connectivity solution, including:

- Cordsets (connector at one end, leads on the other)
- Patchcords (connectors at each end)
- Field-attachable connectors
- Panel-mount receptacles
- Distribution boxes
- Splitters and tees
- V- and Y-cables
- Raw cable spools

Connectivity Styles

- DC micro (M12)
- Pico
- AC micro (1/2 in.)
- Mini Plus
- Mini (7/8 in.)
- EAC micro
- M23
- DIN Valve

Various cable jacket materials and flex ratings for a wide range of applications and environments:

- PVC – General purpose applications
- TPE – Bending and flexing applications, temperature extremes
- PUR – Bending and flexing applications, chemical environments, water submersion
- ToughWeld™ (CPE) – Welding applications, chemical environments
- ToughLink™ (TPE) – UV and water resistant, chemical environments
- High Flex TPE and PUR – rated to 5 million, 9 million, and 10 million flex cycles

We offer many standard and custom connectivity products not shown in this catalog. Our free ProposalWorks software is the easiest way to select or configure a solution from our wide range of connectivity products.

Go to www.rockwellautomation.com/support/selection.page



DC Micro Cordsets & Patchcords 889D

- 4-, 5-, and 8-pin connectors
- Straight or right angle versions
- 22 or 24 AWG cable
- Oil-resistant yellow or black PVC jacket

Product Selection

Cordsets

Female (Sensor End) Connector Style	Cable		Assembly Rating	Length [m (ft)]	Cat. No. [1]
	Wire Color				
4-pin straight	1 Brown 2 White	3 Blue 4 Black	22 AWG 250V, 4 A	2 (6.56)	889D-F4AC-2
4-pin right angle					889D-R4AC-2
5-pin straight	1 Brown 2 White	3 Blue 4 Black 5 Grey			889D-F5AC-2
8-pin straight	1 White 2 Brown 3 Green 4 Yellow	5 Grey 6 Pink 7 Blue 8 Red	24 AWG, 30V AC/36V DC, 1.5 A		889D-F8AB-2 [2]

Patchcords

Female (Sensor End) Connector Style	Male (I/O End) Connector Style	Cable		Cat. No. [1]
		Assembly Rating	Length [m (ft)]	
4-pin straight	4-pin straight	22 AWG 250V, 4 A	2 (6.56)	889D-F4ACDM-2
	4-pin right angle			889D-F4ACDE-2
4-pin right angle	4-pin straight			889D-R4ACDM-2
	4-pin right angle			889D-R4ACDE-2
5-pin straight	5-pin straight			889D-F5ACDM-2
8-pin straight	8-pin straight			889D-F8ABDM-2

[1] Replace the 2 after the dash with 1, 5, or 10 for additional lengths in meters.

[2] The 8-pin cordset is for Safety devices.

Terminal Blocks

4-2…4-21

Wiring Systems

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Signal Interface

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Connection Systems

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Safety Connection Systems

4-38…4-41

Network Media

4-42…4-49

AC Micro Cordsets & Patchcords 889R

- 3-, 4-, 5- and 6-pin connectors
- Straight or right angle female connector
- Standard 18 or 22 AWG braided cable
- Oil-resistant yellow PVC jacket



Product Selection

Cordsets

Female Connector Style	Cable				Cat. No. [1]
	Wire Color		Wire Rating	Length [m (ft)]	
3-pin straight	1 Green (GND) 2 Red/Black Tr.	3 Red/White Tr.	Braided 22 AWG 250V, 4 A	2 (6.5)	889R-F3ECA-2
3-pin straight	1 Green (GND) 2 Red/Black Tr.	3 Red/White Tr.	18 AWG 250V 4 A		889R-F3AEA-2
4-pin straight	1 Red/Black Tr. 2 Red/White Tr.	3 Red 4 Green (GND)			889R-F4AEA-2
3-pin right angle	1 Green (GND) 2 Red/Black Tr.	3 Red/White Tr.			889R-R3AEA-2
4-pin right angle	1 Red/Black Tr. 2 Red/White Tr.	3 Red 4 Green (GND)			889R-R4AEA-2
5-pin straight	1 Red/White Tr. 2 Red 3 Green	4 Red/Yellow Tr. 5 Red/Black Tr.			889R-F5AEA-2
6-pin straight	1 Red/White Tr. 2 Red 3 Green	4 Red/Yellow Tr. 5 Red/Black Tr. 6 Red/Blue Tr.	Braided 22 AWG 250V 4 A		889R-F6ECA-2

Patchcords

Female (Sensor End) Connector Style	Male (I/O End) Connector Style	Cable		Cat. No.
		Assembly Rating	Length [m (ft)]	
3-pin straight	3-pin straight	18 AWG, 250V, 4 A	2 (6.5)	889R-F3AERM-2

[1] Replace the 2 after the dash with 1, 5, or 10 for additional lengths in meters.



Mini Cordsets
889N

- 3-, 4-, and 5-pin connectors
- Straight or right angle versions
- Heavy duty STOOW 16 AWG cable
- Oil-resistant yellow PVC jacket

Product Selection

Cordsets

Female Connector Style	Wire Rating	Length [m (ft)]	Cat. No. [1]	
			IEC	US
3-pin straight	16 AWG, 600V, 13 A	1.8 (6)	–	889N-F3AFC-6F
4-pin straight	16 AWG, 600V, 10 A	1.8 (6)	889N-F4AF-6F	889N-F4AFC-6F
5-pin straight	16 AWG, 600V, 8 A	1.8 (6)	889N-F5AF-6F	889N-F5AFC-6F
3-pin right angle	16 AWG, 600V, 13 A	1.8 (6)	–	889N-R3AFC-6F
4-pin right angle	16 AWG, 600V, 10 A	1.8 (6)	889N-R4AF-6F	889N-R4AFC-6F
5-pin right angle	16 AWG, 600V, 8 A	1.8 (6)	889N-R5AF-6F	889N-R5AFC-6F

[1] Replace the 6F after the dash with 12F or 20F for additional lengths in feet.

Color Code

	3-pin	4-pin	5-pin
US	1 Green 2 Black 3 White	1 Black 2 White 3 Red 4 Green	1 White 2 Red 3 Green 4 Orange 5 Black
IEC	–	1 Black 2 Blue 3 Brown 4 White	1 Black 2 Blue 3 Orange 4 Brown 5 White



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

Terminal Blocks
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Wiring Systems
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Signal Interface
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Connection Systems
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Safety Connection Systems
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Network Media
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Pico Cordsets & Patchcords 889P

- 3- or 4-pin connectors
- Straight or right angle female
- Standard 24 AWG cable
- Oil-resistant yellow PVC jacket



Product Selection

Cordsets

Female (Sensor End) Connector Style	Cable			Cat. No. [1]
	Wire Color	Wire Rating	Length [m (ft)]	
3-pin straight	1 Brown 3 Blue 4 Black	24 AWG 60V AC/75V DC 4 A	2 (6.5)	889P-F3AB-2
3-pin right angle			2 (6.5)	889P-R3AB-2
4-pin straight	1 Brown 2 White 3 Blue 4 Black		2 (6.5)	889P-F4AB-2

[1] Replace the 2 after the dash with 5 or 10 for additional lengths in meters.

Patchcords

Female (Sensor End) Connector Style	Male Connector (I/O End) Connector Style	Cable		Cat. No. [2]
		Wire Rating	Length [m (ft)]	
3-pin straight	3-pin straight	24 AWG 60V AC/75V DC 4 A	1 (3.3)	889P-F3ABPM-1

[2] Replace the 1 after the dash with 2, 5, or 10 for additional lengths in meters.



DC Micro & Pico Distribution Boxes 898D & 898P

- 4-pin DC micro or 3- pin pico connectors
- Top mount inputs
- 4- or 8-port parallel wired
- PNP wired LED versions
- Single input per port
- Prewired master cable
- Rugged grey Pocan® body

Product Selection

Style	No. of Connections	Illuminated	Operating Voltage/ Supply Current	Cable Length [m (ft)]	Cat. No.
DC Micro	4	PNP LED	10…30V DC 2 A max./port 10 A max. total	5 (16.4)	898D-P54PT-B5
				10 (32.8)	898D-P54PT-B10
	8			5 (16.4)	898D-P58PT-B5
				10 (32.8)	898D-P58PT-B10
Pico	4		10…30V DC 2 A max./port 6 A max. total	5 (16.4)	898P-P34PT-B5
	8				898P-P38PT-B5

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



Terminal Blocks

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Wiring Systems

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Network Media

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Terminal Chambers & IDC Connectors 871A, 889D, 889P

- 4-pin micro or 3-pin pico connector
- Male and female versions
- Screw terminal
- Supports cable O.D. 4…8 mm



Product Selection

Terminal Chamber

Description	Type	Connector Style	Jacket Cable Diameter [mm (in.)]	Wire Rating	Cat. No.
DC Micro	Female	4-pin straight	4.0…6.0 (0.16…0.24)	250V, 4 A	871A-TS4-D
			6.0…8.0 (0.24…0.32)		871A-TS4-D1
			4.0…6.0 (0.16…0.24)		871A-TS4-DM
			6.0…8.0 (0.24…0.32)		871A-TS4-DM1

IDC Connector

Description	Type	Connector Style	Jacket Cable Diameter [mm (in.)]	Wire Rating	Cat. No.
DC Micro	Female	4-pin straight	4.0…5.1 (0.16…0.20)	32V, 4 A	889D-F4DC-H
	Male				889D-M4DC-H
Pico	Female	3-pin straight	4.0…5.1 (0.16…0.20)	32V, 3 A	889P-F3DC-H
	Male				889P-M3DC-H

For more information on our complete family of connection device products, please visit:
http://ab.rockwellautomation.com/Connection-Devices



DC Micro & AC Micro Receptacles 888D & 888R

- Male and female versions
- 1/2 inch NPT threads
- 22 AWG conductors
- Rugged anodized aluminum body

Product Selection

DC Micro Style

Type	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Cat. No.
4-pin female	1 Brown 2 White 3 Blue 4 Black	22 AWG 250V 4 A	0.3 (1)	1/2 in.-14 NPT	888D-F4AC1-0M3
4-pin male					888D-M4AC1-0M3
5-pin female	1 Brown 2 White 3 Blue 4 Black 5 Grey				888D-F5AC1-0M3
5-pin female					888D-M5AC1-0M3

AC Micro Style

Connector Style	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Cat. No.
3-pin female	1 Green (GND) 2 Red/Black Tr. 3 Red/White Tr.	22 AWG 250V 4 A	0.3 (1)	1/2 in.-14 NPT	888R-F3AC1-1F
3-pin male					888R-M3AC1-1F
4-pin female	1 Red/Black Tr. 2 Red/White Tr. 3 Red 4 Green (GND)	22 AWG 300V 3 A			888R-F4AC1-1F
4-pin male					888R-M4AC1-1F

Mini & Pico Receptacles
888N & 888P

- Male and female versions
- Heavy-duty 16 AWG conductors (mini)
- 24 AWG conductors (pico)
- Black epoxy-coated aluminum body (mini)
- Rugged nickel-plated brass body (pico)



Product Selection

Mini Style (US Color Code)

Connector Style	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Cat. No.
3-pin female	1 Green 2 Black 3 White	16 AWG 600V 13 A	0.3 (1)	1/2 in.-14 NPT	888N-F3AF1-1F
3-pin male					888N-M3AF1-1F
4-pin female	1 Black 2 White 3 Red 4 Green	16 AWG 600V 10 A			888N-F4AF1-1F
4-pin male					888N-M4AF1-1F
5-pin female	1 White 2 Red 3 Green 4 Orange 5 Black	16 AWG 600V 8 A			888N-F5AF1-1F
5-pin male					888N-M5AF1-1F

Pico Style

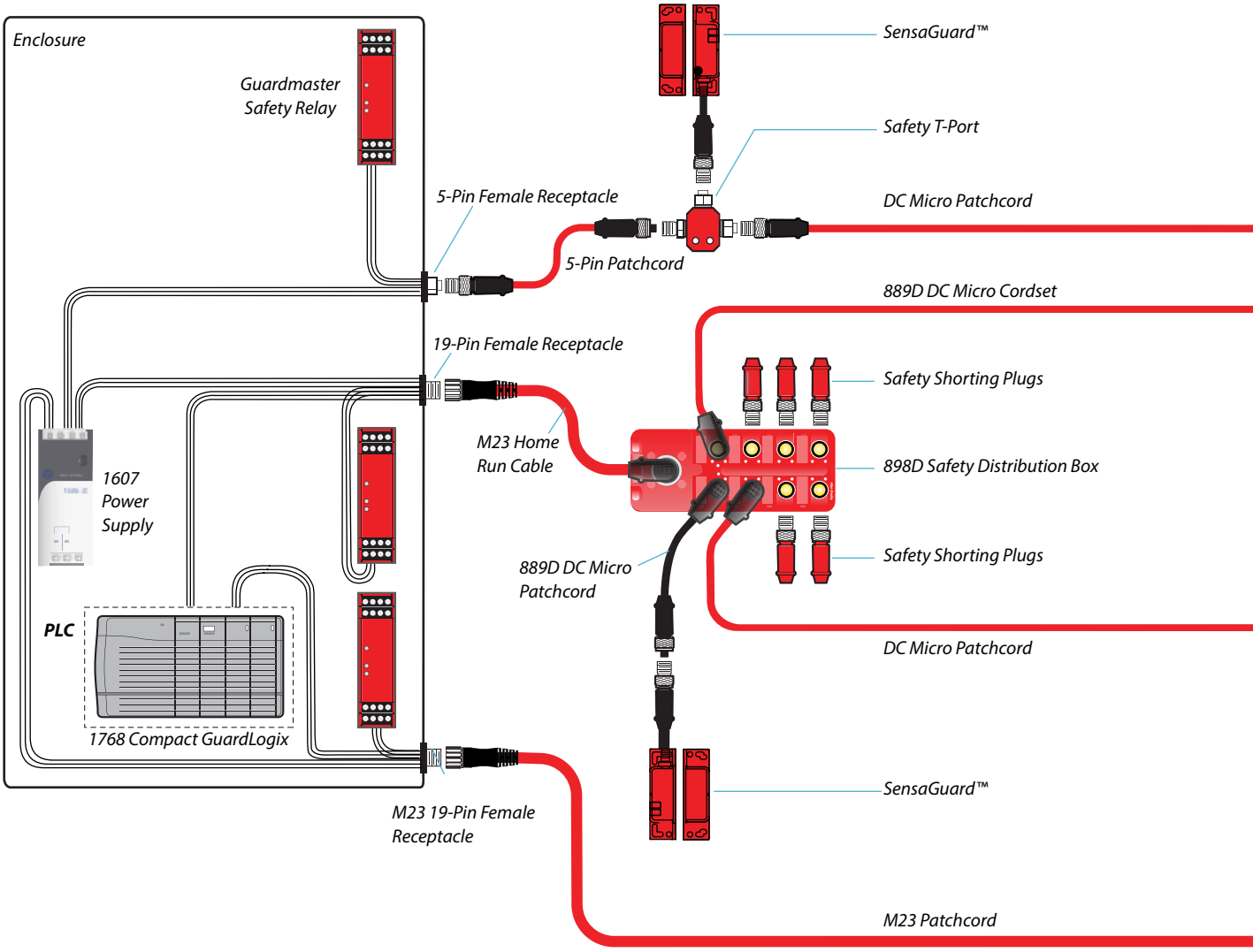
Connector Style	Wire Color	Wire Rating	Length [m (ft)]	Panel Mount Thread Size	Cat. No.
3-pin female	1 Brown 3 Blue 4 Black	24 AWG 60V AC/75V DC 4 A	0.3 (1)	M8 x 0.5	888P-F3AB4-0M3
3-pin male					888P-M3AB4-0M3
4-pin female	1 Brown 2 White 3 Blue 4 Black				888P-F4AB4-0M3
4-pin male					888P-M4AB4-0M3

For more information on our complete family of connection device products, please visit:
http://ab.rockwellautomation.com/Connection-Devices

Safety Connection Systems

Safety Connectivity

Allen-Bradley safety connection systems offer a complete wiring solution dedicated to machine safety.



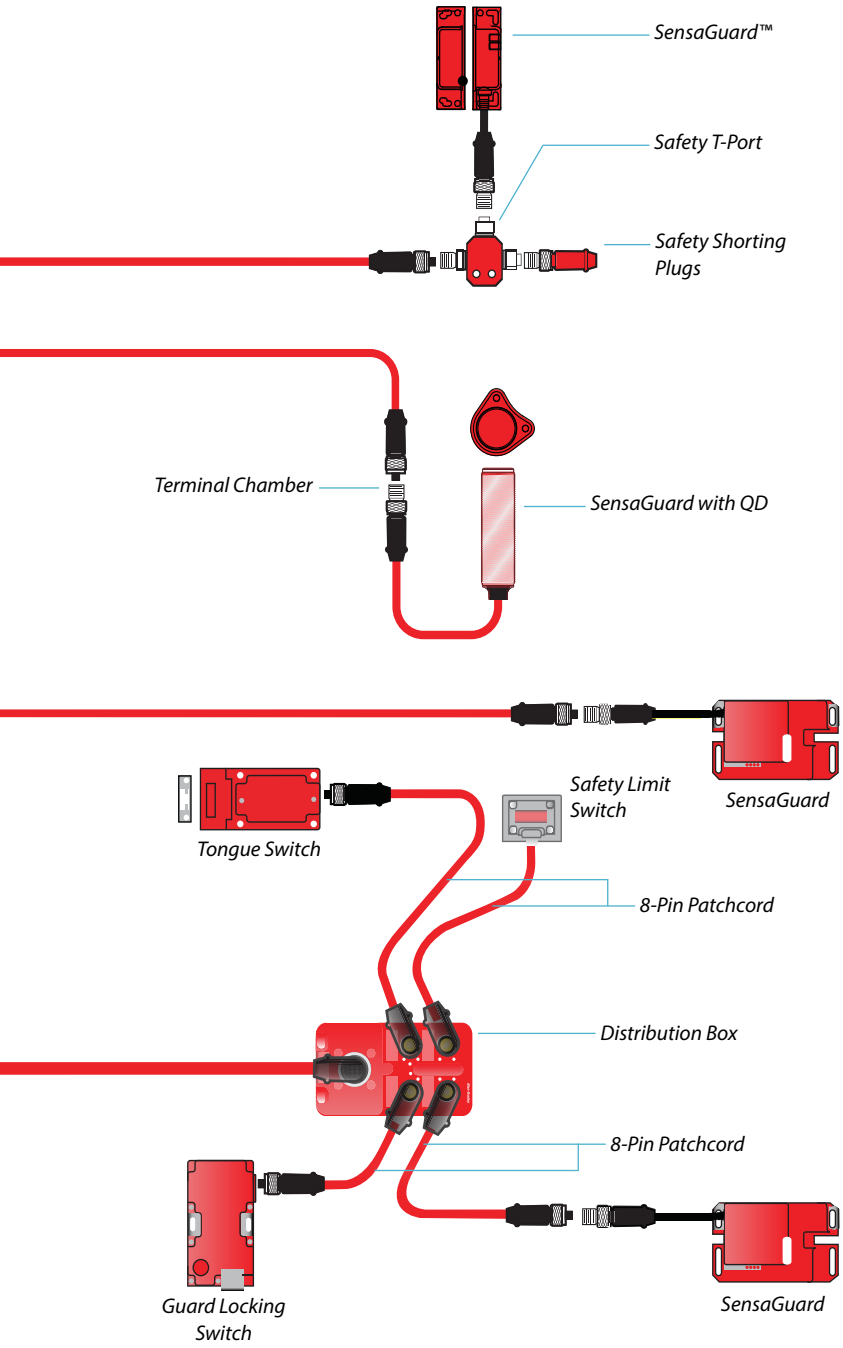
On-Machine™ Solutions

Reduce costs, accelerate startup and boost reliability.

www.rockwellautomation.com/products-technologies/on-machine-solutions/overview.page

Application

Safety Connectivity is suited for compact machines with a limited number of safety components using safety relays for monitoring.



Allen-Bradley Guardmaster safety connection systems are complete quick-disconnect wiring solutions dedicated to machine safety.

Components

- Safety-wired T-ports
- Safety-wired distribution boxes
- Safety-wired shorting plugs
- Patchcords
- Receptacles

Connector Options

- DC Micro (M12)
- M23

Flexible and reliable connections for safety

- Interlock switches
- Safety limit switches
- Cable pull switches
- Guard locking switches
- SensaGuard
- E-Stops
- Safety relays
- Safety mats

Not Suitable For

- Pressure-sensitive safety edges

Notes

- Designed to simplify the installation of safety devices
- Reduced installation costs, simplified expansion and troubleshooting, increased modularity
- Single- or dual-channel options with or without enunciation
- Enunciation systems allow direct feedback on individual systems in the system and provide an auxiliary contact as input for tower lights, audible alarms, PLC input cards, etc.
- Shorting plugs must be installed in all unused distribution box ports for the system to operate

For more information on our complete family of safety connection device products, please visit:
http://ab.rockwellautomation.com/Connection-Devices

Safety Connection Systems



Safety Distribution Boxes 898D & 898R

- Prewired for compatibility with safety dual-channel and three-channel switches
- For use in Cat 2, 3, or 4 systems per EN 954-1 and up to SIL3 per EN 13849-1
- Enunciation models identify open contacts via LEDs on box and discrete wire in home-run connection

Product Selection – Safety Wired Distribution Box

Dual-Channel

Safety Switch Configuration	Enunciation	Connection Type	No. of Ports	Home Run Connection	Cat. No.
2 N.C.	No	4-pin DC micro	4	DC micro pigtail, 200 mm (7.87 in.)	898D-44LT-DM4
					898D-48LT-DM4
1 N.C. & 1 N.O. for Enunciation	Yes	4-pin DC micro	8	Cable, 5 m (16.4 ft)	898D-P48JT-A5
				Cable, 10 m (32.8 ft)	898D-P48JT-A10
2 N.C. & 1 N.O. for Enunciation	Yes	6-pin AC micro	8	Cable, 5 m (16.4 ft)	898R-P68MT-A5
				Cable, 10 m (32.8 ft)	898R-P68MT-A10
2 OSSD [1]	Yes	8-pin DC micro	4	M23, 19-pin	898D-P84RT-M19
			8		898D-P88RT-M19

[1] SensaGuard compatible.

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Safety Wired T-Port & Shorting Plug 898D & 898R

Safety Wired T-Port

- T-Port/splitter designed for use with dual-channel safety devices with four-pin DC micro connector
- For use in Cat 2 or 3 systems per EN 954-1
- SensaGuard™ units may be wired in series maintaining a Cat 4/SIL3 rating

Safety Wired Shorting Plug

- Shorting plug designed for use with safety-wired distribution boxes
- Ratcheting coupling nut on four-pin models for vibration resistance



Product Selection – Safety Wired T-Port

DC Micro Style (Dual-Channel, No Enunciation)

Configuration	Female QD (2 Ports)	Male QD (1 Port)	Cat. No.
2 N.C.	4-pin DC micro	4-pin DC micro	898D-43LY-D4
1 N.O. & 1 N.C.			898D-43KY-D4
For use with SensaGuard switches only		8-pin DC micro	898D-438Y-D8

Product Selection – Safety Wired Shorting Plug

DC & AC Micro Style

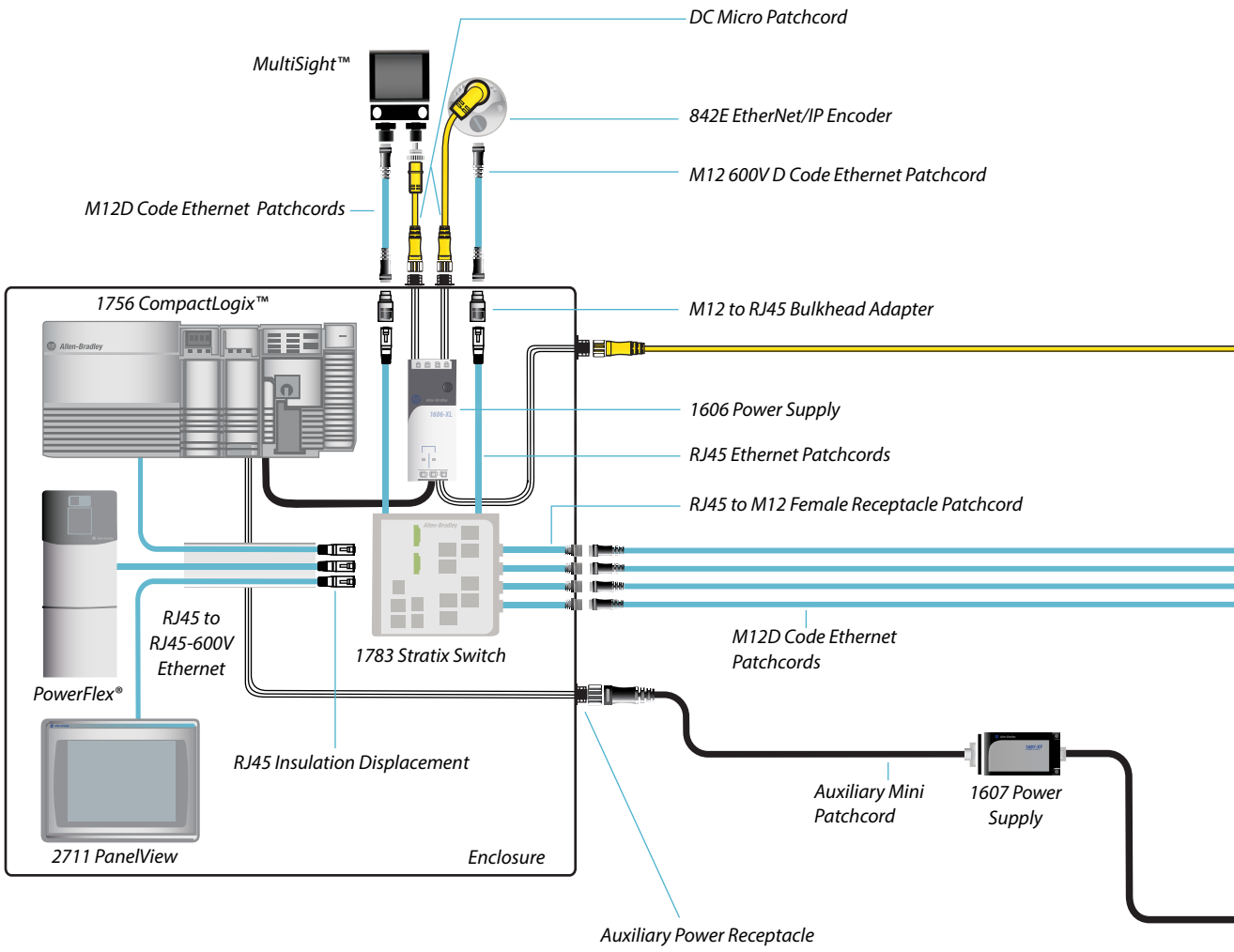
Safety Switch Configuration	Male QD	Coupling Nut Material	Cat. No.
2 N.C.	4-pin DC micro	Epoxy-coated zinc	898D-41LU-DM
1 N.O. & 1 N.C.			898D-41KU-DM
2 N.C. & 1 N.O.	6-pin DC micro	Nickel-plated brass	898R-61MU-RM
For use with SensaGuard compatible T-Ports only	4-pin DC micro		898D-418U-DM
2 OSSD	8-pin DC micro		898D-81RU-DM
2 OSSD with 24V DC connected to Aux. input			898D-81RU-DM2

For more information on our complete family of safety connection device products, please visit:
http://ab.rockwellautomation.com/Connection-Devices

Network Media

Industrial Ethernet Connectivity

We offer a complete portfolio of industrial-grade Ethernet physical media specifically designed for use in harsh environments.





Sales Offices and Distributors

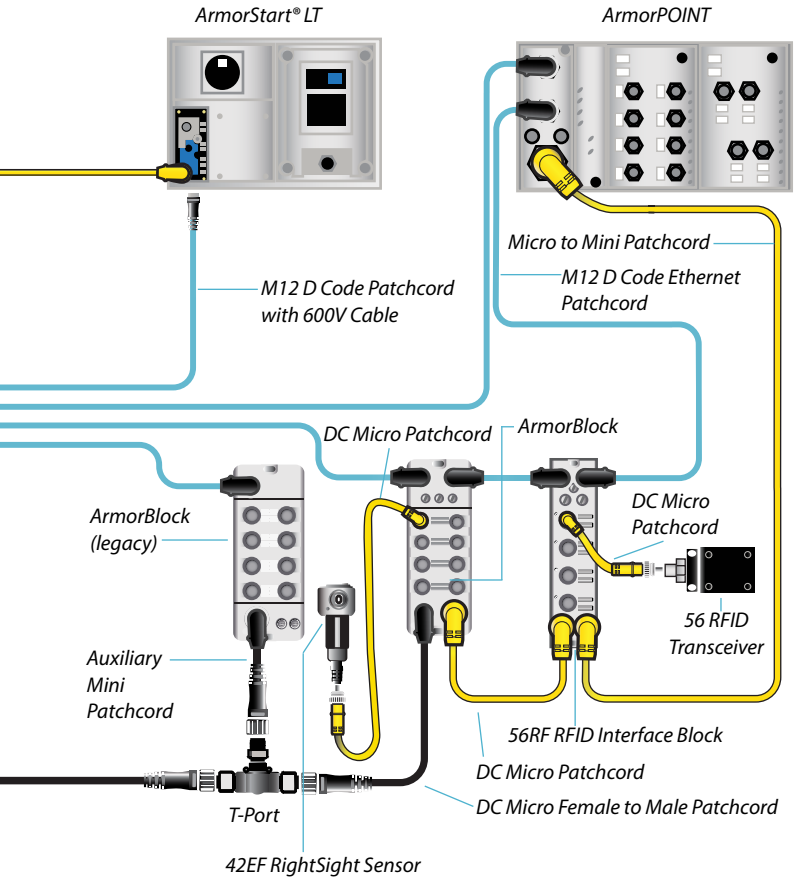
Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page

Application

Ethernet Network Connectivity is ideal for highly distributed machines that require extensive diagnostics at the PLC.

Terminal Blocks 4-2…4-21
Wiring Systems 4-22…4-23
Signal Interface 4-24…4-27
Connection Systems 4-28…4-37
Safety Connection Systems 4-38…4-41
Network Media 4-42…4-49



Allen-Bradley Ethernet media components combine specially-designed cable with rugged connector construction to preserve network integrity and performance.

Components

- Cordsets and patchcords
- Receptacles/outlets
- Bulkhead adapters
- Raw cable spools
- Field-attachable connectors

Connector Options

- RJ45 (IP20) • M12 D-Coded (IP67) • Variant 1 (IP67)

Two- or four-pair shielded and unshielded cable options in multiple cable jackets:

- Two-pair for 10/100 BaseT and On-Machine applications
- Four-pair for backbone and uplink ports or any areas requiring data rates greater then 100 BaseT Interlock switches
- PVC Cable – General purpose applications
- PUR Cable – High flex, Halogen-free
- TPE Cable – High flex applications
- Plenum Cable – Air handling applications
- 600V PVC – Use in cable trays with up to 600V rated cables

Notes

- Allen-Bradley Ethernet media is designed to ODVA EtherNet/IP™ standards for enhanced performance in industrial applications
- The 600V rated cable has a 600V AWM rating as well as PLTC (Power Limited Tray Cable) – NEC Type PLTC Listed, which is approved for cable tray use in Class 1, Division 2, hazardous areas and nonhazardous areas, cable trays, raceways, conduit and supported by messenger wires
- Transition from inside the cabinet to on-machine can be accomplished with an RJ45-to-M12 bulkhead adapter or an RJ45-to-M12 female panel mount patchcord. Both solutions provide a sealed solution mounted on to the cabinet and enables as easy transition from IP20 to IP67
- High flex cables rated to 10 million flexing cables

For more information on our complete family of network media products, please visit:
http://ab.rockwellautomation.com/Connection-Devices/Network-Media



Ethernet Media Cable Spools 1585

- Four- and eight-conductor styles
- 24 AWG conductors, Cat 5e
- Twisted pairs maintain signal balance through cable to provide high noise immunity without need for shield
- Designed to ODVA EtherNet/IP™ specifications and ISO IEC 24702, IEC 61918
- Suitable in noise environments $M^3I^3C^3E^3$
- Robotic cables are flex rated, rated to 10 million cycles

Product Selection

Cable Spools

Cable Type	No. of Conductors	Nominal Outer Diameter	Jacket Color	Color Code	Cable Rating	Cat. No. [1]
Unshielded riser PVC	8 (four pair)	5.84 mm (0.23 in.)	Teal	White/Orange, Orange, White/Green, Blue, White/Blue, Green, White/Brown, Brown	UL CMR; cUL CMG; Standard TIA 568-B	1585-C8PB-S100
Unshielded robotic TPE	4 (two pair)	5.6 mm (0.22 in.)	Teal	White/Orange, White/Green, Orange, Green	Weld splatter, sunlight, and oil resistant; UL CM, CMX; cUL CM; Standard TIA 568-B, high flex rated	1585-C4TB-S100
	8 (four pair)	5.84 mm (0.23 in.)	Teal	White/Orange, Orange, White/Green, Blue, White/Blue, Green, White/Brown, Brown	Weld splatter, sunlight and oil resistant; UL CM, CMX; cUL CM; Standard TIA 568-B, high flex rated	1585-C8TB-S100
Foil and braided shield robotic PUR	8 (four pair)	6.2 ± 12 mm (0.244 in.)	Teal	–	C(ETL)US TYPE CMX; TIA 568-B, Flex rated, Halogen- Free	1585-C8UB-S100
Foil and braided shield robotic PUR	4 (two pair)	–	Teal	–	C(ETL)US TYPE CMX; TIA 568-B, Flex rated, Halogen- Free	1585-C4UB-S100
Foil and braided shield 600V PVC	8 (four pair)	8.13 ±0.38 mm (0.32 in.)	Teal	–	(UL) CMX, CMR; c(UL) CMG; (UL) PLTC or AWM 257080 °C 600V; TIA-568- B	1585-C8HB-S100

[1] Replace **S100** with **S300** (300 m) or **S600** (600 m) for additional cable lengths.

Ethernet M12 D Code Cordsets & Patchcords 1585D

- Industrial-grade overmolded IP67 cable
- Flex-rated to 10 million cycles
- Single-ended cordsets can be custom terminated with one of several field-attachable connectors
- Designed to ODVA EtherNet/IP specifications and ISO IEC 24702, IEC 61918
- Twisted pairs provide high noise immunity
- Suitable for noise environments $M^3I^3C^3E^3$
- Cat 5e



Product Selection

M12 D Code Cordsets

Cable Style	First End Connector	Second End Connector	Cat. No. [1]
TPE, high flex, unshielded	Male M12 D-code, straight	Flying leads	1585D-M4TB-2
PUR, foil and braided shield, high flex, halogen free			1585D-M4UB-2
PVC, 600V rated, foil shield			1585D-M4HB-2

M12 D Code Patchcords

Cable Style	First End Connector	Second End Connector	Cat. No. [1]
TPE, high flex, unshielded	Male M12 D-code, straight	Male M12 D-code, straight	1585D-M4TBDM-2
	Male M12 D-code, right angle	Male M12 D-code, right angle	1585D-E4TBDE-2
	Male M12 D-code, straight	Male M12 D-code, right angle	1585D-M4TBDE-2
	Male M12 D-code, straight	Female M12 D-code, straight	1585D-M4TBDF-2
PUR, foil and braided shield, high flex, halogen free	Male M12 D-code, straight	Male M12 D-code, straight	1585D-M4UBDM-2
	Male M12 D-code, right angle	Male M12 D-code, right angle	1585D-E4UBDE-2
	Male M12 D-code, straight	Male M12 D-code, right angle	1585D-M4UBDE-2
	Male M12 D-code, straight	Female M12 D-code, straight	1585D-M4UBDF-2
PVC, 600V rated, foil shield	Male M12 D-code, straight	Male M12 D-code, straight	1585D-M4HBDM-2
	Male M12 D-code, right angle	Male M12 D-code, right angle	1585D-E4HBDE-2
	Male M12 D-code, straight	Male M12 D-code, right angle	1585D-M4HBDE-2
	Male M12 D-code, straight	Female M12 D-code, straight	1585D-M4HBDF-2
TPE, high flex, unshielded	Male M12 D-code, straight	RJ45, straight	1585D-M4TBJM-2
PUR, foil and braided shield, high flex, halogen free			1585D-M4UBJM-2
PVC, 600V rated, foil shield			1585D-M4HBJM-2

[1] Replace **2** (2 m) with **1** (1 m), **5** (5 m), or **10** (10 m) for additional standard cable lengths. Other standard and build-to-order lengths are available. Contact your local Rockwell Automation sales office or Allen-Bradley distributor for details.

For more information on our complete family of network media products, please visit:
http://ab.rockwellautomation.com/Connection-Devices/Network-Media



Ethernet RJ45 Cordsets & Patchcords 1585J

- PVC riser and flex-rated TPE and PUR cables for various applications
- Teal cable jacket
- Rugged strain relief and hitch mechanism to maintain network integrity
- Suitable environments $M^3I^3C^3E^3$
- Unshielded, #24 AWG
- Flex rated to 10 million cycles
- Cat 5e

Product Selection

RJ45 Cordsets

No. of Conductors	Jacket Material	Shielding	Cat. No. [1]
4	Teal high-flex TPE	Unshielded twisted pair	1585J-M4TB-2
8	Teal high-flex TPE		1585J-M8TB-2
8	Teal riser PVC		1585J-M8PB-2
8	Teal riser PVC	Foil and braided shield	1585J-M8CB-2
4	Teal high-flex PUR		1585J-M4UB-2
8	Teal high-flex PUR		1585J-M8UB-2
8	Teal 600V PVC	Foil shield	1585J-M8HB-2

RJ45 Patchcords

No. of Conductors	Jacket Material	Cable Type	Cable Rating	Cat. No. [1]
4	Teal high-flex, TPE	Unshielded twisted pair	Weld splatter, sun light and oil resistant; UL CMG, CMX; cUL CMG; Standard TIA 568-B, flex rated	1585J-M4TBJM-2
8	Teal high-flex, TPE			1585J-M8TBJM-2
	Teal riser, PVC		UL CMR; cUL CMG; Standard TIA 568-B	1585J-M8PBJM-2
4	Teal high-flex, PUR	Braid over foil shield	C(ETL)US TYPE CMX; TIA 568-B, flex-rated, halogen-free	1585J-M4UBJM-2
8	Teal riser, PVC		UL CMR; CUR CMG, TIA B	1585J-M8CBJM-2
	Teal high-flex, PUR		C(ETL)US TYPE CMX; TIA 568-B, flex-rated, halogen-free	1585J-M8UBJM-2
	Teal 600V, PVC	Foil shield	(UL) CMX, CMR; c(UL) CMG; (UL) PLTC or AWM 2570 80 °C 600V; TIA-568-B	1585J-M8HBJM-2

[1] Replace **2** (2 m) with **1** (1 m), **5** (5 m), or **10** (10 m) for additional standard cable lengths. Other standard and build-to-order lengths are available. Contact your local Rockwell Automation sales office or Allen-Bradley distributor for details.

Ethernet Accessories
1585D, 1585A, & 1585J

- Field-installable accessories for easy cabling modification
- For use with raw cable or single-ended cordsets
- M12 and RJ45 styles
- M12 to RJ45 adapter for bulkhead installation



Product Selection

M12 Insulation Displacement Connector

No. of Pins	Connector Material	Cable Diameter [mm (in.)]	Wire Size	Assembly Rating	Connector Style	Cat. No.
4	Polyamide small body unshielded	4.0…5.1 (0.16…0.20)	#26…22 AWG	32V, 4 A	Straight male	1585D-M4DC-H
	Zinc die-cast large body shielded	5.5…7.2 (0.22…0.28)	#24…22 AWG		Straight female	1585D-F4DC-SH
					Straight male	1585D-M4DC-SH

Field Attachable RJ45 Connectors

Description	Material	Insulation Material	Contact Material	Channel Bandwidth	Cat. No.
RJ45 insulation displacement connector (IDC)	Diecast zinc	Plastic	Gold-plated copper alloy	Cat 6	1585J-M8CC-H

4-pin, M12 Receptacle & M12 to RJ45 Adapter

Description	Mounting	Assembly Rating	Cat. No.
Female M12 receptacle to RJ45 female adapter right angle	PG 9 panel mount threads	32V, 4 A	1585A-DD4JD

For more information on our complete family of network media products, please visit:
http://ab.rockwellautomation.com/Connection-Devices/Network-Media

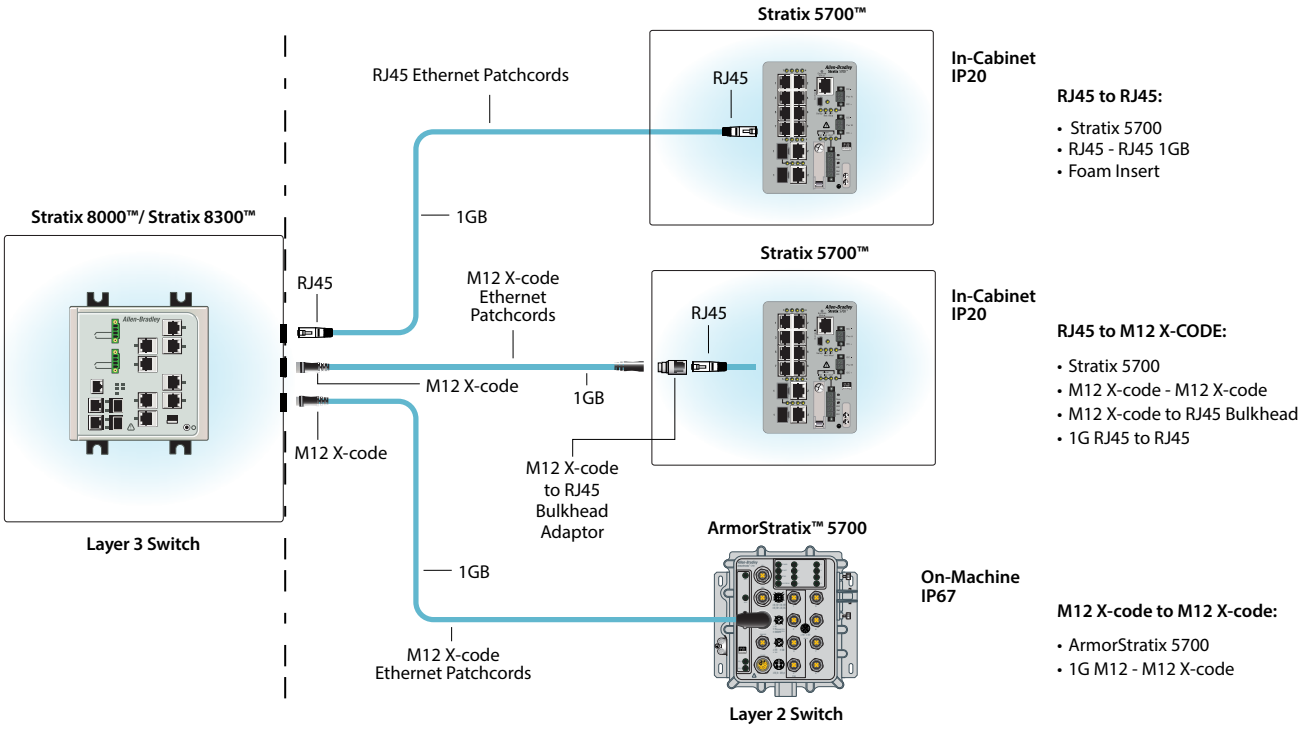


Gigabit Ethernet Connectivity 1585D/1585J

- Ethernet speeds of 1 Gigabit per second
- 360 degree shield for optimal signal performance without system noise interference
- Cat 6, UL Listed. Conforms to ISO IEC 11801, ANSI/TIA-1005, TIA-568-C.2.
- Flex-rated TPE cables for various applications.
- M12 feature X-code key alignment and are IP67 and $M_3I_3C_3E_3$ rated
- RJ45 features ideal 1p20 industrial applications and $M_1I_1C_2E_2$

Innovative Connectivity for Demanding High-speed Data Transfer in Industrial Applications

Our Ethernet media connects with Allen-Bradley Stratix™ Ethernet switches, programmable controllers, PanelView™ graphic terminals and drives.



Terminal Blocks
4-2…4-21

Wiring Systems
4-22…4-23

Signal Interface
4-24…4-27

Connection Systems
4-28…4-37

Safety Connection Systems
4-38…4-41

Network Media
4-42…4-49

Product Selection

RJ45 Gigabit Cordset

Shielding	Connector Style	Cable Type	Cable Length	Cat. No.*
Foil and braided shield	Straight male	8-conductor, teal high-flex TPE	2 m (6.56 ft)	1585J-M8TG-2
Foil and braided shield	Right angle male	8-conductor, teal high-flex TPE	2 m (6.56 ft)	1585J-E8TG-2

RJ45 Gigabit Patchcords

Shielding	Connector Style	Cable Type	Cable Length	Cat. No.*
Foil and braided shield	RJ45 straight male	8-conductor (4 pair), teal high-flex TPE	2 m (6.56 ft)	1585J-M8TGJM-2
Foil and braided shield	RJ45 straight male to right angle male	8-conductor (4 pair), teal high-flex TPE	2 m (6.56 ft)	1585J-M8TGJE-2
Foil and braided shield	RJ45 right angle male to right angle male	8-conductor (4 pair), teal high-flex TPE	2 m (6.56 ft)	1585J-E8TGJE-2

* Replace -2 (6.56 ft) with 5 (16.4 ft) or 10 m (32.8 ft) for additional standard cable lengths.

M12 X-code to M12 X-code Patchcords

Shielding	Connector Style	Cable Type	Cable Length	Cat. No.*
Foil and braided shield	Straight male	Shielded teal PUR, 4 twisted pairs, 26 AWG, Industrial Cat 6, UL Listed, sun light and oil resistant	1 m (3.28 ft)	1585D-M8UGDM-1

M12 X-code to RJ45 Patchcord

Shielding	Connector Style	Cable Type	Cable Length	Cat. No.**
Foil and braided shield	Straight male	Shielded teal PUR, 4 twisted pairs, 26 AWG, Industrial Cat 6, UL Listed, sun light and oil resistant	1 m (3.28 ft)	1585D-M8UGJM-1

** Replace -1 (desired length in meters i.e., 1585D-M8UGDM-1 for a 1 m (3.28 ft) cable) with 2 m (6.56 ft), 3 m (9.84 ft), 4 m (13.1 ft), 5 m (16.4 ft), 10 m (32.8 ft), 15 m (49.5 ft), 20 m (65.6 ft), 30 m (98.42 ft), or 40 m (131.23 ft) for additional standard cable lengths.

Accessories

Description	Cat. No.
Female M12 X-code receptacle to RJ45 female adaptor right angle	1585A-DD8JD

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http://ab.rockwellautomation.com/Connection-Devices/Network-Media

Additional Connectivity Products



DeviceNet Media

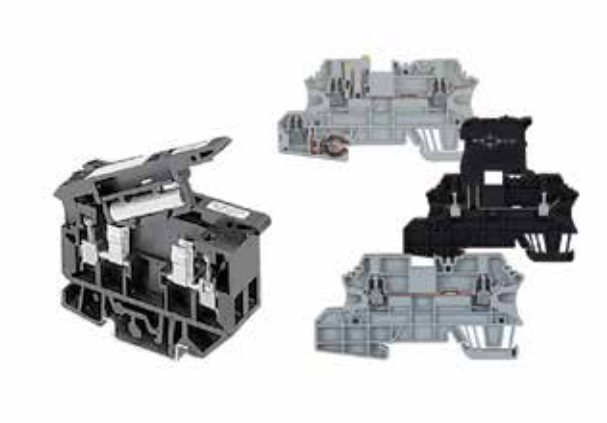
Used as the backbone for your DeviceNet network, our media includes multiple trunk and drop cable solutions to best suit your topology.

- Choose from traditional round media or time-saving KwikLink™ flat media
- Options for IP20 and IP67 applications
- Available in bulk spools or pre-molded cordsets or patchcords
- DeviceNet media tools help simplify your network installation and diagnostics

NEMA and Process Terminal Blocks 1492, 1492JP

The 1492 family of NEMA terminal blocks offer easy wiring with standard size screwdrivers, easy visual verification of proper wire position and easy marking.

1492-JP process terminal blocks are designed specifically for process marshalling applications to save 45% panel space and improve the performance of signal routing and distribution.





Product Catalog iPad App

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Now available in the iTunes App Store, the Rockwell Automation Product Catalog iPad app allows you the convenience to browse or search our comprehensive product offering from your iPad.

Available on the App Store

Terminal Blocks	Wiring Systems	Signal Interface	Connection Systems	Safety Connection Systems	Network Media
					
4-2…4-21	4-22…4-23	4-24…4-27	4-28…4-37	4-38…4-41	4-42…4-49



Presence Sensing Safety Devices

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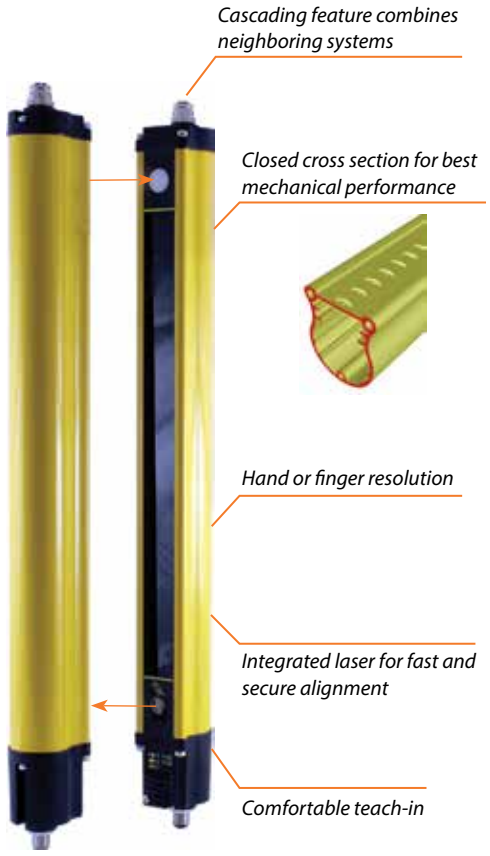
Additional Safety Products 5-48

Presence Sensing Safety Devices



GuardShield POC Type 4 440L

- Point of Operation Control (POC) for finger or hand protection
- Heavy-duty IP65 housing
- Large operating range 0.3…16 m (0.98…52.49 ft)
- Dip switch selectable functions: blanking (including teach-in), beam coding, EDM (External Device Monitoring), and start mode
- Available options: cascading, integrated laser alignment, ArmorBlock® Guard I/O™ connectivity



A Robust Solution for Finger and Hand Detection

GuardShield safety light curtains offer an extraordinary robustness against high-mechanical impacts. The unique profile design is a perfect solution for heavy duty applications. An integrated laser feature allows for easy set up and a comfortable control of the alignment. With these features this product provides the highest reliability.



Product Selection

GuardShield POC Type 4

	Cat. No. [1]	
Description	**Finger Resolution (14 mm)**	**Hand Resolution (30 mm)**
GuardShield Type 4	440L-P4JxxxxYD	440L-P4KxxxxYD
GuardShield Type 4 with laser	440L-P4JLxxxxYD	440L-P4KLxxxxYD
GuardShield Type 4 cascading	440L-C4JxxxxYD [2]	440L-C4KxxxxYD [2]
GuardShield Type 4 cascading with laser	440L-C4JLxxxxYD [2]	440L-C4KLxxxxYD [2]
GuardShield Type 4 Teach-in	440L-S4JxxxxYR	440L-S4KxxxxYR
GuardShield Type 4 Armor with laser	440L-P4JLxxxxYA	440L-P4KLxxxxYA

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 160 mm height, replace the **xxxx** with **0160** (440L-P4K**0160**YD), or for 1760 mm height, replace **xxxx** with **1760** (440L-P4K**1760**YD).

[2] Models are available in protective heights from 160…1600 mm (6.3…63 in.) in 160 mm (6.3 in.) increments.

Specifications

Standards	Type 4 (IEC 61496), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.5 A)
Enclosure Rating	IP65
Cross Section	40 x 50 mm (1.57 x 1.96 in.)
Scanning Range	Finger: 0.3…7 m (0.98…22.9 ft) Hand: 0.3…16 m (0.98…52 ft)



Need Help?

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www.rockwellautomation.com/support/overview.page

Required Cordsets & Accessories

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [3]
8-pin straight receiver cable	889D-F8AB-2 [3]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [1]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [1]
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [4]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [4]
Muting box	445L-AMUTBOX1

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 160 mm height, replace the **xxxx** with **0160** (440L-P4K**0160**YD), or for 1760 mm height, replace **xxxx** with **1760** (440L-P4K**1760**YD).

[3] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for available lengths in meters.

[4] yyyy = mirror length in mm

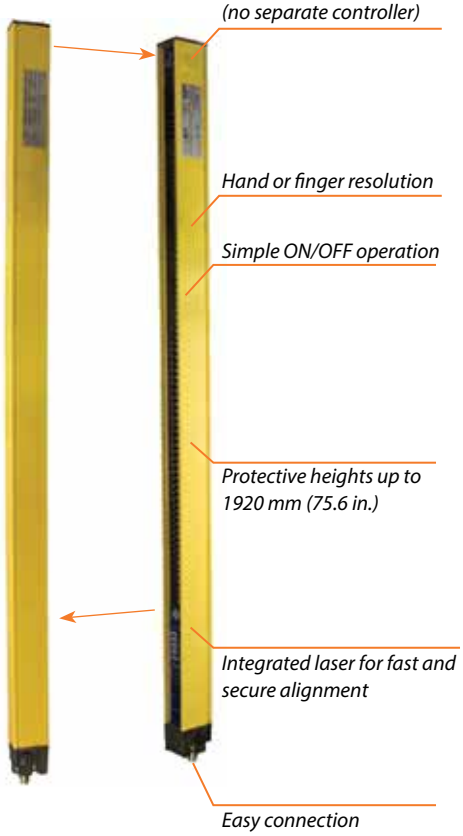
For more information on our complete family of presence sensing safety device products, please visit:
http://ab.rockwellautomation.com/Safety

Presence Sensing Safety Devices



GuardShield POC Safe 4 445L

- Point of Operation Control (POC) for finger or hand protection
- Economical two-box system (no separate controller)
- Simple ON/OFF functionality
- Robust IP65 housing
- Integrated laser alignment system
- Large operating range
- Finger and hand resolution
- TÜV certified



Reliable Point of Operation Control with Long Range

Safe 4 safety light curtains are simple ON/OFF, robust, industrial point of operation controls (POC). Individual protective fields are available in both finger (14 mm) and hand (30 mm) resolution. An integrated laser feature allows for easy setup and confirmation of the alignment during operation. The ideal solution for long-range applications.

Typical Application



Presence Sensing Devices
5-2…5-17

Interlock Switches

5-18…5-33

Access Control

5-34…5-35

Safety Relays

5-36…5-41

Emergency Stop Devices

5-42…5-43

Enabling Switches

5-44…5-45

Safety Limit Switches

5-46…5-47

Product Selection

GuardShield POC Safe 4

Description	Cat. No. [1]	
	Finger Resolution (14 mm)	Hand Resolution (30 mm)
Safe 4	445L-P4LxxxxYD	445L-P4SxxxxYD
Safe 4, long range (5…30 m (16.4…98.4 ft))	–	445L-P4XxxxxYD

[1] Models are available in protective heights from 120…1920 mm (4.72…75.6 in.) in 120 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P4S**0600**YD), or for 1200 mm height, replace **xxxx** with **1200** (445L-P4S**1200**YD).

Specifications

Standards	Type 4 (IEC 61496-1, -2), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.3 A each)
Enclosure Rating	IP65
Cross Section	30 x 40 mm (1.18 x 1.57 in.)
Scanning Range	Finger: 0…9 m (0…29.5 ft) Hand: 0…18 m (0…59 ft) and 5…30 m (16.4…98.4 ft)

Required Cordsets & Accessories

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [2]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [2]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [3]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [3]

[2] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for available lengths in meters.

[3] yyyy = mirror length in mm



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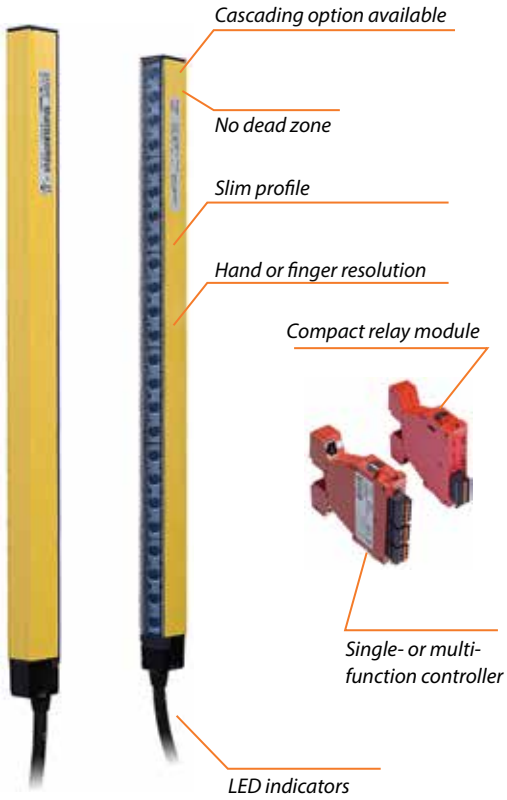
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Presence Sensing Safety Devices



Micro 400 POC Type 4
445L

- Point of Operation Control (POC) for finger or hand protection
- Slim housing
- Economical three-box system
- Requires MSR41 or MSR42 controller
- Light duty (IP54)
- No dead zone
- Finger and hand resolution
- TÜV Certified



A Slim-profile Solution for Point of Operation Control

Micro 400 are Type 4 safety light curtains with an extremely small profile of 15 x 20 mm (0.59 x 0.78 in.) and are available with both finger and hand resolution. They are designed to be built into the machine and not on the machine. This product must be used in combination with an MSR41 or MSR42 controller. The MSR42 controller is multi-functional and allows for additional functions like blanking, override, and muting.

Typical Application



Product Selection

Micro 400 POC Type 4

Description	Cat. No. [1]	
	Finger Resolution (14 mm)	Hand Resolution (30 mm)
Micro 400	445L-P4CxxxxFP	445L-P4ExxxxFP
Micro 400 cascaded	445L-C4CxxxxFP [2]	445L-C4ExxxxFP [2]
Micro 400 IP69K	445L-P4CxxxxKP [2]	–

[1] Models are available in protective heights from 50…1200 mm (2.0…47.2 in.) in 50 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P4C**0600**FP), or for 1200 mm height, replace **xxxx** with **1200** (445L-P4C**1200**FP).

[2] Not all protective heights.

Specifications

Standards	Type 4 (IEC 61496-1, -2), PLe Cat 4 (ISO 13849-1), SIL cl3 (IEC 62061)
Certifications	UL Listed, TÜV Certified, and CE Marked for all applicable directives
Enclosure Rating	IP54
Cross Section	15 x 20 mm (0.59 x 0.79 in.)
Scanning Range	Finger: 0…5 m (0…16.4 ft) Hand: 0…5 m (0…16.4 ft)
Power Supply	24V DC ±20%
Safety Output	2 OSSDs (max. 0.4 A each)

Required Cordsets & Accessories

Description	Cat. No.
Transmitter/receiver connection cable	445L-AC8RJ1 [3]
Transmitter/receiver patchcord cable	445L-AC8PC1 [4]
Flat mount kit	445L-AF6145
Adjustable flat mounting kit	445L-AF6149
MSR41 controller	440R-P221AGS
MSR42 controller	440R-P226AGS-NNR
MSR45E relay (2 N.O.)	440R-P4NANS
Ribbon cable for one MSR45E	440R-ACABL1
Muting box	445L-AMUTBOX1

[3] Replace the **1** with **2**, **3**, **5**, or **8** for other available meter lengths.

[4] Replace the **1** with **3** or **5** for other available meter lengths.

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

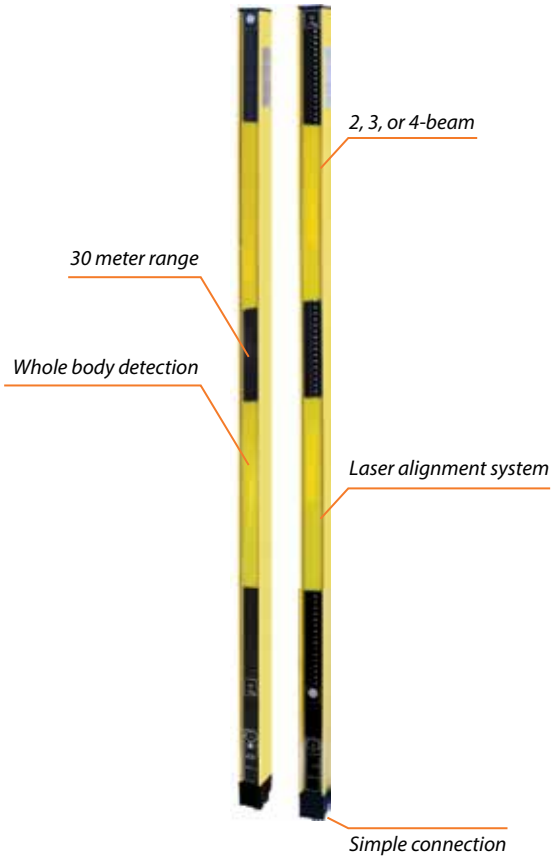
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Presence Sensing Safety Devices



GuardShield PAC Type 4 & Safe 4/Micro 400 440L & 445L

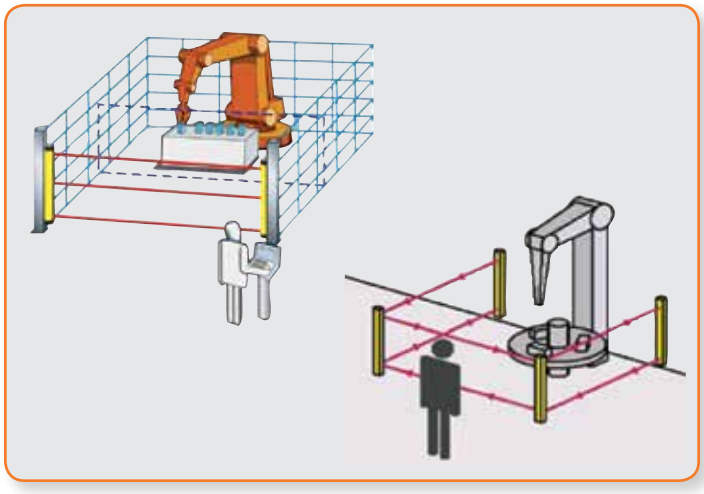
- Perimeter Access Control (PAC) for whole body detection around machines
- Two-, three-, and four-beam solution
- Integrated laser alignment tool
- Large operating range
- cULus Listed and TÜV Certified



Whole-body Detection for Machine Perimeter Safeguarding

Based on the individual safety light curtain platforms and perimeter access control (PAC), these safety light curtains are used for whole-body detection. They are typically positioned around an area or in front of a machine process entry or exit area. Multi-sided access control is attained through the use of corner mirrors. The integrated laser alignment tool makes the set up with mirrors most efficient.

Typical Application



Presence Sensing Devices

5-2…5-17

Interlock Switches

5-18…5-33

Access Control

5-34…5-35

Safety Relays

5-36…5-41

Emergency Stop Devices

5-42…5-43

Enabling Switches

5-44…5-45

Safety Limit Switches

5-46…5-47

Product Selection

GuardShield PAC Type 4 & Safe 4/Micro 400

	Description	Cat. No.		
		2-Beam	3-Beam	4-Beam
GuardShield Type 4	PAC	440L-P4A2500YD	440L-P4A3400YD	–
	PAC with Laser	440L-P4AL2500YD	440L-P4AL3400YD	–
	PAC Armor Block with Laser	440L-P4AL3400YA	440L-P4AL3400YA	–
Safe 4	PAC (short working range)	445L-103002-0048	445L-103002-0003	445L-103002-0007
	PAC (long working range)	445L-P4S2500YD	445L-P4S3400YD	445L-P4S4120YD
Micro 400	PAC	445L-110492-0002	445L-110492-0004	445L-110492-0006

Specifications

	GuardShield Type 4 PAC	Safe 4 PAC	Micro 400 PAC
Profile Cross Section	40 x 50 (1.57 x 1.97 in.)	30 x 40 (1.18 x 1.57 in.)	15 x 20 (0.59 x 0.79 in.)
Working Range	0.3…16 m (0.98…52.5 ft)	0…18 m (0…59.05 ft) 5…30 m (16.4…98.4 ft)	0…5 m (0…16.4 ft)
Enclosure Type Rating	IP65	IP65	IP54
Integrated Laser Alignment	Optional	Standard	–
5-pin ArmorBlock®	Optional	Standard	–
Integrated Controller	Yes	Yes	MSR41/MSR42
Beam Coding	Yes	No	No
EDM	Yes	No	Yes
Configuration	Dip switch	No	MSR42 wiring or software
Safety	Type 4 (IEC 61496-1, -2); PLe Cat 4 (ISO 13849-1); SIL cl3 (IEC 62061)		
Aux. Output (Non-safety)	1 PNP, 0.5 A max.	No	2 PNP, 0.2 A max.
Operating Temperature [C (F)]	-10…+55 ° (14…131 °)	0…55 ° (32…141 °)	0…55 ° (32…141 °)

Required Cordsets & Accessories

GuardShield Type 4

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [2]
8-pin straight receiver cable	889D-F8AB-2 [2]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [1]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [1]
Muting box	445L-AMUTBOX1

Safe 4

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [2]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [2]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [3]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [3]

Micro 400

Description	Cat. No.
Transmitter/receiver cordset	445L-AC8RJ1 [4]
Transmitter/receiver patchcord	445L-AC8PC1 [5]
180° adjustable mounting kit	445L-AF6143
Flat mount kit	445L-AF6145
Adjustable flat mounting kit	445L-AF6149
MSR41 controller	440R-P221AGS
MSR42 controller	440R-P226AGS-NNR
MSR45 relay (2 N.O.)	440R-P4NANS
Muting box	445L-AMUTBOX1

[1] Replace **xxxx** for protective height.
[2] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for other available lengths in meters.
[3] yyyy = mirror length
[4] Replace the **1** with **2**, **3**, **5**, or **8** for other available meter lengths.
[5] Replace the **1** with **3** or **5** for other available meter lengths.

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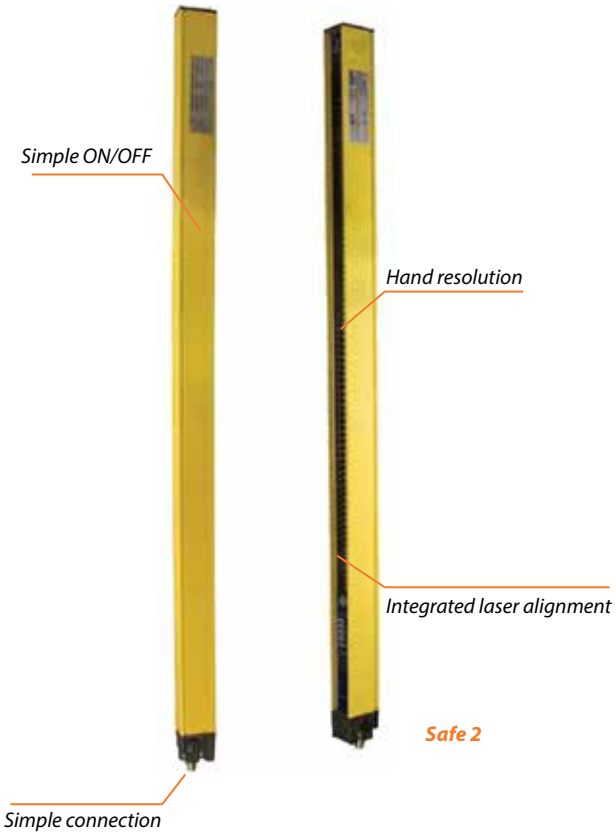
Presence Sensing Safety Devices



Type 2

GuardShield Type 2 and Safe 2 POC 440L & 445L

- Point of Operation Control (POC) for finger or hand protection
- Low risk applications (Type 2)
- Hand resolution
- Laser alignment tool (Safe 2)
- Large operating range
- TÜV Certified



A Solution for Lower-risk Applications

Suitable for low risk applications where the risk assessment allows for the use of a Type 2 safety light curtain, GuardShield Type 2, and Safe 2 are ideal solutions. They are both available with hand (30 mm) resolution and a test input. Similar to its larger counterpart (Safe 4), the Safe 2 features the integrated laser alignment tool for easy alignment during setup and operation.

Typical Application



Presence Sensing Devices
5-2…5-17

Interlock Switches
5-18…5-33

Access Control
5-34…5-35

Safety Relays
5-36…5-41

Emergency Stop Devices
5-42…5-43

Enabling Switches
5-44…5-45

Safety Limit Switches
5-46…5-47

Product Selection

GuardShield Type 2 and Safe 2 POC

Description	Cat. No.	
	Automatic Start	Manual Start with EDM
GuardShield Type 2	440L-P2KAxxxxYD [1]	440L-P2KDxxxxYD [1]
Safe 2	445L-P2SxxxxYD [2]	–

[1] Models are available in protective heights from 160…1760 mm (6.3…69.3 in.) in 160 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 640 mm height, replace the **xxxx** with **0640** (440L-P2KA**0640**YD).

[2] Models are available in protective heights from 120…1920 mm (4.72…75.6 in.) in 120 mm increments. To order, replace the **xxxx** in the catalog number with the protective height in mm. For example, to order 600 mm height, replace the **xxxx** with **0600** (445L-P2**0600**YD).

Specifications

	GuardShield Type 2 POC	Safe 2 POC
Profile Cross Section	40 x 50 (1.57 x 1.97 in.)	30 x 40 (1.18 x 1.57 in.)
Working Range	0.3…16 m (0.98…52.5 ft)	0…18 m (0…59.05 ft) 5…30 m (16.4…98.4 ft)
Enclosure Type Rating	IP65	IP65
Integrated Laser Alignment	No	Standard
5-Pin ArmorBlock	No	Standard
Integrated Controller	Yes	Yes
Beam Coding	No	No
EDM	Yes (only manual start)	No
Configuration	No	No
Safety	Type 2 (IEC 61496-1, 2); PLc Cat 2 (ISO 13849-1); SIL cl1 (IEC 62061)	
Aux. Output (Non-safety)	1 PNP, 0.5 A max.	No
Operating Temperature [C (F)]	-10…+55 ° (14…131 °)	0…55 ° (32…141 °)



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Required Cordsets & Accessories

GuardShield Type 2

Description	Cat. No.
4-pin straight transmitter cable	889D-F4AC-2 [4]
8-pin straight receiver cable	889D-F8AB-2 [4]
Vertical shock mounting kit	440L-AF6120
Horizontal shock mount kit	440L-AF6121
Weld Shield	440L-AGWSxxxx [3]
IP67 washdown enclosure kit (limited offering)	440L-AGSTxxxx [3]
Muting box	445L-AMUTBOX1

Safe 2

Description	Cat. No.
Transmitter/receiver cable: 5-pin straight	889D-F5AC-2 [4]
Transmitter/receiver cable: 5-pin straight, shielded	889D-F5EC-2 [4]
180° adjustable mounting kit	445L-AF6141
Shock mount kit	445L-AF6142
Muting box	445L-AMUTBOX1
Mounting stand	440L-AMSTD
Mirror 75 mm (2.95 in.)	440L-AM075yyyy [5]
Mirror 125 mm (4.92 in.)	440L-AM125yyyy [5]

[3] Replace **xxxx** for protective height.

[4] Replace the **2** with **5**, **10**, **15**, **20**, or **30** for other available lengths in meters.

[5] yyyy = mirror length

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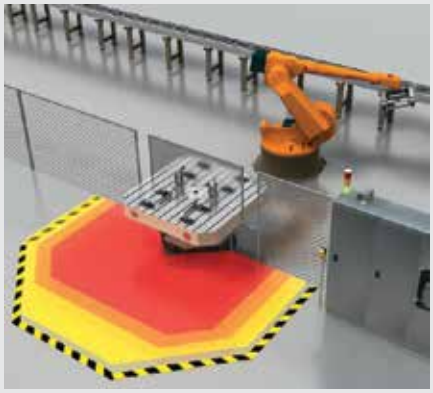
Presence Sensing Safety Devices

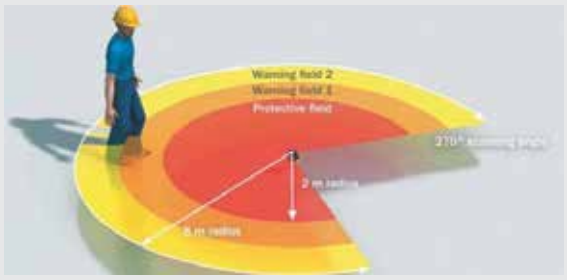


SafeZone Safety Scanners 442L

- Single-zone, multi-zone, and mini versions
- Selectable resolutions of 30, 40, 50, 70, and 150 mm
- Horizontal or vertical mounting
- Stationary or mobile applications
- Class 1 laser (eye safe)
- Rugged IP65 housings
- Easy-to-use configuration wizard
- Seven-segment diagnostic display, rotatable by 180°

SafeZone Mini



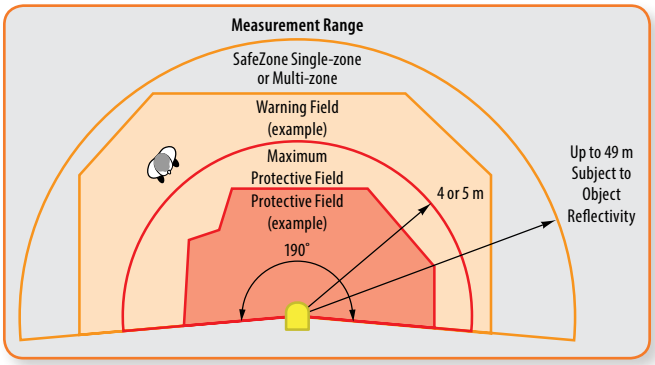


A Flexible, Easy-to-Use Machine Safeguarding Solution

SafeZone safety laser scanners are Type 3 optoelectronic devices that use reflection of emitted infrared laser light to sense a person or object within a user-defined area. The Class 1 (eye safe) infrared laser scans a 190° or 270° angular area to create a two-dimensional detection field. Light reflected off an object or person in the field is processed by the SafeZone, which sends a stop signal to the machine.

SafeZone single-zone scanners feature one user-configured sensing field, while multi-zone versions provide four switchable, configurable field sets (warning and safety).

SafeZone Single-zone and Multi-zone



Presence Sensing Devices
5-2…5-17

Interlock Switches
5-18…5-33

Access Control
5-34…5-35

Safety Relays
5-36…5-41

Emergency Stop Devices
5-42…5-43

Enabling Switches
5-44…5-45

Safety Limit Switches
5-46…5-47

Product Selection

SafeZone Safety Scanners

Model	Application Specific Resolutions	Safety Outputs	Auxiliary Outputs	Angular Scanning Range	Safety Field Range	Cat. No.
SafeZone Mini, 2 m	30, 40, 50 and 70 mm	2 PNP	2 (configurable)	270°	2 m	442L-SFZNMN
SafeZone Mini, 3 m	30, 40, 50, 70 and 150 mm	2 PNP	2 (configurable)	270°	3 m	442L-SFZNMN3
SafeZone Single-zone	30, 40, 50, 70 and 150 mm	2 PNP	1	190°	4 m	442L-SFZNSZ
SafeZone Multi-zone	30, 40, 50, 70 and 150 mm	2 PNP	1	190°	5 m	442L-SFZNMZ

Specifications

Standards	IEC 61496-3, UL 61496, IEC 61508
Safety Classification	Type 3 ISO 61496-1; SIL 2 IEC 61508, SIL cl2 62061; PLd ISO 13849-1
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives, Type 3 AOPDDR per IEC 61496, SIL 2 per IEC 61508
Power Supply	24V DC ±20%/30%
Power Consumption	55 W with max. output load, 19 W without output load

Required Cable & Cordsets

Single-zone or Multi-zone Scanner

Description	Cat. No.
Prewired I/O connector cable, 10 m	442L-CSFZNMZ-10
Prewired I/O connector cable, 20 m	442L-CSFZNMZ-20

Mini Scanner

Description	Cat. No.
M12 shielded 8 conductor cable cordset 2.5 m, required for SFZNMN	442L-ACABL2
M12 shielded 8 conductor cable cordset 10 m, required for SFZNMN	442L-ACABL10
USB programming cable, 2 m or 10 m, required to program device	442L-ACUSB-2

Single-zone, Multi-zone, and Mini Scanner

Description	Cat. No.
USB programming cable, 2 m or 10 m, required to program device	442L-ACUSB-2

Mounting Brackets

Single-zone or Multi-zone Scanner

Description	Cat. No.
Mounting kit 1: mounting bracket for direct mounting at the rear on wall or machine. No adjustment.	442L-AMBSFZNMZ1
Mounting kit 2: bracket only in conjunction with mounting kit 1. Mounting at the rear on wall or machine. Longitudinal and cross-wise adjustment possible.	442L-AMBSFZNMZ2
Mounting kit 3: bracket only in conjunction with mounting kit 1 and 2. Mounting at the rear or below the wall, floor or machine. Longitudinal and cross-wise adjustment possible.	442L-AMBSFZNMZ3

Mini Scanner

Description	Cat. No.
Mounting bracket 1 for direct mounting	442L-AMBSZMN1
Mounting bracket 2 for optical cover protection	442L-AMBSZMN2
Mounting bracket 3 longitudinal and cross wise adjustment possible	442L-AMBSZMN3 [1]
Mounting bracket 4 back plane mounting with kits 2 and 3	442L-AMBSZMN4 [2]

[1] Requires bracket 1 or 2

[2] Required bracket 1 or 2 and 3

Accessories

Description	Cat. No.
Single-zone/Multi-zone scanner replacement front window	442L-SFZNMZW
Mini scanner replacement cover	442L-SZMNW

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Presence Sensing Safety Devices



SC300 Safety Sensor 442L

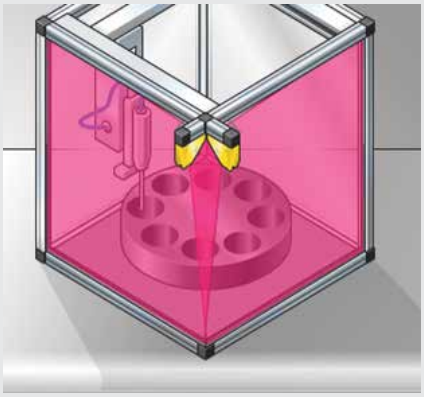
- Compact hand detection system
- 110° field of view
- Automatic alignment
- No programming software required
- Horizontal or vertical mounting
- Integrated EDM, Restart/Reset and Teach-in
- IP54 industrial-grade housing



Cost-effective, Vision-based Machine Guarding

The Allen-Bradley® Guardmaster SC300 is a compact hand detection safety sensor system, which operates based on image processing technology. The SC300 compares a two-dimensional image against a passive pattern, i.e., the background. Detection is based on an object of a certain resolution blocking the sensor's view of the pattern.

This Type 3 vision-based protective device is designed for use in certain machine-guarding applications where reflective tape can be attached to a square or rectangular frame to define the detection boundaries.



Two SC300 safety sensors can be synchronized to expand the sensing area or for multiple-sided guarding

Presence Sensing Devices

5-2…5-17

Interlock Switches

5-18…5-33

Access Control

5-34…5-35

Safety Relays

5-36…5-41

Emergency Stop Devices

5-42…5-43

Enabling Switches

5-44…5-45

Safety Limit Switches

5-46…5-47

Product Selection

SC300 Safety Sensor

Description	Cat. No.
Guardmaster SC300 safety sensor	442L-SAFCAM1

Specifications

Standards	EN 61496-1, EN 61508, EN ISO 13849-1
Safety Classification	Cat 3 ISO 13849-1; Type 3 IEC 61496-1; SIL 2 IEC 61508, SIL cl2 IEC 62061; PLd ISO 13849-1
Certifications	cULus Listed, TÜV Certified, CE Marked for all applicable directives
Power Supply	24V DC ± 20%
Power Consumption	4 W (24V no load), 19 W (max. output load)
Safety Outputs	2 OSSD. 0.25 A, short-circuit protected, cross fault monitored
Resolution	24 and 30 mm (based on tape kit used)
Operating Range	2.12 m (6.94 ft) max.
Sensing Area	Up to 1.5 x 1.5 m (4.92 x 4.92 ft) [1]

[1] It is possible to synchronize two SC300 safety sensors to increase the maximum monitored area to 1.5 x 3.0 m (4.92 x 9.84 ft).



Safety

Our innovative safety products and solutions improve the functional operation of your machinery while helping to increase personnel safety, efficiency and productivity.

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Required Accessories

Description	Cat. No.
Reflective tape kit, 2 pcs of 1.5 m strips, 24 mm resolution with test rod	442L-ACAM24MMKIT
Reflective tape kit, 2 pcs of 1.5 m strips, 30 mm resolution with test rod	442L-ACAM30MMKIT

Accessories

Description	Cat. No.
Mounting brackets (2 brackets per kit includes 2 - M6 stainless steel socket head screws)	442L-ACAMBRK1
Teach-in stylus (1 pc supplied with each SC300)	442L-ACAMTS
Test rod 24 mm resolution (1 pc supplied with each 24 mm tape kit)	442L-ATRD24MM
Test rod 30 mm resolution (1 pc supplied with each 30 mm tape kit)	442L-ATRD30MM

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Presence Sensing Safety Devices

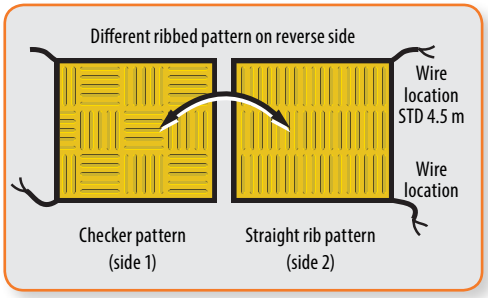


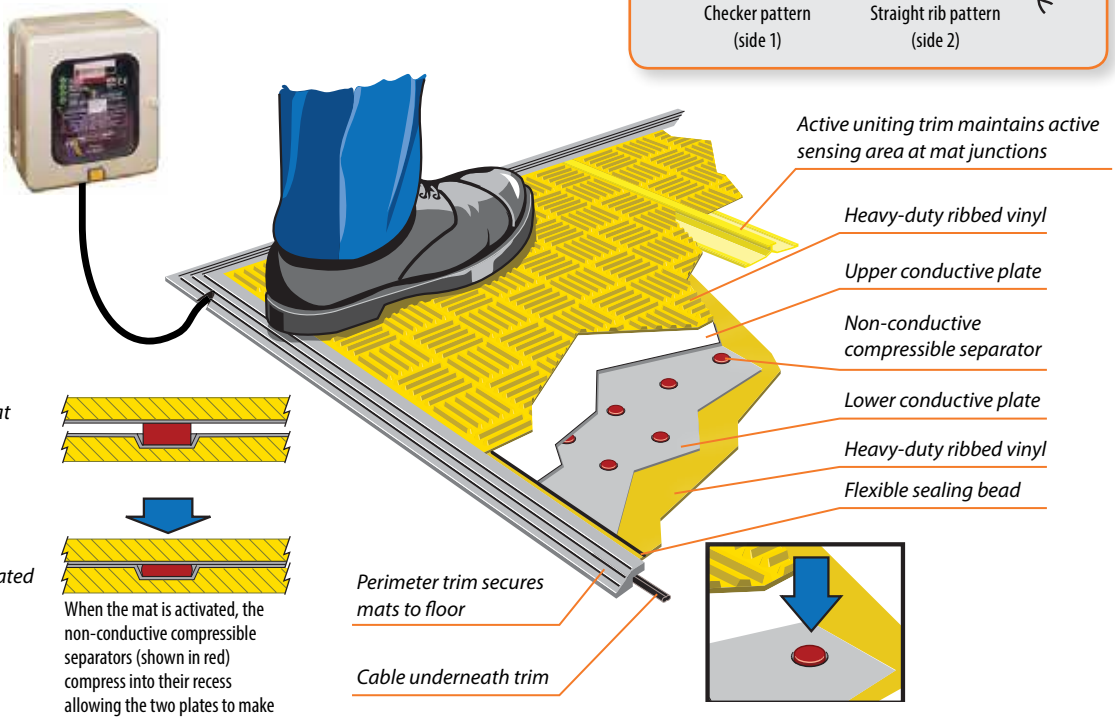
Safety Mat System 440F

- Pressure-sensitive protective device per ISO 13856 for machine safeguarding
- Hardened steel plate construction
- No dead spots
- Four-wire system to detect opens and shorts
- Withstands 4500 psi static pressure
- IP67 rated
- PLd per ISO 13849 when used with a suitable safety control

Anatomy of a Safety Mat System

When integrated to a suitable safety mat control, it detects a presence on the mat, a short circuit, or an open circuit. Under each of these conditions, the safety control issues a stop command. Multiple mats can be combined into one safety mat system with the use of joining trim.





When the mat is activated, the non-conductive compressible separators (shown in red) compress into their recess allowing the two plates to make contact giving all over sensitivity.

Product Selection

Safety Mats

Mat Size [mm (in.)]	Cat. No.	
	Standard Perimeter Trim Kit	Safety Mat
500 x 500 (19.7 x 19.7)	440F-T1010	440F-M1010BYNN
500 x 1500 (19.7 x 59.1)	440F-T1030	440F-M1030BYNN
750 x 1500 (29.5 x 59.1)	440F-T1530	440F-M1530BYNN
1000 x 1000 (39.4 x 39.4)	440F-T2020	440F-M2020BYNN
1000 x 1250 (39.4 x 49.2)	440F-T2025	440F-M2025BYNN
1000 x 1500 (39.4 x 59.1)	440F-T2030	440F-M2030BYNN
1000 x 1800 (39.4 x 70.9)	440F-T1836	440F-M2036BYNN

Mat Control

Description	Cat. No.
MSR safety relay	440R-C23139
GSR SI (single input) safety relay	440R-S12R2
Multi-mat control	440F-C28011
440C-CR30 configurable safety relay	440C-CR30-22BBB

Specifications

Standards	ISO 13856, ISO 13849-1
Safety Classification	Mat(s), connection cabling, and suitable mat safety control can achieve PLd per ISO 13849
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Power Supply	24V DC, -20% +10%, provided by the control unit
Mechanical Life	10,000,000 operations

Required Cordsets & Accessories

Description	Cat. No.	
Connection	**4-Pin**	**5-Pin**
Cordset	889D-F4AC-2 [1]	889D-F5AC-2 [1]
Patchcord	889D-F4ACDM-1 [2]	889D-F5ACDM-1 [2]
Distribution Box	898D-4[3]LT-DM4	–
Shorting Plug	898D-41LU-DM	–
T-Port	898D-43LY-D4	–
Trim		
Standard perimeter trim (aluminum)	440F-T3210	
Aluminum external corner standard perimeter trim	440F-T3310	
Aluminum internal corner standard perimeter trim	440F-T3012	
Aluminum perimeter trim with cable channel	440F-T3013	

[1] Replace the **2** with **5** or **10** for available lengths in meters.
[2] Replace the **1** with **0M3**, **5**, or **10** for other available lengths in meters.
[3] Replace with **4** or **8** for number of ports available.



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Interlock Switches



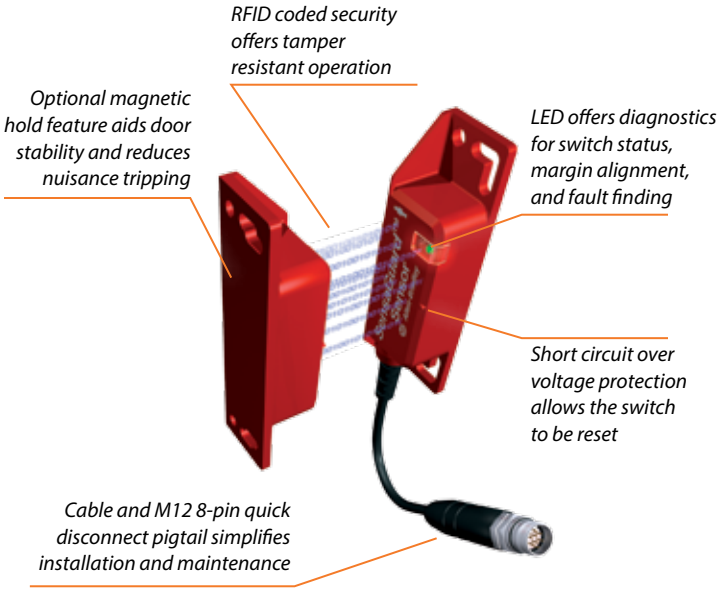
SensaGuard Non-Contact Switches 440N

- RFID unique (high) or standard (low) coded actuators
- PLe Cat 4 per ISO 13849-1 (safety performance is maintained when connected in series)
- Flat pack and barrel (plastic housings)
- Heavy-duty stainless steel barrel models
- Standard, magnetic hold, and integrated latch versions
- IP69K washdown rating
- Assured ON 10…25 mm (depending on version)
- Type 4 interlocking device per ISO 14119 with low or high coded RFID actuators

Non-contact Machine Safeguarding with RFID Technology

Featuring RFID technology for coding, inductive technology for sensing and combining a large sensing range with optimal operation and a generous tolerance to misalignment, SensaGuard switches offer a cost-effective solution that is ideally suited to a wide range of safety applications and is intended for use with all types of guard doors.

Rectangular Flat Pack Version



Integrated Latch Version



Product Selection

SensaGuard Non-Contact Switches

Type	Assured Sensing Distance	Margin Indication	Magnetic Hold	Actuator Code Type	Cat. No.		
					Cable		Connector
					3 m	10 m	6 inch Pigtail, 8-pin Micro (M12) [1]
18 mm plastic barrel/18 mm actuator	On: 15 mm (0.59 in.) Off: 25 mm (0.98 in.)	–	–	Standard	440N-Z21S16A	440N-Z21S16B	440N-Z21S16H
				18 mm plastic	440N-Z21U16A	440N-Z21U16B	440N-Z21U16H
18 mm plastic barrel/30 mm actuator	On: 25 mm (0.98 in.) Off: 35 mm (1.38 in.)	–	–	Standard	440N-Z21S26A	440N-Z21S26B	440N-Z21S26H
				30 mm plastic	440N-Z21U26A	440N-Z21U26B	440N-Z21U26H
18 mm stainless steel barrel/18 mm actuator	On: 10 mm (0.39 in.) Off: 20 mm (0.79 in.)	–	–	Standard	440N-Z21S17A	440N-Z21S17B	440N-Z21S17H
				18 mm stainless steel	440N-Z21U17A	440N-Z21U17B	440N-Z21U17H
Plastic rectangular/ rectangular actuator	On: 15 mm (0.59 in.) Off: 35 mm (1.38 in.)	–	–	Standard	440N-Z21SS2A	440N-Z21SS2B	440N-Z21SS2H
				Unique	440N-Z21US2A	440N-Z21US2B	440N-Z21US2H
		Yes	–	Standard	440N-Z21SS2AN	440N-Z21SS2BN	440N-Z21SS2HN
				Unique	440N-Z21US2AN	440N-Z21US2BN	440N-Z21US2HN
		Yes	Yes (9 N)	Standard	440N-Z21SS2AN9	440N-Z21SS2BN9	440N-Z21SS2HN9
				Unique	440N-Z21US2AN9	440N-Z21US2BN9	440N-Z21US2HN9
Plastic housing with integrated latch	On: Contact/latched Off: 35 mm (1.38 in.)	–	Adjustable 20…60 N	Standard	440N-Z21SS3PA	440N-Z21SS3PB	440N-Z21SS3PH
				Unique	440N-Z21SU3PA	440N-Z21SU3PB	440N-Z21SU3PH

[1] For 5-pin micro (M12) connector version, replace the **H** in the catalog number with **J**.

Specifications

Standards	ISO 14119, IEC 60947-5-3, IEC 61508, EN ISO 13849-1
Safety Classification	Type 4 Interlocking Device per ISO 14119 (Unique/ High and Standard/ Low Coding), PLe Cat 4 per ISO 13849-1
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed (UL 508), TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page

Required Cordsets & Accessories

Description	Cat. No.
Cordset	889D-F8AB-[2]
Patchcord	889D-F8ABDM-[3]
Safety wired T-port	898D-438Y-D8
Safety wired shorting plug	898D-418U-DM

[2] Replace symbol with **2**, **5**, or **10** for standard cable lengths in meters.

[3] Replace symbol with **1**, **2**, **3**, **5**, or **10** for standard lengths in meters.

Note: For additional information, see Safety Connection Systems (page 4-38).

For more information on our complete family of interlock switch products, please visit:
http://ab.rockwellautomation.com/Safety

Interlock Switches



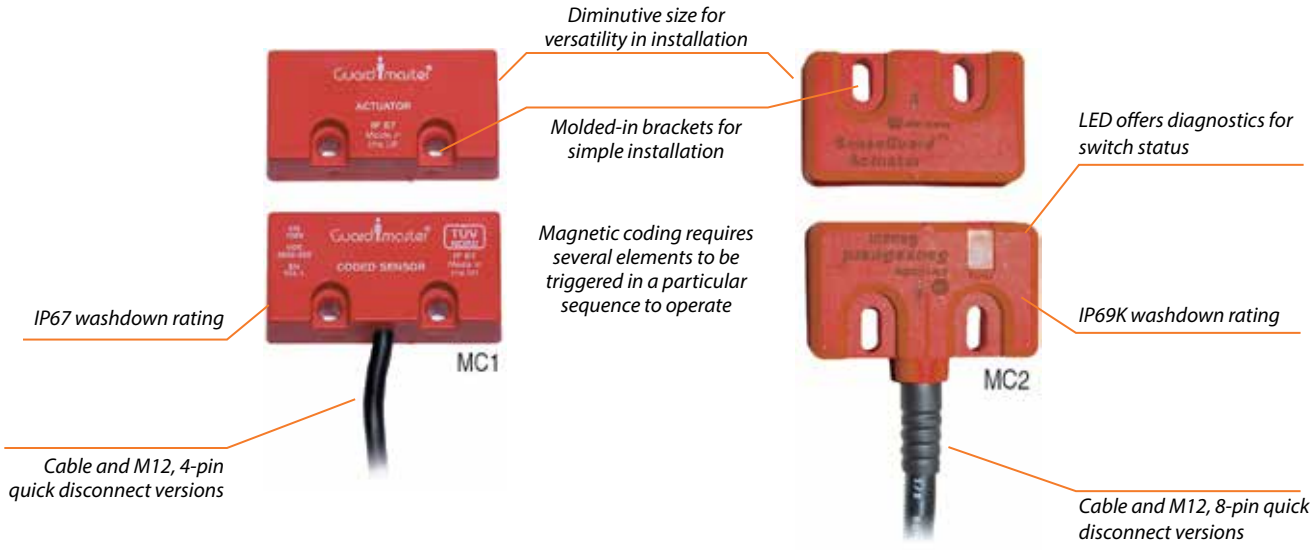
Magnetically Coded Non-Contact Switches 440N

- Non-contact actuation
- Magnetic coded sensing
- Small size
- Molded-in mounting brackets
- High tolerance to misalignment
- Designed for use with specified safety controllers
- Type 4 interlocking device per ISO 14119 with low coded actuators

Small Size, High Integrity

With the increasing speed and complexity of applications, a simple magnetic switch may be insufficient to meet the increased risks, MC1and MC2 magnetically coded non-contact switches incorporate several magnetically sensitive elements, which must be triggered in a particular sequence to operate correctly.

The sensor with its molded-in brackets and diminutive size, is extremely versatile and simple to install.



Presence Sensing Devices 5-2…5-17
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Safety Relays 5-36…5-41
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Product Selection

Magnetically Coded Non-Contact Switches

Type	Operating Voltage/ Input Current	Safety Outputs	Auxiliary Outputs	Status Indicator	Connection	Cat. No.
MC1	–	2 N.C. REEDS	–	No	4-pin micro (M12)	440N-Z2NRS1C
					3 m cable	440N-Z2NRS1A
					10 m cable	440N-Z2NRS1B
MC2	24V DC, +10%/15%/ 50 mA max.	2 N.C. Solid-State Relays	1 x PNP, 0.2 A max.; Status: OFF (0V DC)	Yes	8-pin micro (M12)	440N-Z21W1PH
					3 m cable	440N-Z21W1PA
					10 m cable	440N-Z21W1PB

Specifications

Standards	ISO 14119, IEC 60947-5-3, ISO 13849-1 when used with approved safety control
Safety Classification	Type 4 Interlocking Device with low coding per ISO 14119
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	CULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page

Required Cordsets & Accessories

Description	Cat. No.	
Cordset	889D-F4AC-[1]	889D-F8AB-[1]
Patchcord	889D-F4ACDM-[2]	889D-F8ABDM-[2]
Distribution box	898D-4[3]LT-DM4	–
Shorting plug	898D-41LU-DM	–
T-port	898D-43LY-D4	–

[1] Replace symbol with **2**, **5**, or **10** for standard cable lengths in meters.
[2] Replace symbol with **1**, **2**, **3**, **5**, or **10** for standard lengths in meters.
[3] Replace with **4** or **8** for number of ports available.

Note: For additional information, see Safety Connection Systems (page 4-38).



Sales Offices and Distributors

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http://ab.rockwellautomation.com/Safety

Interlock Switches



Tongue Interlock Switches 440K

- A full range of guard interlocking switches
- Holding forces up to 40 N
- Multiple actuator options
- Conduit or quick disconnect models
- Optional GD2 style metal head for increased robustness
- Type 2 interlocking devices per ISO 14119 with low coded tongue-shaped actuators

A Complete Range of Guard Interlocking Solutions

Description	Trojan™ T15	Trojan 5 & 6 [1]	Elf™	Cadet™	MT-GD2
					
Dimensions [H x W x D]	75 x 31 x 52 mm (2.95 x 1.22 x 2.05 in.)	95 x 32 x 52 mm (3.74 x 1.26 x 2.05 in.)	75 x 25 x 29 mm (2.95 x 0.98 x 1.14 in.)	90.5 x 31 x 30.4 mm (3.56 x 1.22 x 1.2 in.)	116.5 x 38 x 40 mm (4.59 x 1.5 x 1.57 in.)
Break Contact Force	30 N	T5: 12 N typical, max. 30 N T6: 20 N	6 N	15 N	12, 32, 40 N
Safety/Aux. Contacts	2 N.C. 1 N.C./1 N.O.	T5: 2 N.C./1 N.O. T6: 3 N.C./1 N.O. 2 N.C./2 N.O.	2 N.C. 1 N.C./1 N.O.	3 N.C. 2 N.C./1 N.O.	3 N.C./1 N.O. 2 N.C./2 N.O.
Material	Plastic w/plastic or metal head (GD2)	Plastic w/plastic or metal head (GD2)	Plastic w/optional metal alignment guide	Plastic w/optional metal alignment guide	Metal
Actuator Options	Standard & fully flexible	Standard, semi-flexible, & fully flexible	Flat, 90°, & semi-flexible	Flat, 90°, & semi-flexible	Standard, fully flexible, & extended flat

[1] Four-contact models are available (Trojan 6).

Product Selection

Trojan T15 & Trojan 5 Standard Plastic Switches

Type	Contact [1]		Contact Action [2]	Actuator Type	Cat. No.		
					M20 Conduit		Connector Micro (M12) [3]
	Safety	Auxiliary			M20	1/2 in. NPT Adaptor	
Trojan T15 standard	2 N.C.	–	–	Standard	440K-T11303	440K-T11267	440K-T11307
				Fully flexible	440K-T11395	440K-T11273	440K-T11384
	1 N.C.	1 N.O.	BBM	Standard	440K-T11305	440K-T11268	440K-T11386
				Fully flexible	440K-T11396	440K-T11276	440K-T11387
Trojan T15 GD2 (metal head)	2 N.C.	–	–	GD2 Standard	440K-T11463	440K-T11288	440K-T11389
				Fully flexible	440K-T11397	440K-T11287	440K-T11390
	1 N.C.	1 N.O.	BBM	GD2 Standard	440K-T11398	440K-T11284	440K-T11392
				Fully flexible	440K-T11399	440K-T11283	440K-T11393
Trojan 5 standard	2 N.C.	1 N.O.	BBM	Standard	440K-T11090	440K-T11202	440K-T11205
				Semi-flexible	440K-T11110	440K-T11203	440K-T11206
				Fully flexible	440K-T11467	440K-T11204	440K-T11207
Trojan 5 GD2 (metal head)			BBM	GD2 standard	440K-T11336	440K-T11211	440K-T11366
				Semi-flexible	440K-T11337	440K-T11212	440K-T11367
				Fully flexible	440K-T11338	440K-T11213	440K-T11368
Trojan 5 30 N			BBM	Standard	440K-T11333	440K-T91024	440K-T11492

[1] Four contact models are available (Trojan 6).
[2] Make before break (MBB) contact versions are also available.
[3] Trojan T15 uses a 4-pin connector and Trojan 5 uses a 6-pin connector.

Specifications

Standards	ISO 14119, IEC 60947-5-1
Safety Classification	Type 2 Interlocking Device per ISO 14119
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current/$_{Ith}$	10 A
Switching Current @ Voltage	3 mA @ 18V DC, min.
Operating Characteristics	
Operating Radius	175 mm (6.89 in.) [60 mm (2.36 in.) with flexible actuator, min.]
Mechanical Life	1,000,000 operations

Required Cordsets & Accessories

Description	Cat. No.
4-pin micro (M12) QD cordset	889D-F4AC-[4]
6-pin micro (M12) QD cordset	889R-F6ECA-[4]
4-pin micro (M12) QD patchcord	889D-F4ACDM-[5]
6-pin micro (M12) QD patchcord	889R-F6ECRM-[5]
GD2 standard actuator	440G-A27011
GD2 flat actuator	440K-A11112
Fully flexible actuator	440K-A27010

[4] Use **2**, **5**, or **10** for standard cable lengths in meters.
[5] Use **1**, **2**, **3**, **5**, or **10** for standard cable lengths in meters.

For more information on our complete family of interlock switch products, please visit:
http://ab.rockwellautomation.com/Safety

Interlock Switches

Product Selection

Elf Miniature Plastic Switches

Contact			Actuator Type	Cat. No.		
				M16 Conduit		Connector
Safety	Auxiliary	Action		M16	1/2 in. NPT Adaptor	4-pin Micro (M12)
1 N.C.	1 N.O.	BBM	90°	440K-E33040	440K-E33030	440K-E33025
			Semi-flexible	440K-E33034	440K-E33031	440K-E33075
2 N.C.	–	–	90°	440K-E33041	440K-E33045	440K-E33024
			Semi-flexible	–	440K-E33046	440K-E33078

Cadet 3 Compact Plastic Switches

Contact			Actuator Type	Cat. No.		
				M16 Conduit		Connector
Safety	Auxiliary	Action		M16	1/2 in. NPT Adaptor	6-pin Micro (M12)
3 N.C.	–	–	90°	440K-C21097	440K-C21057	440K-C21091
			Semi-flexible	–	440K-C21062	440K-C21092
2 N.C.	1 N.O.	BBM	90°	440K-C21061	440K-C21058	440K-C21067
			Semi-flexible	–	440K-C21074	440K-C21088

Specifications

Standards	ISO 14119
Safety Classification	Type 2 Interlocking Device per ISO 14119
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current/$_{Ith}$	5 A (10 A if A600)
Switching Current @ Voltage	3 mA @ 18V DC, min.
Operating Characteristics	
Operating Radius	150 mm (5.90 in.) [60 mm (2.36 in.) with semi-flexible actuator, min.]
Mechanical Life	1,000,000 operations

Required Cordsets & Accessories

Description	Cat. No.
4-pin micro (M12) QD cordset	889D-F4AC-[1]
6-pin micro (M12) QD cordset	889R-F6ECA-[1]
4-pin micro (M12) QD patchcord	889D-F4ACDM-[2]
6-pin micro (M12) QD patchcord	889R-F6ECRM-[2]
Flat actuator [3]	440K-A21014
90° actuator [3]	440K-A21006
Metal alignment guide with semi-flexible actuator	440K-A21030

[1] Use **2**, **5**, or **10** for standard cable lengths in meters.
[2] Use **1**, **2**, **3**, **5**, or **10** for standard cable lengths in meters.
[3] Not to be used with metal alignment guide.

Product Selection

MT-GD2 Metal Body Switches

Type	Contact		Contact Action [1]	Actuator Type	Cat. No.		
					M20 Conduit		Connector
	Safety	Auxiliary			M20	1/2 in. NPT Adaptor	12-pin (M23)
MT-GD2	3 N.C.	1 N.O.	BBM	GD2 standard	440K-MT55074	440K-MT55022	440K-MT55095
				Fully flexible	440K-MT55075	440K-MT55029	440K-MT55096
	2 N.C.	2 N.O.		GD2 standard	440K-MT55076	440K-MT55026	440K-MT55098
				Fully flexible	440K-MT55077	440K-MT55087	440K-MT55099
MT-GD2 latch release	3 N.C.	1 N.O.		GD2 standard	440K-MT55078	440K-MT55041	440K-MT55070
				Fully flexible	440K-MT55079	440K-MT55045	440K-MT55103
	2 N.C.	2 N.O.		GD2 standard	440K-MT55080	440K-MT55050	440K-MT55104
				Fully flexible	440K-MT55081	440K-MT55051	440K-MT55052

[1] Make before break (MBB) and snap acting contact versions are also available.

Specifications

Standards	ISO 14119, ISO 13849-1, IEC 60947-5-1
Safety Classification	Type 2 interlocking device per ISO 14119
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current/$_{Ith}$	10 A
Switching Current @ Voltage	3 mA @ 18V DC, min.
Operating Characteristics	
Break Contact Force	12 N (1.35 lbf), min.
Operating Radius	150 mm (5.90 in.) [60 mm (2.36 in.) with GD2 kit, min.]
Mechanical Life	1,000,000 operations

Required Cordsets & Accessories

Description	Cat. No.
12-pin (M23) QD cordset	889M-FX9AE-[2]
GD2 standard actuator	440G-A27011
GD2 flat actuator	440K-A11112
Fully flexible actuator	440K-A27010

[2] Use **2**, **5**, or **10** for standard cable lengths in meters.



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

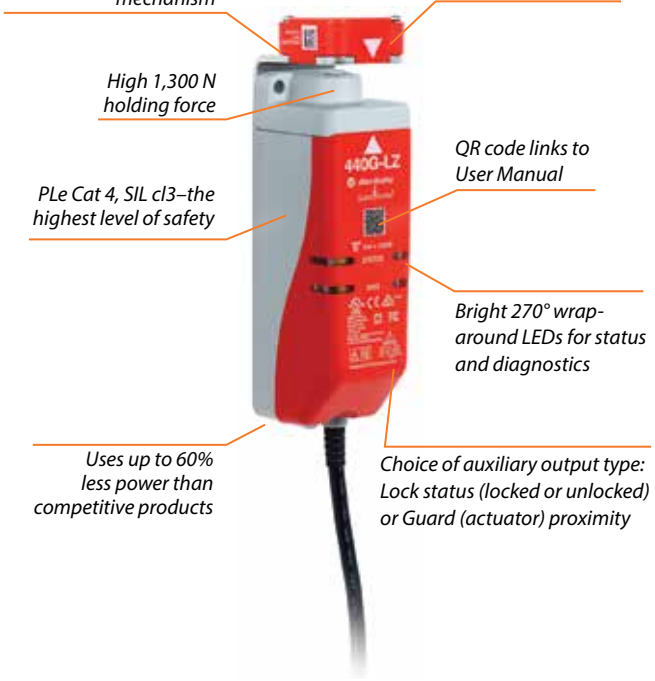
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Interlock Switches



LZ Guard Locking Switches
440G-LZ

- PLe Cat 4, SIL cl3 – the highest level of safety for guard position and lock monitoring
- Solid-state OSSD outputs
- Standard (low) or unique (high) coded RFID actuators
- High holding force for partial body access applications
- Power-to-release and power-to-lock versions
- IP69K and hygienic design
- Type 4 interlocking device with guard locking per ISO 14119 with low or high coded RFID actuators
- Auxiliary output versions: lock status or guard proximity



The Highest Level of Safety

The Allen-Bradley Guardmaster 440G-LZ is a guard locking switch designed for partial body access guards. Combining microprocessor technology with an RFID coded actuator, the 440G-LZ features a locking bolt drive mechanism that will only lock when the correct actuator is detected. The locking bolt is continuously monitored for correct insertion within the actuator. This extra functionality allows the 440G-LZ to be certified PLe Cat 4, SIL cl3 – the highest level of safety for guard position and lock monitoring – and it can be connected directly or in series with other PLe Cat 4 or SIL cl3 rated safety devices.



Presence Sensing Devices

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Interlock Switches

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Access Control

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Safety Relays

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Emergency Stop Devices

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Enabling Switches

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Safety Limit Switches

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Product Selection

440G-LZ Guard Locking Switches

Locking Type	Actuator Type	Cat. No.[1]		
		Connector Type		
		3 m Lead	10 m Lead	6-in. Pigtail with M12 8-pin QD
Power-to-release	Standard (low level to EN/ISO 14119:2013)	440G-LZS21SPRA	440G-LZS21SPRB	440G-LZS21SPRH
	Unique (high level to EN/ISO 14119:2013)	440G-LZS21UPRA	440G-LZS21UPRB	440G-LZS21UPRH
Power-to-lock	Standard (low level to EN/ISO 14119:2013)	440G-LZS21SPLA	440G-LZS21SPLB	440G-LZS21SPLH
	Unique (high level to EN/ISO 14119:2013)	440G-LZS21UPLA	440G-LZS21UPLB	440G-LZS21UPLH

[1] To select auxiliary output type, in front of last two letters in catalog number use **P** for lock status or **T** for guard proximity. Example: 440G-LZS21S**T**RH.



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Standards	ISO 14119, IEC 60947-5-3, ISO 13849-1, IEC 62061
Safety Classification	Type 4 Interlocking Device with Guard Locking per ISO 14119 with low (standard) and high (unique) coding per ISO 14119 PLe Cat 4 per ISO 13849-1 and SIL cl3 per IEC 62061
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Power Supply	24V DC +10%/-15% Class 2 SELV
Holding Force Fzh (ISO 14119:2013)	1,300 N
Safety Outputs	2 x PNP, 0.2 A max., Status: ON (+24V DC)
Auxiliary Outputs	1 x PNP, 0.2 A max., Status: OFF (0V DC)
Enclosure Type Rating	NEMA 3, 4X, 12, 13, IP66, IP67, IP69K

Required Cordset & Accessories

Description	Cat. No.
8-pin micro (M12) QD cordset	889D-F8AB-[2]
Standard power-to-release actuator	440G-LZASPR
Unique power-to-release actuator	440G-LZAUPR
Standard power-to-lock actuator	440G-LZASPL
Unique power-to-lock actuator	440G-LZAUPL
Actuator mounting bracket	440G-LZAM1
Switch body mounting bracket	440G-LZAM2

[2] Use **2**, **5**, or **10** for standard cable lengths in meters.

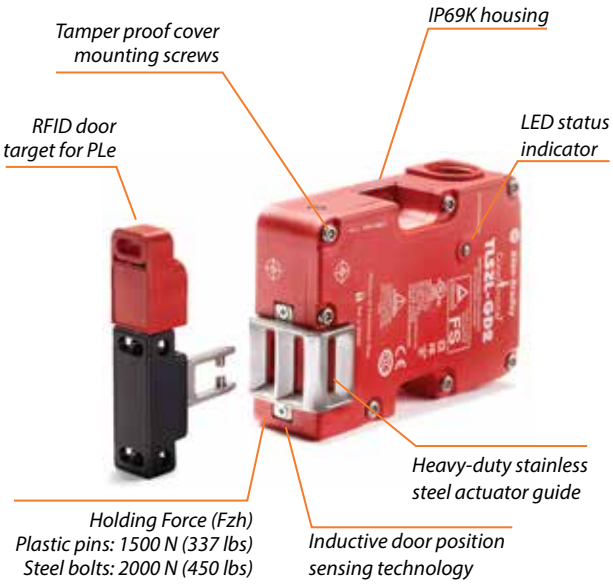
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http://ab.rockwellautomation.com/Safety

Interlock Switches



TLS-Z GD2 Guard Locking Switches 440G

- Type 4 Interlocking Devices with guard locking
- Meets PLe, Cat 4 per ISO 13849-1, the highest level of safety
- RFID high level coded actuator
- Solid-state series connectable OSSD outputs
- High holding force (Fzh)
- Power-to-release and power-to-lock versions
- Escape release versions available



Guard Locking Plus RFID Technology for Full-body Access

The TLS-Z GD2 Guard Locking Switch is an interlock switch that has a uniquely coded RFID door sensor with inductive door position sensing technology. This switch can detect if an actuator key breaks or becomes separated from its door mounted position. Built with the same solid-state technology as the SensaGuard, this switch supports the highest level of safety – Performance Level "e", Cat 4 per ISO 13849-1 for the door position monitoring.



Presence Sensing Devices 5-2…5-17
Interlock Switches 5-18…5-33
Access Control 5-34…5-35
Safety Relays 5-36…5-41
Emergency Stop Devices 5-42…5-43
Enabling Switches 5-44…5-45
Safety Limit Switches 5-46…5-47

Product Selection

TLS-Z GD2 Guard Locking Switches

Type	Outputs		Voltage	Connector	Cat. No.
	Safety (OSSD)	Auxiliary			
Power-to-release	2 x PNP, 0.2 A max., Status: ON (+24V DC)	1 x PNP, 0.2 A max., Status: OFF (0V DC)	24V DC	8-pin micro (M12)	440G-TZS21UPRH
Power-to-release – including escape release					440G-TZS21UERH
Power-to-release – including auxiliary release					440G-TZS21UARH
Power-to-release – including emergency release					440G-TZS21URRH
Power-to-lock					440G-TZS21UPLH

Specifications

Standards	ISO 14119, IEC 60947-5-3, ISO 13849-1
Safety Classification	Type 4 Interlocking Device with Guard Locking per ISO 14119 with high (unique) coding per ISO 14119 PLe Cat 4 per ISO 13849-1
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Power Supply	24V DC +10%/-15% Class 2
Holding Force Fzh (ISO 14119)	Plastic pins: 1500 N (337 lbs) Steel bolts: 2000 N (450 lbs)
Safety Outputs	2 x PNP, 0.2 A max., Status: ON (+24V DC)
Auxiliary Outputs	1 x PNP, 0.2 A max., Status: OFF (0V DC)
Enclosure Type Rating	NEMA 3, 4X, 12, 13, IP66, IP67, IP69K

Required Cordset & Accessories

Description	Cat. No.
8-pin micro (M12) QD cordset	889D-F8AB-[1]
Spare RFID door target	440G-ATZA
Fully flexible actuator	440G-A27143
Cover for TLS-1 with external override key	440G-A27371
Cover for TLS-1 with override key attached	440G-A27373
Emergency override key	440G-A36026
Flexible release – 1 m (3.28 ft) cable	440G-A27356
Flexible release – 3 m (9.84 ft) cable	440G-A27357
Dust cover	440K-A17183

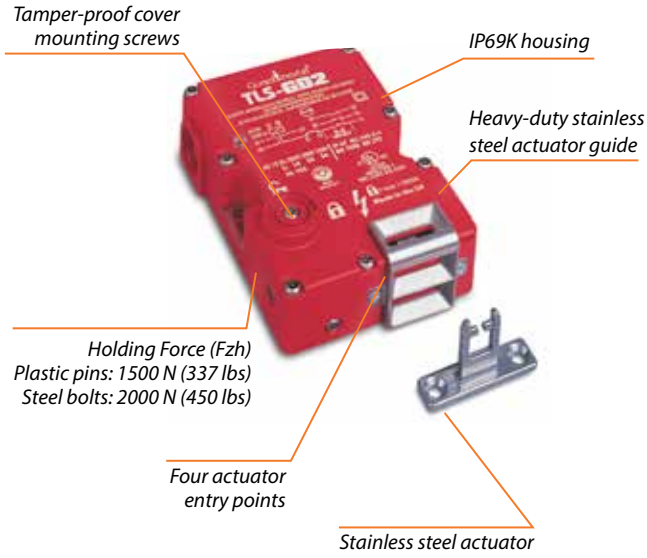
[1] Use **2**, **5**, or **10** for standard cable lengths in meters.

Interlock Switches



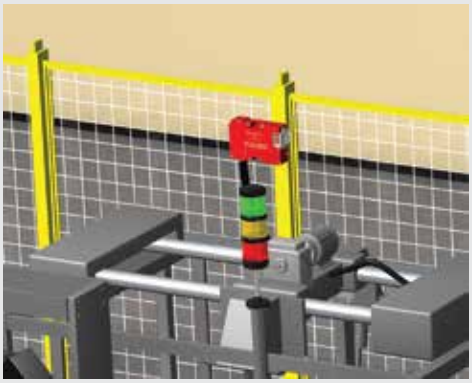
TLS-GD2 Guard Locking Switches 440G

- Type 2 Interlocking Devices with guard locking and low coded (tongue-shaped) actuators per ISO 14119
- Plastic enclosure with stainless steel actuator guide
- High holding force (Fzh)
- Power-to-release and power-to-lock versions
- Four actuator entry points
- Escape release versions
- Quick disconnect versions
- Large range of accessories



For Demanding Full-body Access Applications

The TLS-GD2 is for demanding full-body access guard locking applications where “zero volt” connectivity is needed. A stainless steel actuator guide is fitted to protect the unit from actuator damage due to poor guard alignment or guard wear. The TLS-GD2 is available in two versions: TLS-3 GD2 is power-to-release while the TLS-2 is power-to-lock. Each product has five sets of contacts of various forms. Four actuator entry points are possible; two manual release points. Optional key release and escape release versions are available. An ingress rating of IP69K makes TLS-GD2 suitable for washdown applications.



Presence Sensing Devices

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Interlock Switches

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Safety Relays

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Safety Limit Switches

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Product Selection

TLS-GD2 Guard Locking Switches

Type	Contacts		Solenoid		Actuator Type	Cat. No.			
						Conduit		Connector	
	Safety	Auxiliary	Contacts	Voltage		M20	1/2 in. NPT Adaptor	12-pin M23	8-pin Micro (M12) [1]
TLS-2 GD2 power-to-lock	2 N.C.	1 N.O.	1 N.C. & 1 N.O.	24V AC/DC	–	440G-T27127		440G-T27239	440G-T2NBBPH-1L
					GD2 standard	440G-T27255	440G-T27175	440G-T27240	–
					Fully flex	440G-T27256	440G-T27177	440G-T27241	–
				110V AC/DC	–	440G-T27132	–	–	–
					GD2 standard	440G-T27257	440G-T27178	–	–
					Fully flex	440G-T27258	440G-T27180	–	–
				230V AC/DC	–	440G-T27129	–	–	–
TLS-3 GD2 power-to-release	2 N.C.	1 N.O.	2 N.C.	24V AC/DC	–	440G-T27134		440G-T27245	440G-T2NBBPH-2R
					GD2 standard	440G-T27259	440G-T27181	440G-T27246	–
					Fully flex	440G-T27260	440G-T27183	440G-T27247	–
				110V AC/DC	–	440G-T27138	–	–	–
					GD2 standard	440G-T27261	440G-T27184	–	–
					Fully flex	440G-T27262	440G-T27186	–	–
				230V AC/DC	–	440G-T27136		–	–
TLS-3 GD2 power-to-release with escape release	2 N.C.	1 N.O.	2 N.C.	24V AC/DC	–	440G-T21BNPM-2B	440G-T21BNPT-2B	440G-T21BNPL-2B	440G-T2NBNPH-2B
					GD2 standard	440G-T21BGPM-2B	440G-T21BGPT-2B	440G-T21BGPL-2B	–
				110V AC/DC	–	440G-T21BNPM-5B	440G-T21BNPT-5B	–	–
					GD2 standard	440G-T21BGPM-5B	440G-T21BGPT-5B	–	–

[1] With an 8-pin micro connector, not all contacts are connected.

Specifications

Standards	ISO 14119, IEC 60947-5-1
Safety Classification	Type 2 Interlocking Device with Guard Locking and low coding (tongue) per ISO 14119
Functional Safety Data	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current/$_{Ith}$	10 A
Switching Current @ Voltage	3 mA @ 18V DC
Operating Characteristics	
Break Contact Force	20 N (4.5 lbf), min.
Operating Radius	160 mm (6.3 in.) [80 mm (3.15 in.) with flexible actuator], min.
Mechanical Life	1,000,000 operations

Required Cordsets & Accessories

Description	Cat. No.
8-pin micro (M12) QD cordset	889D-F8AB-[2]
12-pin M23 QD cordset	889M-F12AH-[2]
8-pin micro (M12) QD patchcord	889D-F8ABDM-[3]
12-pin M23 QD patchcord	889M-F12AHMU-[4]
GD2 standard actuator	440G-A27011
Fully flexible actuator	440G-A27143
Cover for TLS-3 external override key	440G-A27372
Cover for TLS-3 with override key attached	440G-A27374
Flexible release–1 m (3.28 ft) cable	440G-A27356
Flexible release–3 m (9.84 ft) cable	440G-A27357
Sliding bolt actuator	440K-AMDS
Mounting plates	440K-AMDSSMPB

[2] Use **2**, **5**, or **10** for standard cable lengths in meters.
[3] Use **1**, **2**, **3**, **5**, or **10** for standard cable lengths in meters.
[4] Use **0M3**, **0M6**, **1**, **2**, or **3** for standard cable lengths in meters.

For more information on our complete family of interlock switch products, please visit:
http://ab.rockwellautomation.com/Safety

Interlock Switches



Trapped Key Switches 440T

- Interlocking for pre-determined sequence of events
- All stainless interlocking and coded parts
- Weather cap as standard
- Standard red color-coded key and ID tags
- A complete range of isolators, gate (guard) interlocks, key exchange units and specialty devices
- Type 2 Interlocking Devices per ISO 14119 (Interlocking part of Trapped Key Systems)
- PLd, Cat 3 per ISO 13849

Trapped Key Interlocks – Why Use Them?

Based upon the premise that a key cannot be in two places at once, key interlock systems can be configured to provide that a predetermined sequence of events takes place or that hazards have been reduced before operators can become exposed to them.

It is a mechanical system and is therefore widely used in applications including those where the location of plant, environment, or explosive atmospheres make the use of electrical interlock systems unsuitable or expensive to install. In addition, unique coding can be provided, leading to a greater degree of security and tamper-resistance.

In order to derive the full benefits from a trapped key interlocking system its components must be totally practical, easily maintainable, and readily available. The unique key and code barrel of ProSafe® gives the ability for even complicated interlocking systems and spare parts to be ordered from our worldwide network of distributors – fast! A first for trapped key interlocks.

Isolators



Designed to isolate the machine's power and ensure the power remains off while the key is being used in another part of the interlocking system.

Exchange Units



Used in an interlocking sequence to link other devices

Interlocks



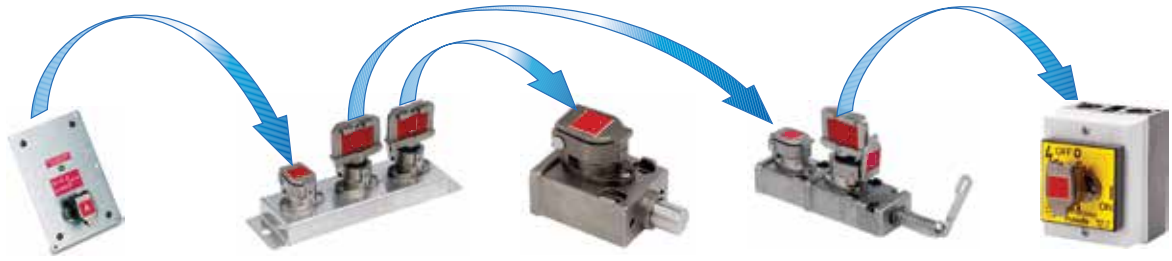
Ideal for interlocking guard doors, cams and valves

To see our complete ProSafe solution (from access and chain switches to miniature valve switches, switchgear adaptors and more):

Go to *ab.rockwellautomation.com/Safety*

Design Suggestions for an Interlocking System

Plant and Machinery Interlocking



AA
440T-MSRUE10AA
Solenoid Release Unit (SRU)
key release

AA AB AB
440T-MKEXE11AAABAB
Trapped key 'AA'
Locking off SRU,
Release access door lock, key 'AB'

AB
440T-MSBLE10AB
'AB' key in to retract bolt
from guard door

AB AC
440T-MDALE10ABAC
'AB' key in then 'AC'
key out to open guard door

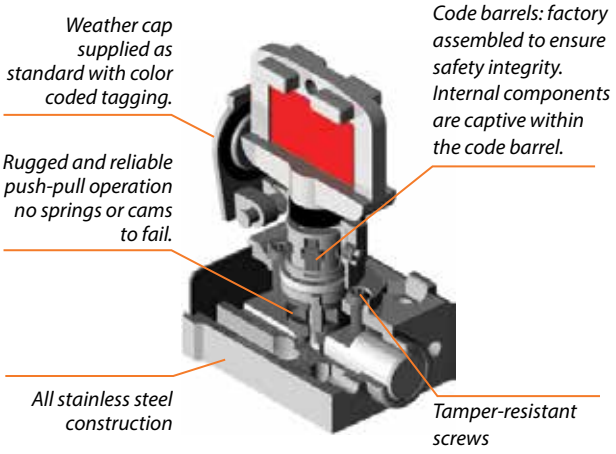
AC
440T-MRKSE10AC
To energize robot
teach mode

Sequence of Operation

1. The Solenoid Release Unit (SRU) is used for electrical isolation of machinery to improve safe access. It consists of a rotary power switch and a solenoid. The trapped key can be removed once an external signal is given to its internal solenoid locking mechanism. An indicator light on the solenoid release unit indicates when the trapped key "AA" key can be removed. Insert the "AA" key into the Key Exchange Unit (KEX) and turn it 90°.
2. Turn one of the "AB" keys 90° and remove it from the KEX. This traps the "AA" key in the KEX and prevents the restarting of the machine.
3. Insert the "AB" key into the Single-key Bolt Lock (SBL) and turn it 90° to gain partial body access to the machine.
5. Turn the second "AB" key 90° and remove it from the KEX. Removal of this key also traps the "A" key in the KEX and prevents the restarting of the machine.
6. Insert the "AB" key into the Dual-key Access Lock (DAL) and turn it 90°.
7. Turn the "AC" key 90° and remove the "C" key. Rotate the access handle to allow full body entry into the hazard zone.
8. Take the "AC" key into the hazard zone, insert it into the rotary key switch (RKSE) and turn it 90° to send a signal to the machine control system, to allow the machine to operate in a slow or teach mode.
9. Reverse the process to return the machine to full operational mode.

Specifications

Standards	ISO 14119, DGUV GS-ET-31, ISO 13849-1
Safety Classification	Type 3 Interlocking Device per ISO 14119 PLd, Category 3 per ISO 13849-1
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page



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http://ab.rockwellautomation.com/Safety

Access Control

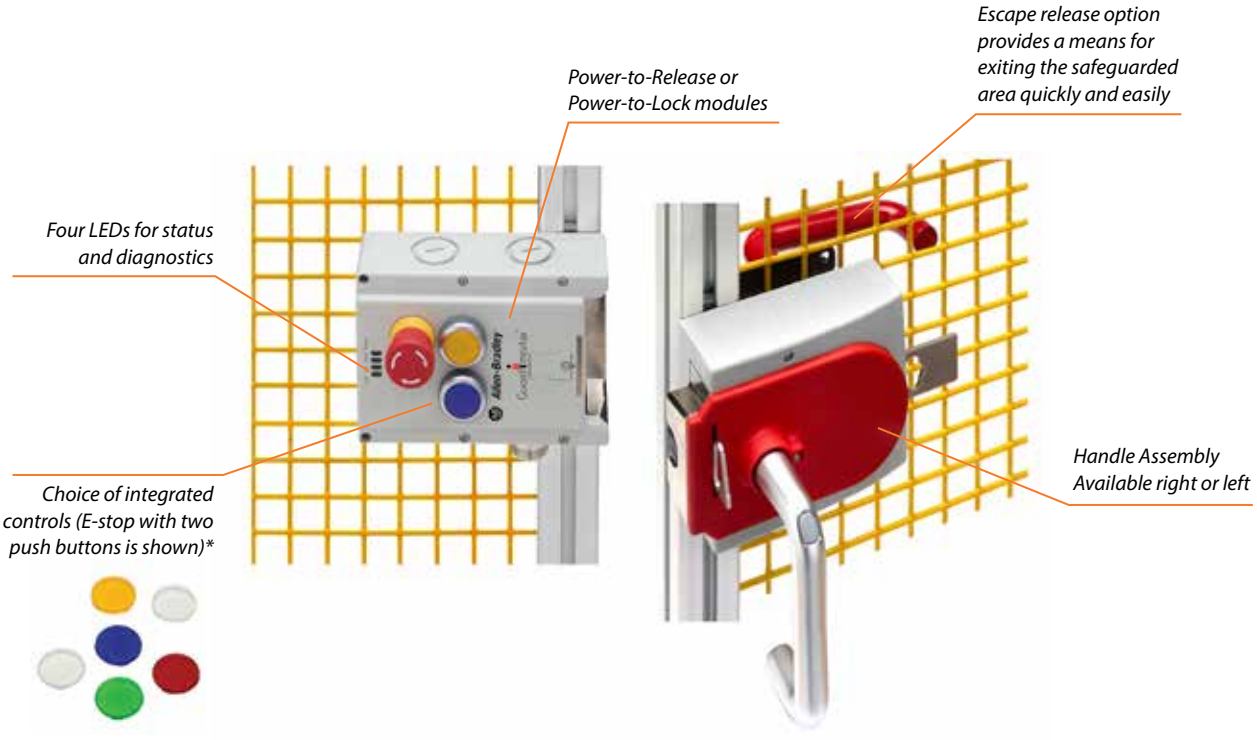
Safety



Guardmaster Multifunctional Access Box 442G

- High holding force (Fzh) 2000 N per ISO 14119
- Power-to-Release or Power-to-Lock modules
- Diagnostic outputs for door position, bolt position, and lock status are available to the control system
- Can be operated as a standalone device (default) or in series with other devices

The Guardmaster 442G Multifunctional Access Box, is an integrated access control and guard locking device which provides a complete safeguarding solution for full body access applications.



* Units with push buttons are supplied with a kit of colored caps, including one each of blue, green, red and yellow, and two white.

Product Selection

Step 1: Select Handle Assembly

Description		Cat. No.
Right handle		442G-MABH-R
Left handle		442G-MABH-L

Step 2: Select Lock Module

Description	Connector	Catalog number
Power-to-release	M23 (19-pin)	442G-MABR-UxM-*
	M20 cable entry	442G-MABR-UT-*
Power-to-lock	M23 (19-pin)	442G-MABL-UxM-*
	M20 cable entry	442G-MABL-UT-*

Replace the * with the code for the selected cover controls. x = R for use with right handle 442G-MABH-R or L for use with left handle 442G-MABH-L.

Step 3: (Optional) Select Escape Release

Description		Cat. No.
Escape release assembly with standard actuation shaft		442G-MABE1

Note: The standard shaft (115 mm/4.53 in.) is optimized for use on 40 mm and 45 mm profiles. An extended shaft is available (see Accessories) for profiles larger than 45 mm (or when used with mounting plates on a 45 mm profile).

Cover Controls

Description		Cat. No.
Blank cover		C00
One illuminated push button◊		C01
Two illuminated push buttons◊		C02
E-stop with two illuminated push buttons◊		C03

Note: For example: If you selected right handle assembly and want a power-to-release lock module with a (19-pin) M23 connector and two illuminated push buttons, you would order 442G-MABR-URM-C02.

◊ Covers with push buttons are supplied with a colored lens kit, including one each of blue, green, red and yellow, and two white.

Accessories

Description		Cat. No.
Escape release shaft (250 mm)		442G-MABASHFT
Handle assembly mounting plate+		442G-MABAMPH
Lock module mounting plate+		442G-MABAMPL
Escape release mounting plate		442G-MABAMPE
19-pin M23 2 m cordset *		889M-F19RM-2

\+ Handle and Lock Module mounting plates must be used together.

* Other cordset lengths available on ab.com.

Specifications

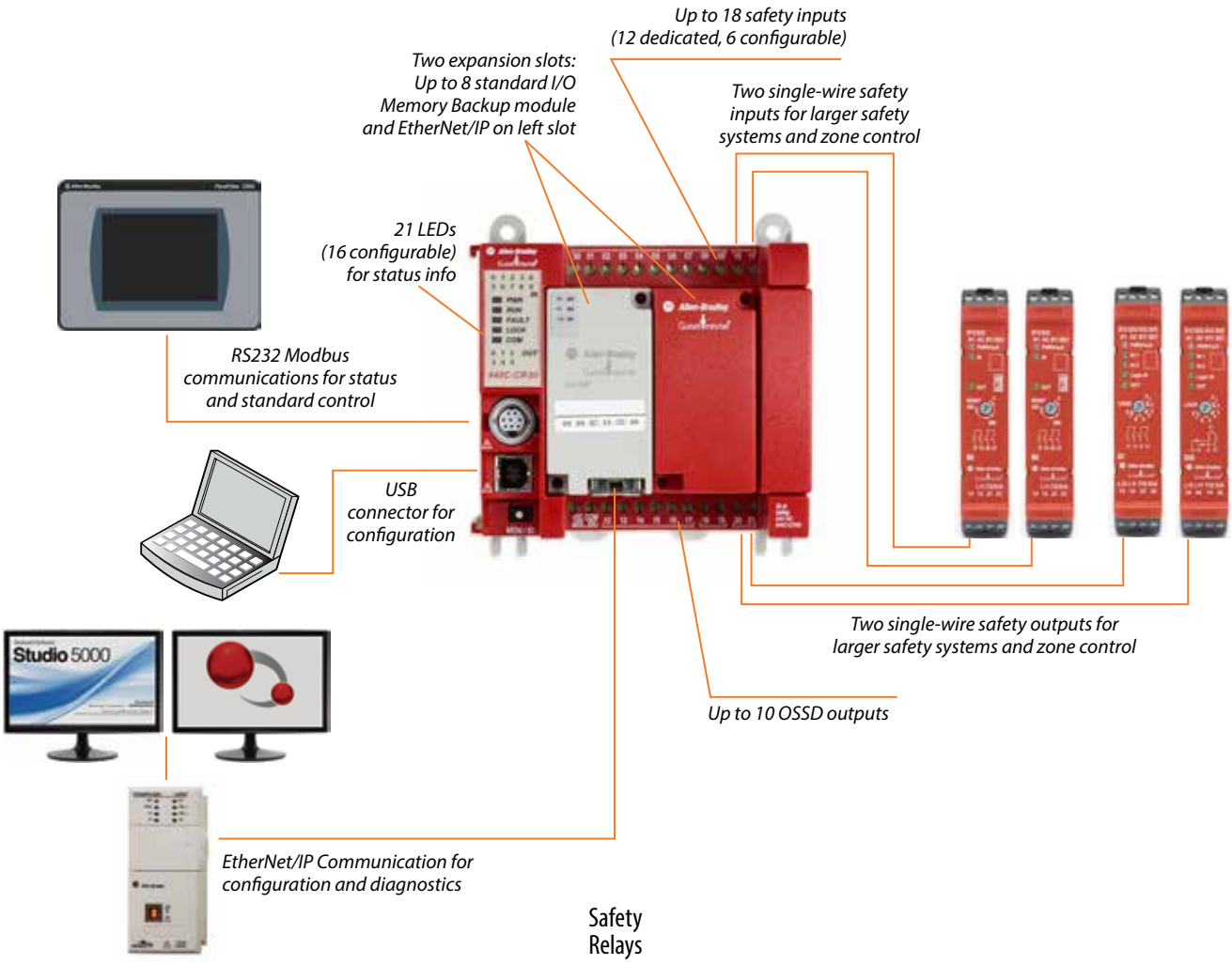
Standards	Interlocking Device: ISO 14119, IEC 60947-5-3, ISO 13849-1 EStop: ISO 13850, IEC 60947-5-1, IEC 60947-5-5
Safety Classification of Interlocking Device Functions	Type 4 Interlocking Device with Guard Locking per ISO 14119 with high (unique) coding per ISO 14119 PLe Cat 4 per ISO 13849-1
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TUV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Power Supply	Class 2 PELV 24V DC +10/-15% required
Holding Force Fzh (ISO 14119)	2000 N (450 lbs)
Safety Outputs	Semiconductor outputs, PNP
Enclosure Type Rating	IP65

Safety Relays



Software-Configurable Relay 440C

- Monitoring and Configuration from Studio 5000 Logix Designer® or Connected Components Workbench software
- PLe Cat 4 per EN ISO 13849-1 & SIL cl3 per IEC 62061
- Predefined function blocks
- AND, OR, NAND, NOR, XOR Logic functions
- 22-point embedded safety I/O
- Expandable via two Micro800® Plug-in I/O Modules
- Expandable with EtherNet/IP™ plug-in
- Embedded communication via USB programming port and non-isolated RS-232 serial port
- Two single-wire safety input/output points



Presence Sensing Devices

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Interlock Switches

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Access Control

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Safety Relays

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Emergency Stop Devices

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Enabling Switches

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Safety Limit Switches

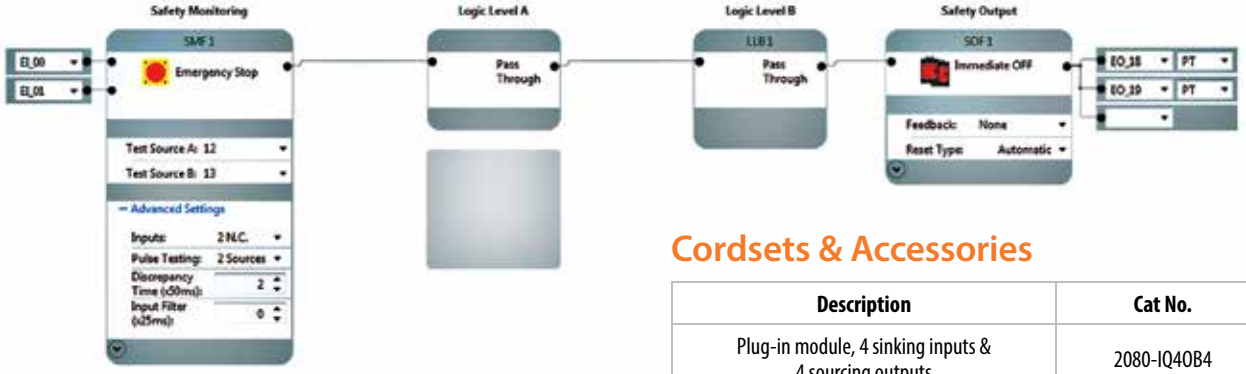
5-46…5-47

Product Selection

Software Configurable Relay

Relay Type	No. of Inputs	Type of Inputs	No. of Outputs	Cat No.
Software Configurable	Up to 18	1 N.C., 2 N.C., 3 N.C., 10 SSD, 20 SSD, 30 SSD, Mat, 2-hand control	Up to 10	440C-CR30-22BBB

Configuration with Connected Components Workbench



Specifications

Safety Rating	Up to SIL cl3 Cat 4 per IEC 61508 and PLe per ISO 13849-1
Number of I/O	22 (plus 16 additional on plug-in modules)
Operating Temperature [C (F)]	-5…+55 ° (23…131 °)
Operating Voltage	20.4…26.4V DC UL Class 1, Div 2, PELV/SELV
Power Consumption	5.28 W
Output Current	0.5 A continuous, 1 A surge per point
Response Times	Safety inputs <45 ms Safety mats < 70 ms Single-wire safety output <60 ms
Dimensions	90 x 100 x 80 mm (3.54 x 3.94 x 3.15 in.)



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Cordsets & Accessories

Description	Cat No.
Plug-in module, 4 sinking inputs & 4 sourcing outputs	2080-IQ4OB4
Power supply, 120/240V AC	2080-PS120-240VAC
4-pt digital input, 12/24V DC, sink/source, IEC3	2080-IQ4
4-pt digital output, 12/24V DC, source	2080-OB4
4-pt relay output, individually isolated, 2 A	2080-OW4I
Memory backup and restore plug-in module	2080-MEMBAK-RTC
EtherNet/IP plug-in module	440C-ENET
Communication Cables	
8-pin mini DIN to 8-pin mini DIN 0.5 m (1.5 ft)	1761-CBL-AM00
8-pin mini DIN to 8-pin mini DIN 2 m (6.5 ft) cable	1761-CBL-HM02
8-pin mini DIN to 9-pin D shell 0.5 m (1.5 ft) cable	1761-CBL-AP00
8-pin mini DIN to 9-pin D shell 2 m (6.5 ft) cable	1761-CBL-PM02
Straight male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2m length	1585J-M8TBJM-2
Right angle male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2m length	1585J-M8TBJM-2
Left angle male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2m length	1585J-M8TBJM-2

For more information on our complete family of safety relay products, please visit:
http://ab.rockwellautomation.com/Safety

Safety Relays

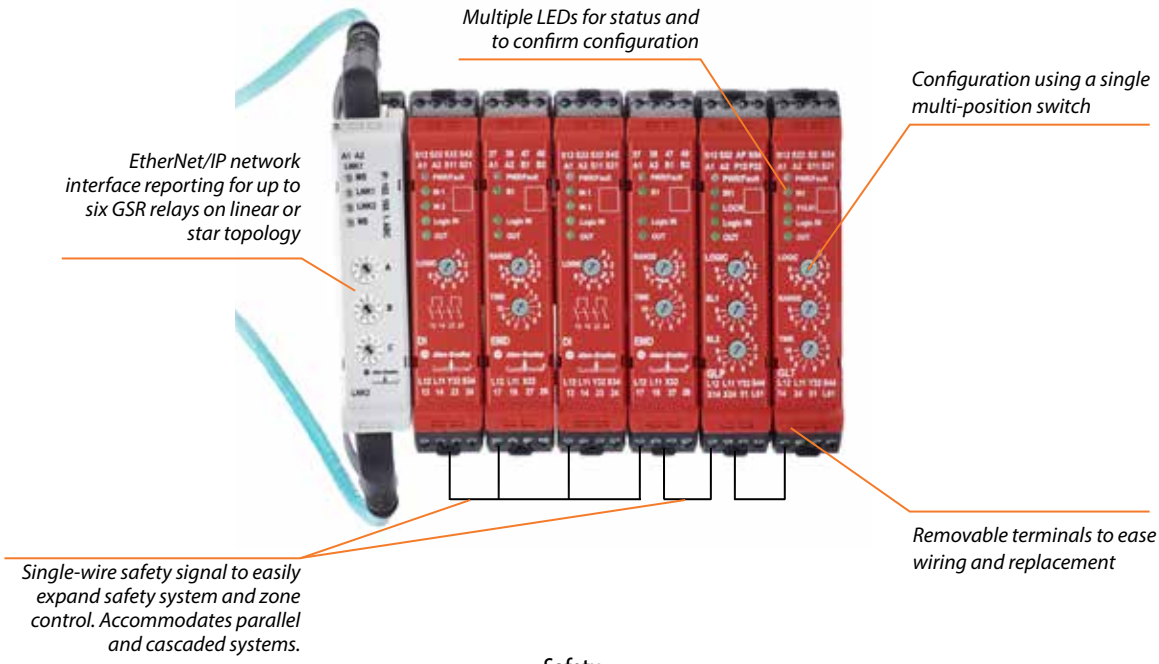


Guardmaster
Safety Relays (GSR Family)
440R

- A broad range of safety functions
- Simple logic, reset, and timing configurations
- Single-wire safety relay connection
- Universal inputs
- Compact 22.5 mm housings
- Optional EtherNet/IP network interface

Welcome to the Next Generation of Safety Relays

The new family of Allen-Bradley Guardmaster Safety Relays includes units capable of monitoring a broad range of safety devices in a variety of applications. These units can achieve most of the functions safety systems require, helping simplify purchasing and parts management. The family is designed to meet new functional safety standards, such as EN ISO 13849-1 or IEC/EN 62061 and offers key functions to simply installations and system complexity.



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Enabling Switches 5-44…5-45
Safety Limit Switches 5-46…5-47

Product Selection

Guardmaster Safety Relays

Relay Type	No. of Inputs	Inputs	Immediate Safety Outputs	Delayed Safety Outputs	Time Delay	Immediate Auxiliary Outputs	Power Supply	Cat No.
Dual Input (DI)	2 dual-channel	1 N.C., 2 N.C., OSSD, safety mat	2 N.O.	–	–	1 S.S.	24V DC	440R-D22R2
Dual Input Solid-State Output (DIS)			2 S.S.					440R-D22S2
Single Input (SI)	1 dual-channel	1 N.C., 2 N.C., OSSD, safety mat	2 N.O.	–	–	1 S.S.	24V	440R-S12R2
Compatible Input (CI)			3 N.O.					440R-S13R2
Guard Locking Proximity (GLP)	1 dual channel 2 PNP	2 N.C., OSSD	2 S.S.	–	–	1 S.S.	24V	440R-GL2S2P
Guard Locking with Time Delay (GLT)	1 dual-channel	2 N.C. or OSSD	2 S.S.	2 S.S.	100 ms...30 min	1 S.S.	24V DC	440R-GL2S2T
Expansion Module (EM)	1 single-wire safety	–	4 N.O.	–	–	1 S.S.	24V	440R-EM4R2
Expansion Module Time Delayed (EMD)			DI/SI: 2 N.O. CI: 3 N.O. DIS: 2 PNP (14, 24); 2 decoupled (34, 44) EM: 4 N.O. EMD: 4 N.O. delayed DIS/GLP: 2 PNP safety, 2 PNP lock	4 N.O.	100 ms…300 s on or off delay 100 ms…20 s jog			440R-EM4R2D
Ethernet Module								440R-ENETR

Specifications

Standards	IEC 60204-1, ISO 13849-1, IEC 61508
Safety Classification	DI/DIS/CI/SI/EM/EMD/GLT: Suitable up to PLe and Cat 4 per ISO 13849-1, SIL cl3 per IEC 61508/ IEC 62061:2006 depending on architecture and application characteristics GLP: Suitable up to PLd and Cat 3 per ISO 13849-1, SIL cl2 per IEC 61508:2010/IEC 62061 depending on architecture and application characteristics
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives
Enclosure Type Rating/ Terminal Protection	IP40 (NEMA 1)/IP20
Operating Temperature [C (F)]	-5…+55 ° (23…131 °)
Mounting	35 mm DIN Rail
Conductor Size, Max.	0.2…4 mm^2 (24…12 AWG)

Required Cordsets & Accessories

Description	Cat No.
Straight male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2 m length [1]	1585J-M8TBJM-2
Right angle male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2 m length [2]	1585J-E8TBJM-2
Left angle male RJ45 to straight male RJ45 ethernet patchcord, 8-conductor (4 pair), Cat 5e, TPE, 2 m length [3]	1585J-L8TBJM-2

[1] All Ethernet media cables are available in 0.1 m increments up to 80 m.
[2] Recommended for RJ45 connection located at the top of the Guardmaster EtherNet/IP network interface.
[3] Recommended for RJ45 connection located at the bottom of the Guardmaster EtherNet/IP network interface.

For more information on our complete family of safety relay products, please visit:
http://ab.rockwellautomation.com/Safety

Safety Relays



Single and Specialty Function Safety Relays (MSR Family)
440R

- Single function and specialty relays
- Broad range of input types
- Multiple output configurations
- Electromechanical or solid-state
- Compact housings
- Fixed or removable terminals
- Safe speed control (MSR57)

A Full Line of Single and Specialty Function Relays

The Allen-Bradley Guardmaster single function and specialty safety relays support a wide variety of input devices and output configurations. Ideal for relatively small safety applications and single zone control, these relays are compact packages with removable terminals. They are also available in electromechanical versions, or solid-state models for applications involving high cycle rates. Applications include safe speed control (MSR57) and safety control circuits involving light curtains, laser scanners, safety mats, interlock switches, guard locking interlocks, two-hand controls, safety edges, enabling devices, and E-stop push buttons.



Interface directly and monitor safety control relays, valves, contactors, drives, and motion systems.



The MSR57 is ideal for small- to medium-sized safety related control systems dedicated to specific applications.

Presence Sensing Devices

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Interlock Switches

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Access Control

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Safety Relays

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Emergency Stop Devices

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Safety Limit Switches

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Product Selection

Single and Specialty Function Safety Relays

Model	Safety Inputs	Safety Inputs		Safety Outputs		Current [1] @ 24V DC	Delay Time	Terminals	Reset	Power	Cat No.
		Immed.	Delayed	Immed.	Delayed						
MSR126	1 N.C., light curtain	2 N.O.	–	–	–	6 A	–	Removable	Auto./man.	24V AC/DC	440R-N23117
								Fixed	Mon. man.		440R-N23123
MSR126.1	2 N.C.								Auto./man.		440R-N23114
									Mon. man.	115V AC	440R-N23113
MSR127	1 N.C., 2 N.C., light curtain	3 N.O.	–	1 N.C.	–	5 A	–	Removable	Auto./man.	24V AC/DC	440R-N23132
								Spring			440R-N23132S
								Fixed			440R-N23126
								Removable		115V DC	440R-N23131
									Mon. man.	24V AC/DC	440R-N23135
								Fixed			440R-N23129
MSR132 (expansion)	1 N.C., 2 N.C.	4 N.O.	–	2 N.C.	–	3 A	–	Removable	Automatic	24V AC/DC	440R-E23097
								Fixed			440R-E23191
MSR138	1 N.C., 2 N.C. light curtain	2 N.O.	3 N.O.	–	–	6 A	0.15…3 s	Removable	Auto./mon. man.	24V AC/DC	440R-M23143
							0.5…10 s				440R-M23147
							1.5…30 s				440R-M23151
MSR138.1			2 N.O.		1 N.C.		0.15…3 s				440R-M23084
							0.5…10 s				440R-M23088
							1.5…30 s				440R-M23092
MSR57 Speed Monitoring	5 x 1 N.C., 2 N.C., light curtain 1 N.O. & 1 N.C.	6 N.O.	–	4 N.O.	–	–	–	Removable	Automatic/ monitored manual	24V DC	440R-S845AER-NNL
MSR125 Two-Hand Control	1 N.C. & 1 N.O.	2 N.O.		–		4 A			Auto./man.	24V AC/DC	440R-D23171

[1] DC-13 inductive load current switching at maximum of 6 ops/min. MSR127 440R-N23132 has AC-15 inductive load current switching of 5 A @ 259V AC.

Specifications

Standards	EN ISO 13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS 4024.1
Safety Classification	Cat 4 per ISO 13849-1, SIL cl3 per IEC 62061, PLe per ISO 13849-1
Certifications	cULus Listed, c-Tick, and CE Marked for all applicable directives
Enclosure Type Rating/ Terminal Protection	IP40, IP20, DIN 0470
Operating Temperature [C (F)]	-5…+55 ° (23…131 °)
Mounting	35 mm DIN Rail
Conductor Size, Max.	0.2…4 mm^2 (24…12 AWG)



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/ support/overview.page

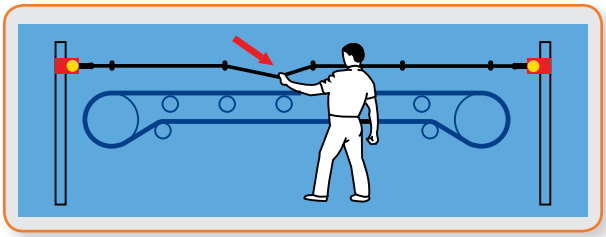
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http://ab.rockwellautomation.com/Safety

Emergency Stop Devices



Lifeline Cable Pull Switches 440E

- Up to 125 m cable span
- Universal mounting and operation
- Lid mounted emergency stop button
- Switch latches when cable is pulled or cable is slack
- Cable status indicator on switch lid
- Lifeline Rope Tensioner System (LRTS) speeds installation



Cable Pull Switches Overview

For machinery such as conveyors, it is often more convenient and effective to use a cable pull device along the hazard area (as shown in the figure below) as the emergency stop device. These devices use a steel cable connected to latching pull switches so that pulling on the cable in any direction along its length will trip the switch.

Cable pull switches must detect a pull on the cable as well as when the cable goes slack. Slack detection ensures that the cable is not cut and is ready for use.

Rockwell Automation developed a unique Lifeline Rope Tensioner System (LRTS) which enables quicker installations.

Selection Guide

	Lifeline 3	Lifeline 4	Stainless Steel Lifeline 4
Material	Painted Zinc alloy	Painted Aluminum alloy	Stainless Steel 316
Reset	Yes	Yes	Yes
E-Stop	No	Yes	Yes
Cable Span	30 m (98.42 ft)	75 m (246 ft) 125 m (410 ft) extended model	75 m (246 ft)

Product Selection

Lifeline

Model	Cable Span	Safety Contacts	Auxiliary Contacts	Cat. No.	
				M20	1/2 in. NPT
Lifeline 3	≤30 m	2 N.C.	2 N.O.	440E-D13118	440E-D13120
		3 N.C.	1 N.O.	440E-D13112	440E-D13114
Lifeline 4	≤75 m	2 N.C.	2 N.O.	440E-L13137	440E-L13133
		3 N.C.	1 N.O.	440E-L13042	440E-L13043
	75…125 m	2 N.C.	2 N.O.	440E-L13153	440E-L13155
		3 N.C.	1 N.O.	440E-L13150	440E-L13152
Lifeline 4 stainless steel [1]	≤75 m	2 N.C.	2 N.O.	440E-L22BNSM	440E-L22BNST

[1] A dedicated stainless steel installation kit must be used with the stainless steel Lifeline 4 instead of the LRTS.

Specifications

Standards	IEC 60947-5-5, ISO 13850, IEC 60947-5-1 Emergency stop device in accordance with ISO 13850
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current/$_{Ith}$	10 A
Switching Current @ Voltage, Min.	5 mA @ 5V DC
Environmental	
Enclosure Type Rating	IP66 (Lifeline 4), IP67 (Lifeline 3), IP69K (Lifeline 4 Stainless)
Operating Temperature [C (F)]	-25…+80 ° (-13…+176 °)

Accessories [2]

Description	Length	Cat. No.
LRTS installation kit	5 m (16.4)	440E-A13079
	10 m (32.8 ft)	440E-A13080
	20 m (65.6 ft)	440E-A13082
	30 m (98.4 ft)	440E-A13083
	50 m (164 ft)	440E-A13084
	75 m (246 ft)	440E-A13085
Stainless steel installation kit	5 m (16.4 ft)	440E-A13194
	10 m (32.8 ft)	440E-A13195
	15 m (49.2 ft)	440E-A13196
	20 m (65.6 ft)	440E-A13197
	30 m (98.4 ft)	440E-A12198
	50 m (164 ft)	440E-A13199
	75 m (246 ft)	440E-A13200

[2] 1 x length of cable (rope), 2 x grippers, 1 x tensioner and quantity of eyebolts.

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



Enabling Switches



Enabling Switches 440J

- Three position enabling switch
- Lightweight and easy-to-use
- Optional jog and e-stop functions
- M20 conduit

Overview

The 440J is a three position enabling switch that can be used to reduce risks when working inside a machine guard, e.g., set-up, maintenance, or troubleshooting. The standard model includes two independent three-position switches which are actuated by squeezing the trigger.

The trigger switch has three positions. The mid-position is the "enabled" position.

Position 1 – there is no pressure on the trigger switch, and the safety contacts are open.

Position 2 – the trigger switch is squeezed to the mid-position, and the safety contacts are closed. This mid-position is the "enabled" position.

Position 3 – the trigger switch is fully pressed and the safety contacts are open.

When the trigger switch is released from position three back to position one, the safety contacts remain open, as it passes through position two.

Multiple Personnel Access

When more than one person must access the hazard, all persons utilize their own enabling device.



Product Selection

Enabling Switches

Description	Main Contacts (3 position switches)	Monitoring Contacts	Jog Contact	Emergency Stop Contacts	Connection Type	Cat. No.
Standard switch (no additional buttons)	2 N.C.	1 N.C.	–	–	M20 conduit	440J-N21TNPM
Switch with job button	2 N.C.	1 N.C.	1 N.O.	–		440J-N21TNPM-NP
Switch with emergency stop button	2 N.C.	–	–	2 N.C.		440J-N2NTNPM-NE

Specifications

Standards	IEC 60947-5-8, IEC 60947-5-1
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Thermal Current/$_{Ith}$	3 A
Switching Current @ Voltage, Min.	5 mA @ 3V AC/DC
Enclosure Type Rating	IP66 standard switch (NEMA 6)
	IP65 jog button and E-stop switches
Operating Temperature [C (F)]	-10…+60 ° (14…140 °)

Accessories

Description	Cat. No.
Silicone free rubber boot kit	440J-A10N
Mounting bracket suitable for single enabling switch	440J-A00N



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

For more information on our complete family of enabling switch products, please visit:
http://ab.rockwellautomation.com/Safety

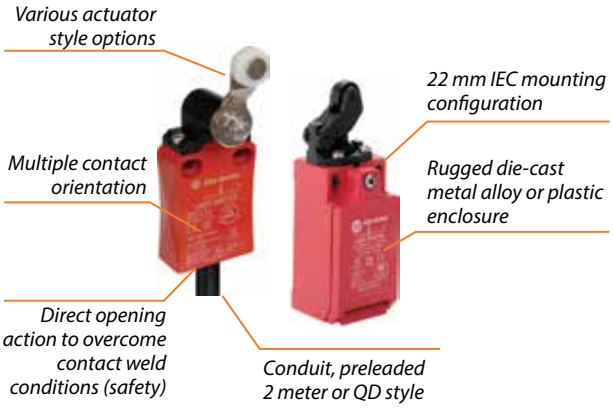
Safety Limit Switches



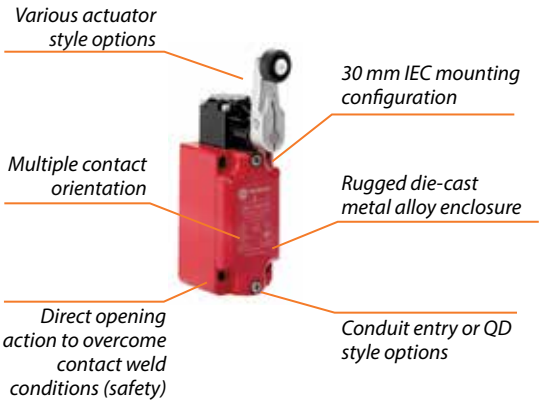
22 mm Metal and Plastic, 30 mm Metal, and 15 mm Plastic
440P

- Lever and plunger type actuator styles
- Direct opening contacts
- Type 1 interlocking device per ISO 14119
- Replaceable actuators

22 mm Metal and Plastic



30 mm Metal





A Full Line of IEC Safety Switches

The 440P limit switch family offers a full range of international-style solutions for both safety and standard sensing applications. Available in four different body styles – 30 mm metal, 22 mm metal and plastic, and 15 mm plastic – with a broad selection of operator types, circuit arrangements and connection options, the 440P is ideal for a wide variety of applications. These include material handling, packaging, elevators, escalators, scissor lifts, industrial trucks and tractors, cranes and hoists, overhead door as well as general safety guarding applications.



Rockwell Automation has a full range of limit switch levers.
See page 6-89 for levers.

Presence Sensing Devices

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Interlock Switches

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Access Control

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Safety Relays

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Emergency Stop Devices

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Enabling Switches

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Safety Limit Switches

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Product Selection

22 mm Metal and Plastic, 30 mm Metal, and 15 mm Plastic

Description		Safety Contacts	Auxiliary Contacts	Contact Type	1/2 in. NPT Conduit	M20 Conduit	Quick Disconnect
30 mm metal	Metal roller plunger	1 N.C.	1 N.O.	Snap acting	440P-MRPS11E	440P-MRPS11B	440P-MRPS11N5
		2 N.C.	2 N.O.	BBM	440P-MRPB22E	440P-MRPB22B	440P-MRPB22M9
	Short lever, plastic roller	1 N.C.	1 N.O.	Snap acting	440P-MSLS11E	440P-MSLS11B	440P-MSLS11N5
		2 N.C.	2 N.O.	BBM	440P-MSLB22E	440P-MSLB22B	440P-MSLB22M9
	Short lever, metal roller	1 N.C.	1 N.O.	Snap acting	440P-MMHS11E	440P-MMHS11B	440P-MMHS11N5
		2 N.C.	2 N.O.	BBM	440P-MMHB22E	440P-MMHB22B	440P-MMHB22M9
	Adjustable lever	1 N.C.	1 N.O.	Snap acting	440P-MALS11E	440P-MALS11B	440P-MALS11N5
		2 N.C.	2 N.O.	BBM	440P-MALB22E	440P-MALB22B	440P-MALB22M9
22 mm plastic	Plastic roller plunger	1 N.C.	1 N.O.	Snap acting	440P-CRPS11E	440P-CRPS11B	440P-CRPS11D4
		2 N.C.	1 N.O.	BBM	440P-CRPB12E	440P-CRPB12B	440P-CRPB12R6
	Adjustable lever	1 N.C.	1 N.O.	Snap acting	440P-CALS11E	440P-CALS11B	440P-CALS11D4
		2 N.C.	1 N.O.	BBM	440P-CALB12E	440P-CALB12B	440P-CALB12R6
	Short lever, plastic roller	1 N.C.	1 N.O.	Snap acting	440P-CSLS11E	440P-CSLS11B	440P-CSLS11D4
		2 N.C.	1 N.O.	BBM	440P-CSLB12E	440P-CSLB12B	440P-CSLB12R6

Description		Safety Contacts	Auxiliary Contacts	Contact Type	Cat. No.		
					2 m Bottom Cable	2 m Side Cable	Quick-Disconnect
22 mm metal	Metal roller plunger	1 N.C.	1 N.O.	Snap acting	440P-ARPS11C	440P-ARPS11CS	440P-ARPS11D5
	Dome plunger	1 N.C.	1 N.O.	Snap acting	440P-ADPS11C	440P-ADPS11CS	440P-ADPS11D5

Description	Description	Safety Contacts	Auxiliary Contacts	Contact Type	Cat No.
15mm plastic	Roller plunger	1 N.C.	1 N.O.	Snap acting	440P-M18001
	Cross roller Plunger	1 N.C.	1 N.O.	Snap acting	440P-M18002

Specifications

Standards	ISO 14119, IEC 60947-5-1
Functional Safety	Visit http://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Outputs	
Thermal Current	10 A
Switching Current @ Voltage	25 mA @ 5V DC, min.
Operating Characteristics	
Actuation Frequency, Max.	6000 operations per hr.
Mechanical Life	10 million operations

Required Cordsets & Accessories

Description	Cat. No.
4-pin DC micro (M12), 2 m	889D-F4AC-2
6-pin AC micro (M12), 2 m	889R-F6ECA-2
5-pin mini, 2 m	889N-F5AE-6F
12-pin, 9-wire, 2 m	889M-FX9AE-2

For more information on our complete family of safety limit switch products, please visit:
http://ab.rockwellautomation.com/Safety

Additional Safety Products



Atlas 5 Guard Locking Switches 440G

The Atlas™ 5 guard locking switch is a tongue-operated guard locking interlock switch that has the highest holding force in our portfolio.

- High Fzh (holding force): 3850 N (865 lbs)
- Mechanical lock
- Heavy-duty die-cast alloy housing
- Patented self-aligning head
- Type 2 Interlocking Device with Guard Locking and low coding per ISO 14119

440G-MT Guard Locking Solenoid Switches 440G

The 440G-MT solenoid switch locks a machine guard closed and may only be opened when a signal is applied to the internal solenoid which releases the lock mechanism.

- High Fzh (holding force): 1500 N (337 lb)
- Mechanical lock (power-to-release)
- Heavy-duty die-cast alloy housing
- Diagnostic version available
- Type 2 Interlocking Device with Guard Locking and low coding per ISO 14119





Ferrogard GD2 Coded Non-Contact Switches 440N

Ferrogard™ magnetically actuated dual channel safety switches combine non-contact reliability with tolerance to misalignment.

- Non-contact actuation with high tolerance to misalignment
- Stainless steel GD2 version for harsh environments
- Various contact arrangements
- Type 3 Interlocking Device per ISO 14119
- Model FRS21 GD2 available with ATEX approval. For details, see www.rockwellautomation.com/global/certification/ex.page?#/tab1

Presence Sensing Devices

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Interlock Switches

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Enabling Switches

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Safety Limit Switches

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Hinge Interlock Switches
440H

Our 440H family of hinge-actuated safety-interlock switches is designed to fit at the hinge point of machine guards. The actuation shaft is connected to the existing hinge pin and switch operation is based on the opening/closing of the guard.

- Multiple models for light- to medium-weight guard doors
- Degree of operation can be customized with adjustable cam
- Compact and heavy-duty versions
- EX and pneumatic versions available (Rotacam™ only)
- Type 1 Interlocking Device per ISO 14119





Safedge
440F

Safedge™ pressure-sensitive safety edges are mounted to a moving piece of machinery such as the bottom of a powered garage door to prevent personnel from bodily injury. Light pressure from any direction through 90° on the rubber profile will trip the system.

- Conductive rubber technology
- Various profiles and cushion factors
- Up to 50 m lengths
- Aluminum, plastic, or zinc-coated steel mounting rails

Safety Programmable Controllers

Our safety controller solutions provide open and integrated control that will help to ensure machine safety and protect your current control investments.

- 1756 GuardLogix® safety controllers and integrated safety systems
- 1768 Compact GuardLogix
- 1752 SmartGuard™ 600
- 1753 GuardPLC™ Controllers



For more information on our complete family of safety products, please visit:
http://ab.rockwellautomation.com/Safety

Additional Safety Products



Safety Input/Output (I/O) Modules

Our Guard I/O safety products provide all the advantages of traditional distributed I/O for safety systems.

- 1734 POINT Guard I/O Modules
- 1732DS ArmorBlock Guard Safety I/O Blocks
- 1753 GuardPLC Safety I/O Blocks
- 1791DS and 1791ES CompactBlock™ Guard I/O Modules

Safety Motor Control

Our Safety Motor Control products help reduce the risks associated with the operation and maintenance of electrical equipment.

- CENTERLINE® ArcShield™ arc-resistant controller
- 280/281 ArmorStart® distributed motor controllers
- CENTERLINE 2500 and 2100 Motor Control Centers (MCCs) with ArcShield
- 100S/104S IEC safety contactors and 700S safety control relays
- ElectroGuard® safety isolation system



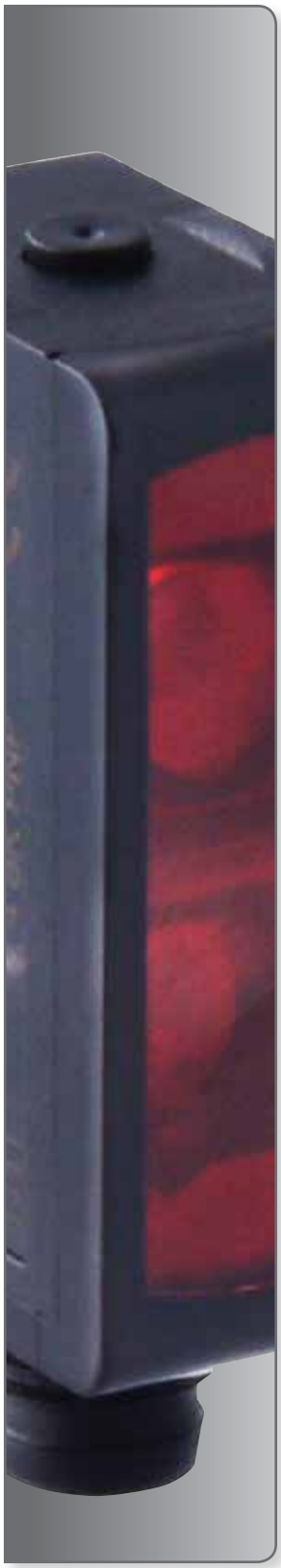


Safety Drives and Motion Control

Many of our Allen-Bradley PowerFlex® AC drives and Kinetix® servo drives offer certified safety options to help provide integral, cost-effective and certified protection.

- Safe Torque-Off and/or Safe Speed Monitor options for:
  - PowerFlex 525, 753, and 755 AC drives
  - Kinetix 300, 6000, 6200, 6500, and 7000

Presence Sensing Devices	Interlock Switches	Access Control	Safety Relays	Emergency Stop Devices	Enabling Switches	Safety Limit Switches
						
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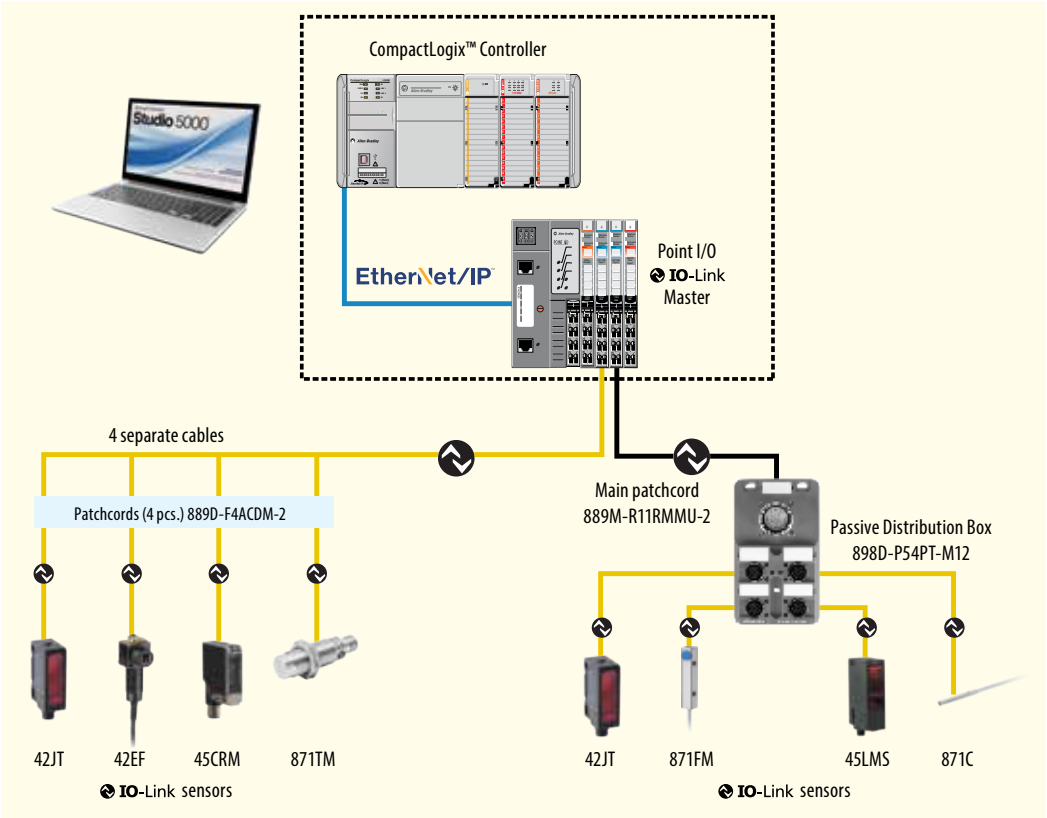
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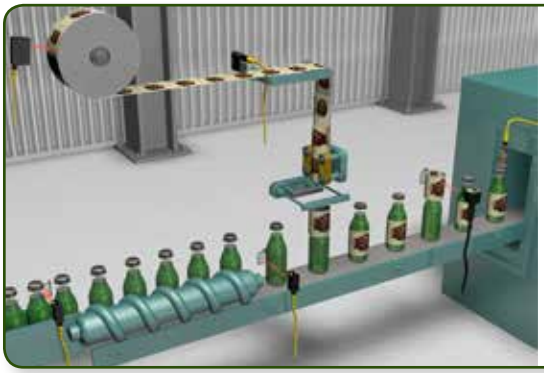
Additional Sensor Products 6-110

IO-Link

Our Integrated Smart Sensor Solution

When it comes to linking end point devices on the plant floor to the Connected Enterprise, Rockwell Automation offers a wide range of smart sensors that deliver information, advanced functionality and flexibility while increasing efficiency machine- and plant-wide. These Allen-Bradley® sensors use IO-Link technology for visibility of field devices through your Integrated Architecture.





What is IO-Link?

IO-Link is a worldwide open-standard peer-to-peer serial communication protocol (IEC 61131-9) that allows sensors and actuators to easily integrate into The Connected Enterprise. Through IO-Link you can access all sensor configuration parameters, process data and diagnostics. So you can go beyond detecting products on your machine – now you can MONITOR your machine's health as it runs. Plus, IO-Link simplifies setup and commissioning while offering enhanced flexibility for current – and future – processes.

IO-Link
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Condition Sensing

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IO-Link Enabled Products



IO-Link Master – Catalog Number 1734-4IOL

- Enables connection of up to four devices (IO-Link enabled or standard IO)
- Wired the same way as standard IO
- Supported exclusively by 1734-AENTR series B Ethernet communication adapter



45LMS



45CRM

Specialty Sensors (45CRM Color Registration, 45LMS Laser Measurement)

- Multiple sensor setups (profiles) can be stored to support manufacturing of different products/packages
- Location indication helps the user to pinpoint the sensor on the machine by temporarily increasing the flash of the diagnostic/status LEDs
- Local sensor settings can be locked when operating in IO-Link mode, preventing adjustments by unauthorized personnel

Photoelectric Sensors (42JT, 42EF)

- Sensor diagnostics minimize downtime by indicating when the sensor requires maintenance or replacement
- Unique product serial numbers help ensure that sensors are installed in the proper locations during commissioning
- Multiple teach modes (Standard, Precision and Dynamic) allow the sensors to be set up quickly and easily to best suit the application



42JT VisiSight



42EF RightSight



871TM



871C Miniature

Proximity Sensors (871TM, 871C, 871FM)

- Margin status helps optimize sensor installation for best performance
- On-delay/off-delay timing and event counter can be set directly in the sensor
- The internal temperature of the sensor is continuously measured and can be used for diagnostic or preventative maintenance

Look for this symbol for IO-Link enabled Sensors

RFID



6-108…6-109

For more information on our complete family of IO-Link products, please visit: *http://www.rockwellautomation.com/go/iolink*

Photoelectric Sensors

Sensor Selection

Photoelectric Sensors operate by sensing a change in the amount of light that is either reflected or blocked by an object to be detected (target). The change of light could be the result of the presence or absence of the target or as the result in the change of the size, shape, reflectivity or color of a target.

These sensors can be used in applications to detect targets at distances over 300 m.

To successfully apply a photoelectric sensor the following requirements must be clearly understood:

For Your Selection Keep in Mind...

Margin: defined as the measurement of the amount of light from the light source detected by the receiver, expressed as a multiple of the minimum amount of light level required to switch the sensor output. A margin of 2X is reached when the light level received is twice the minimum required to switch the output.
For minimizing maintenance the sensor should be operated at a margin greater than 2X. Detection in dirty environments (or of a low reflectivity target) requires sensors with higher margin.

Light Operate Output (LO): output is ON (energized) when the receiver can see sufficient light from the light source.

Dark Operate Output (DO): output is ON (energized) when the receiver cannot see light from the light source.

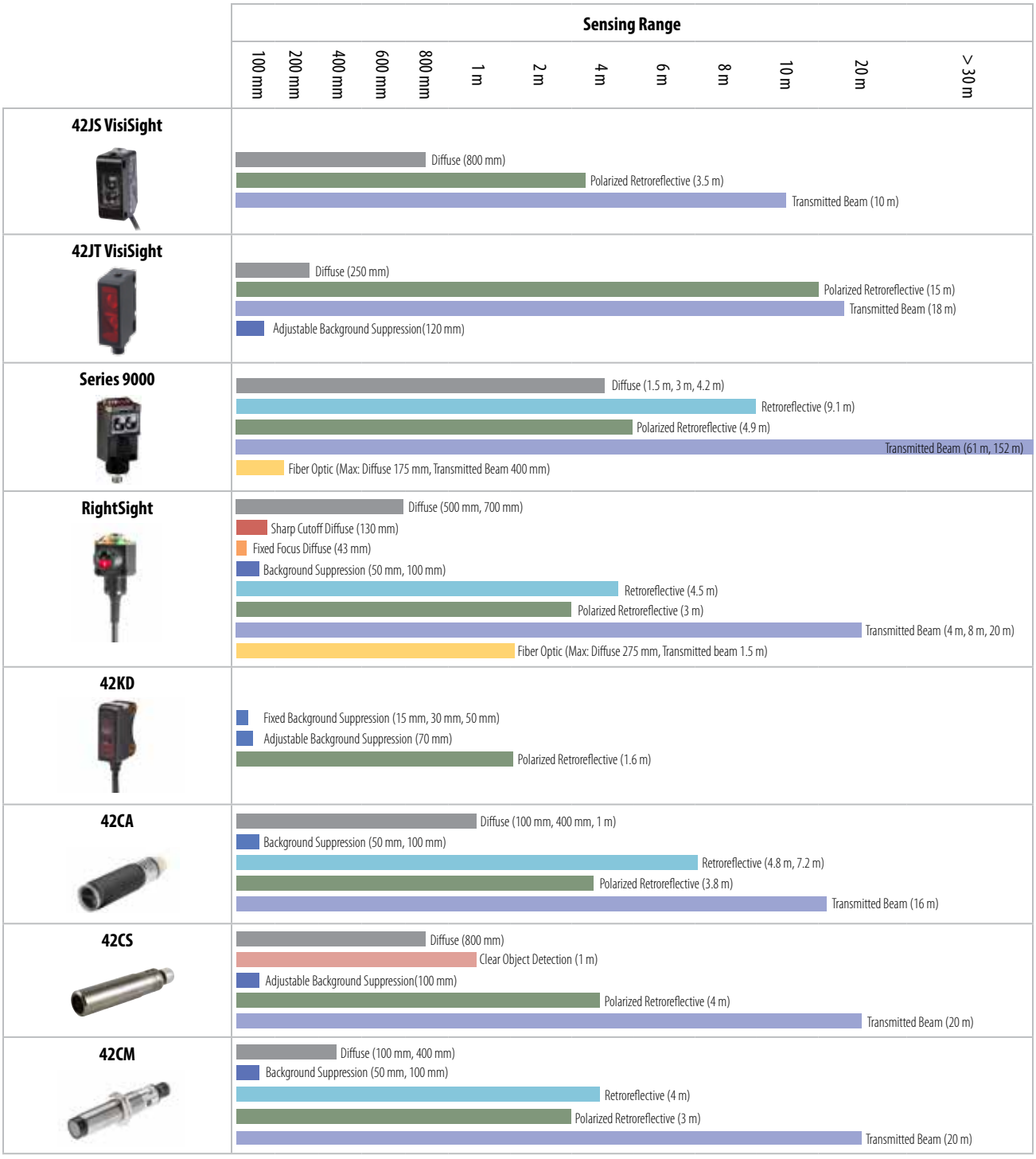
Application Considerations

Target	Environmental	Electrical	Installation
Detection Range Object • Shape • Size • Opacity • Reflectivity • Speed	Temperature • High • Low Conditions • Wet or dry • Clean or dirty • Humidity Chemical Substances High-pressure Washdown	Supply Voltage • DC or AC Output Type • PNP, NPN • SPDT relay, MOSFET Response Time Analog Outputs Communications	Mounting Space Cable Connections • 2 m cable • Micro M12 QD • Pico M8 QD Shock/Vibration Interference • Electrical Noise • Sunlight

Standard Sensing Modes

	Advantages	Precautions
Diffuse 	• Ideal for short-range applications • No reflector required • Easy installation/alignment	• Sensing range depends on target's characteristics (color, reflectivity, etc.) • Highly reflective backgrounds may false trigger the sensor • Relatively short sensing distance
Retroreflective 	• Moderate sensing distances • Easy to align • Requires mounting and wiring of only one emitter/receiver unit	• Shorter sensing distances than transmitted beam • May detect reflections from shiny objects (see polarized retroreflective) • Reflector required
Transmitted Beam 	• High margin for contaminated environments • Longer sensing ranges than other technologies • Most reliable sensing mode for highly reflective objects	• Requires proper alignment • Not recommended for clear object sensing • Space required to mount and wire separate emitter and receiver

General Purpose Solutions



RFID



6-108. . .6-109

For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing

Photoelectric Sensors

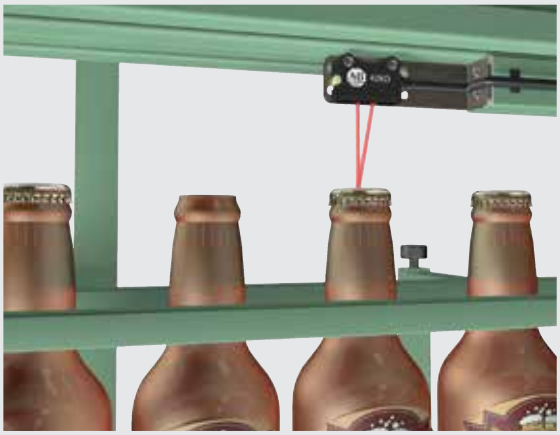


Miniature
42KD

- Our smallest rectangular photoelectric sensor
- Ranges up to 3 m (9.74 ft)
- IP67 enclosure rating
- Auto PNP/NPN
- Push button teach
- Through-hole or dovetail clamp mounting
- Visible red

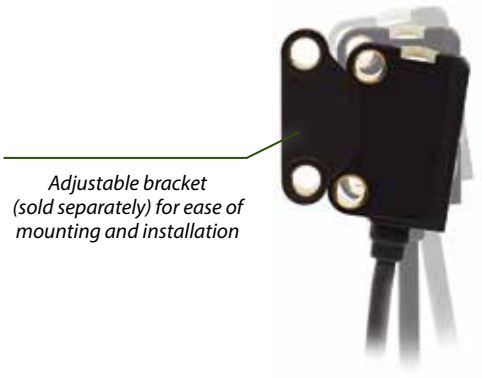
Our Smallest Photoelectric Sensor Package

The 42KD sensors, designed for applications with limited mounting space, offer the performance of much larger sensors in a compact housing. This family of LED and laser sensors is the most complete family of miniature sensors on the market. Additionally, these sensors offer easy commissioning via push button teach or through a control wire. The background suppression versions provide reliable object detection independent of the target size, shape, or color.



Bottling application – A 42KD ensures a bottle cap is in place prior to a cartoning process





Product Selection

Miniature

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Polarized retroreflective	Visible red	0.1…1.6 m (0.33…5.25 ft)	Teach button	Teachable light or dark operate, auto PNP or NPN	0.5 ms	42KD-P2LAT1-Y4
Background suppression	Visible red	1…15 mm (0.04…0.59 in.)	None	Selectable light or dark operate by remote teach, auto PNP or NPN	0.5 ms	42KD-B2LAR1-Y4
		1…30 mm (0.04…0.59 in.)				42KD-B2LAR2-Y4
		1…50 mm (0.04…1.18 in.)				42KD-B2LAR3-Y4
		5…70 mm (0.2…2.75 in.)	Teach button	Teachable light or dark operate, auto PNP or NPN		42KD-B2LAT1-Y4

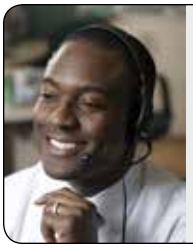
[1] The -Y4 suffix describes a 4-pin pico (M8) QD connector on a 150 mm (6 in.) pigtail.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-20…+50 ° (-4…+122 °)
Operating Voltage	10…30V DC, 30 mA
Protection Type	Reverse polarity, short circuit
Output Current	50 mA
Housing Material	PUR
Lens Material	PMMA
Cover Material	PMMA

Required Cordsets and Accessories

Description	Cat. No.
DC pico (M8) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889P-F4AB-2
DC pico (M8) QD cordset, right angle, 4-pin, 2 m (6.6 ft)	889P-R4AB-2
Reflector, micro cube, 51 x 61 mm (2 x 2.5 in.)	92-118
42KD Swivel mounting bracket	42KD-BKT1



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

Photoelectric Sensors



VisiSight 42JS and 42JT

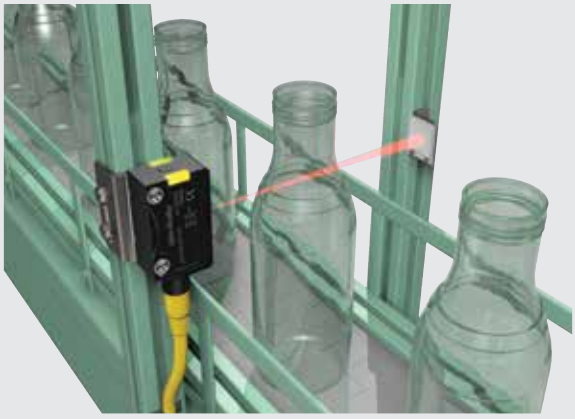
- Industry standard 25.4 mm (1.0 in.) mounting
- Ranges up to 13 m (42.65 ft)
- IP69K and 1200 psi washdown rating (with ECOLAB) for 42JT
- Auto PNP/NPN (42JT)
- Push button teach (42JT)
- IO-Link enabled (42JT only)

IO-Link

A Compact General-purpose Solution

The 42JS and 42JT VisiSight sensors offer a small rectangular package with visible light beam for ease of alignment and 25.4 mm industry standard mounting hole spacing.

The 42JS is a basic, cost-effective model ideal for general purpose applications. The 42JT is an advanced line that features push button teach and a unique "Auto PNP/NPN" output that simplifies installation and reduces the number of models to be stocked by 50%.



Clear object detection – clear objects such as bottles are difficult for standard sensors to detect because they see through the target. The 42JT clear object sensor reliably detects these objects thanks to specialized optics.



42JS

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

VisiSight

Sensing Mode	Sensing Distance	Sensitivity Adjustment	Light Source	Output Function	Cat. No. [1]
Polarized retroreflective	0.025…3.5 m (0.08…11.5 ft)	None	Visible red	Complementary L.O/D.O., PNP	42JS-P2MPB1-F4
		Adjustment knob			42JS-P2MPA2-F4
	0.1…6 m (0.33…19.7 ft)	Teach button		Teachable L.O./D.O., Auto PNP/NPN	42JT-P2LAT1-F4
Diffuse	3…250 mm (0.12…9.84 in.)	Adjustment knob	Visible red	Complementary L.O/D.O., PNP	42JS-D2MPA2-F4
	3…800 mm (0.12…31.5 in.)				42JS-D2MPA1-F4
		Teach button		Teachable L.O./D.O., Auto PNP/NPN	42JT-D2LAT1-F4
Background suppression	2…130 mm (0.07…5.12 in.)	None	Visible red	Complementary L.O/D.O., PNP	42JS-B2MPB2-F4
	6…55 mm (0.24…2.17 in.)				42JS-B2MPB1-F4
	1…180 mm (0.04…7.1 in.)	Teach button		Teachable L.O./D.O., Auto PNP/NPN	42JT-B2LAT1-F4
	3…400 mm (0.12…15.75 in.)				42JT-B2LAT2-F4
Clear object detection	2 m (6.6 ft)	Teach button	Visible red		42JT-C2LAT1-F4
Color mark	12 mm (0.47 in.) ±2.5 mm		White LED	Teachable L.O./D.O., PNP or NPN (push/pull)	42JT-F5LET1-F4
Transmitted beam emitter	10 m (32.8 ft)	None	Infrared	NA	42JS-E1EZB1-F4
Transmitted beam receiver		Adjustment knob		Complementary L.O/D.O., PNP	42JS-R9MPA2-F4
Transmitted beam emitter	10 m (32.8 ft)	None	Visible red	NA	42JS-E2EZB1-F4
Transmitted beam receiver		Adjustment knob		Complementary L.O/D.O., PNP	42JS-R9MPA1-F4
Transmitted beam emitter	13 m (42.65 ft)	None	Visible red	NA	42JT-E2EZB1-F4
Transmitted beam receiver		Teach button		Teachable L.O/D.O., Auto PNP/NPN	42JT-R9LAT1-F4

[1] The -F4 suffix describes a 4-pin DC micro (M12) QD connector on a 150 mm (6 in.) pigtail.

IO-Link enabled.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	42JS: IP67; 42JT: IP67 and IP69K
Operating Temperature [C (F)]	-20…+60 ° (-4…+140 °)
Operating Voltage	10…30V DC (25 mA for 42JS, 30 mA for 42JT)
Protection Type	False pulse, reverse polarity, overload, short-circuit,
Load Current, Max.	100 mA max.
Housing Material	ABS
Lens Material	PMMA
Cover Material	PMMA

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
Mounting bracket, stainless steel, l-shaped for 42JT and 42JS	60-BJS-L1
Mounting bracket, stainless steel, l-shaped for 42JT and 42JS VisiSight	60-BJT-L2
Mounting bracket, plastic, swivel/tilt for 42JS and 42JT VisiSight	60-2619
Protective mounting bracket, stainless steel, u-shaped for 42JT and 42JS	60-BJT-U1
18 mm snap-on adaptor (42JS Only)	60-AJS-18
Reflector, corner cube, 76 mm (3 in.) diameter	92-124
Reflector, corner cube, 84 mm (3.3 in.) diameter	92-125
Reflector, micro cube, 51 x 61 mm (2 x 2.5 in.) for laser and clear object models	92-118
Ethernet/IP Point I/O	1734-AENTR
Point I/O IO-Link Master Module	1734-4IOL

RFID



6-108…6-109

For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing



VisiSight Laser
42JT

- Class 1 eye safe visible laser
- Industry standard 25.4 mm (1.0 in.) mounting
- Ranges up to 18 m (59.05 ft)
- IP69K (with ECOLAB)
- Auto PNP/NPN
- Push button teach

IO-Link

Our Compact, Easy-to-use Laser-based Solution

The 42JT VisiSight family offers a wide range of sensing modes and a teach push button that simplifies sensitivity adjustment and offers light vs. dark operate output selection. The unique "Auto PNP/NPN" output continuously monitors how the load is connected and automatically configures the output for proper operation and output LED to indicate correct output status. Not only do these features make the 42JT VisiSight easy to apply in challenging packaging and assembly applications, but they help optimize your supply chain by reducing the number of models to be stocked by 50%. The laser versions feature an eye-safe Class 1 visible light source and are ideal for small object detection.



42JT



Bottling inspection – When the single 42JT LaserSight mounted on the side of the conveyor senses the bottle carton, it triggers the three standard VisiSights above to check for missing bottles.

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

VisiSight Laser

Sensing Mode	Sensing Distance	Sensitivity Adjustment	Light Source	Output Function	Cat. No. [1]
Background suppression	4…120 mm (0.16…4.72 in.)	Teach button	Class 1 laser	Teachable L.O./D.O., Auto PNP/NPN	42JT-B8LAT1-F4
Diffuse	5…250 mm (0.20…9.84 in.)				42JT-D8LAT1-F4
Polarized retroreflective	0.1…13 m (0.33…42.7 ft)				42JT-P8LAT1-F4
Transmitted beam emitter	18 m (59.05 ft)	None		NA (emitter)	42JT-E8EZB1-F4
Transmitted beam receiver		Teach button		Teachable L.O./D.O., Auto PNP/NPN	42JT-R8LAT1-F4

[1] The -F4 suffix describes a 4-pin DC micro (M12) integral QD connector.

IO-Link enabled.

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67 and IP69K
Operating Temperature [C (F)]	-20...+60 ° (-4...+140 °)
Operating Voltage	10…30V DC, 30mA
Protection Type	False pulse, reverse polarity, overload, short circuit
Load Current	100 mA max.
Housing Material	ABS
Lens Material	PMMA
Cover Material	PMMA

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
Mounting bracket, stainless steel, L-shaped for 42JT and 42JS	60-BJS-L1
Mounting bracket, stainless steel, L-shaped for 42JT and 42JS	60-BJT-L2
Mounting bracket, plastic, swivel/tilt for 42JT	60-2619
Protective mounting bracket, stainless steel, U-shaped for 42JT and 42JS	60-BJT-U1
Reflector, micro cube, 51 x 61 mm (2 x 2.5 in.)	92-118
Reflector, micro cube, 20 x 32 mm (0.79 x 1.26 in.) with mounting tabs	92-134
Ethernet/IP Point I/O	1724-AENTR
Point I/O IO-Link Master Module	1734-4IOL

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For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing



RightSight 42EF

- Universal 18 mm mounting
- Ranges up to 20 m (65.6 ft)
- IP69K and 1200 psi washdown rating
- Non-adjustable, adjustable and teach models
- 360° visible LED indicators
- ECOLAB on cable models
- IO-Link enabled (select models)

IO-Link

The Industry Standard for Durability and Performance

Many applications can be solved with a smaller sensor, but don't be fooled – this durable and rugged sensor has become the standard in many material handling applications. The polarized retroreflective has a maximum sensing range of 3 m (9.8 ft). It also requires much less space for mounting.





Material handling application – A retroreflective RightSight detecting packages on a conveyor line.

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

RightSight

Sensing Mode	Operating Voltage	Light Source	Sensing Distance	Sensitivity Adjustment	Output Function	Cat. No. [1]
Retroreflective	10.8…30V DC	Visible red	25 mm…4.5 m (1 in…14.7 ft)	None	D.O., NPN & PNP	42EF-U2KBB-F4
	21.6…264V AC/DC				D.O., N-MOSFET	42EF-U2SCB-G4
Polarized retroreflective	10.8…30V DC		25 mm…3 m (1 in…9.8 ft)		L.O. & D.O., PNP	42EF-P2MPB-F4
	21.6…264V AC/DC				D.O., N-MOSFET	42EF-P2SCB-G4
Diffuse	10.8…30V DC	Infrared	3…500 mm (0.12…20 in.)	Single-turn knob	L.O. & D.O., PNP	42EF-D1MPAK-F4
			3…500 mm (0.12…20 in.)	Single-turn knob	L.O. & D.O., PNP	42EF-D2MPAK-F4
			3…700 mm (0.12…27.6 in.)	Teach button	L.O., NPN & PNP	42EF-D1JBCK-F4
	21.6…264V AC/DC		3…500 mm (0.12…20 in.)	Single-turn knob	L.O., N-MOSFET	42EF-D1RCAK-G4
Sharp cutoff diffuse	10.8…30V DC		3…130 mm (0.12…5 in.)		L.O. & D.O., PNP	42EF-S1MPA-F4
	21.6…264V AC/DC				L.O., N-MOSFET	42EF-S1RCA-G4
Background suppression	10.8…30V DC		3…50 mm (0.12…2 in.)	None	L.O. & D.O., PNP	42EF-B1MPBC-F4
			3…100 mm (0.12…3.9 in.)			42EF-B1MPBE-F4
	21.6…264V AC/DC		3…50 mm (0.12…2 in.)		L.O., N-MOSFET	42EF-B1RCBC-G4
			3…100 mm (0.12…3.9 in.)			42EF-B1RCBE-G4
Clear object detection	10.8…30V DC	Visible red	0.025…1 m (0.08…3.3 ft)	Single-turn knob	D.O., NPN & PNP	42EF-C2KBA-F4
	21.6…264V AC/DC				D.O., N-MOSFET	42EF-C2SCA-G4
Transmitted beam emitter	10.8…30V DC	Infrared	20 m (65.6 ft)	None	NA	42EF-E1EZB-F4
	21.6…264V AC/DC					42EF-E1EQZB-G4
Transmitted beam receiver	10.8…30V DC				L.O. & D.O., PNP	42EF-R9MPB-F4
	21.6…264V AC/DC				D.O., N-MOSFET	42EF-R9SCB-G4
Large aperture fiber optic	10.8…30V DC		Depends on glass fiber optic cable selected	Single-turn knob	L.O. & D.O., PNP	42EF-G1MPA-F4
	21.6…264V AC/DC				L.O. N-MOSFET	42EF-G1RCA-G4

[1] The -F4 suffix describes a 4-pin DC micro (M12) QD connector on a 150 mm (6 in.) pigtail. The -G4 suffix describes a 4-pin AC Micro (M12) QD connector on a 150 mm pigtail.
IO-Link enabled.

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 4X, 6P, IP67(IEC 529); 1200 psi (8270 kPa) washdown, IP69K
Operating Temperature [C (F)]	-25…+55 ° (-13…+131 °) ≥132V AC/DC -25…+70 ° (-13…+158 °) ≤132V AC/DC
Protection Type	False pulse, reverse polarity, overload, and short-circuit
Output Current	100 mA
Response time	DC models : 1 ms (4 ms for transmitted beam models); AC models: 8.3 ms (16.6 ms for transmitted beam)
Housing Material	Mindel®
Lens Material	Acrylic
Cover Material	Udel®

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
AC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889R-F4AEA-2
Mounting bracket, plastic, swivel/tilt	60-2649
Reflector, round, 76 mm (3 in.) diameter	92-39
Reflector, round, 32 mm (1.25 in.) diameter	92-47
Ethernet/IP Point I/O	1724-AENTR
Point I/O IO-Link Master Module	1734-4IOL

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For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing



RightSight LaserSight 42EF

- Class 1 eye safe visible laser
- Universal 18 mm mounting
- Ranges up to 40 m (131.2 ft)
- IP69K rated enclosure for diffuse and transmitted beam
- IP54 for polarized retroreflective
- Non-adjustable, adjustable, and teach models
- 360° visible LED indicators

Ideal for Small Object Detection

Laser sensors are ideal for small object detection or in applications requiring a narrow field of view. In most cases, laser sensors offer better operating margin and/or longer sensing distances than their LED-based counterparts.

The 42EF RightSight LaserSight uses eye-safe Class 1 visible laser light and features the same mounting options as other products in the RightSight product line. Class 1 lasers require no additional safety or protective training or equipment and are safe for general purpose use.



Roll detection – A 42EF RightSight LaserSight monitors a roll of film to indicate low film level.

IO-Link
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Photoelectric

6-4…6-45

Proximity

6-46…6-75

Ultrasonic

6-76…6-79

Limit Switches

6-80…6-93

Encoders

6-94…6-99

Condition Sensing

6-100…6-107

Product Selection

RightSight LaserSight

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Function	Cat. No.
Polarized retroreflective	Class 1 laser	0.05…15 m (0.16…49.2 ft)	Teach button	D.O., NPN & PNP	42EF-P8KBC-F4
Diffuse	Class 1 laser	3…300 mm (0.1…11.8 in.)	Single-turn knob	L.O., NPN & PNP	42EF-D8JBA-F4
			Teach button		42EF-D8JBC-F4
Transmitted beam emitter	Class 1 laser	40 m (131.2 ft)	None	NA	42EF-E8EZB-F4
Transmitted beam receiver				D.O., NPN & PNP	42EF-R7KBB-F4



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	IP54 (polarized retroreflective only), All others: IP69K rated
Operating Temperature [C (F)]	-10…+40 ° (14…+104 °)
Operating Voltage	22…26V DC, 30 mA, max.
Protection Type	False pulse, reverse polarity, overload, short-circuit
Output Current	100 mA
Response Time	1 ms (4 ms for transmitted beam models)
Housing Material	Mindel®
Lens Material	Acrylic
Cover Material	Udel®

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
Mounting bracket, plastic, swivel/tilt	60-2649
Microcube reflector	92-118

RFID



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For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing

Photoelectric Sensors



Series 9000
42G

- Our longest range offering – up to 61 m (200 ft)
- Full-featured
- IP69K and ECOLAB
- ClearSight™ 9000 clear object detection models
- Standard, timing, and teach models available
- Fiber optic capability

Full-size and Full-featured

Series 9000 general purpose sensors offer many features that help keep you up and running, even in harsh environments. With nearly 300 configurations to choose from – including multiple supply-voltage ranges, output options and connection choices – Series 9000 sensors provide the versatility needed to easily interface with programmable controllers and other electrical loads.





Material handling – Photoelectric sensors like this Series 9000 are used at every stage of the packaging process to confirm container presence and position.

Product Selection

Series 9000

Sensing Mode	Supply Voltage	Light Source	Sensing Distance	Output Function	Cat. No.
Polarized retroreflective	10…30V DC, 30 mA	Visible red	0.050 … 4.9 m (0.16 … 16 ft)	Selectable L.O. or D.O., NPN and PNP	42GRU-9200-QD
	70…264V AC/DC			Selectable L.O. or D.O., SPDT EM Relay	42GRU-9202-QD
	40…264V AC, 15 mA			Selectable L.O. or D.O., Solid-state isolated N.O.	42GRU-9203-QD
Diffuse	10…30V DC, 30 mA	Infrared	0.050…1.5 m (0.16…5 ft)	Selectable L.O. or D.O., NPN and PNP	42GLP-9000-QD
	70…264V DC 60…264V AC, 15 mA			Selectable L.O. or D.O., SPDT EM Relay	42GRP-9002-QD
	40…264V AC, 15 mA			Selectable L.O. or D.O., Solid-state isolated N.O.	42GRP-9003-QD
Clear object detection	10…30V DC, 30 mA	Visible red	0.050…1.2 m (0.16…4 ft)	Selectable L.O. or D.O., NPN and PNP	42GRC-9200-QD
	70…264V AC/DC			Selectable L.O. or D.O., SPDT EM Relay	42GRC-9202-QD
	45…264V AC, 15 mA			Selectable L.O. or D.O., Solid-state isolated N.O.	42GRC-9203-QD
Transmitted beam emitter	10…264V AC/DC, 15 mA	Infrared	0.025…61 m (0.83…200 ft)	NA	42GRL-9000-QD
Transmitted beam receiver	10…30V DC, 30 mA			Selectable L.O. or D.O., NPN and PNP	42GRR-9000-QD
	40…264V AC, 10 mA			Selectable L.O. or D.O., Solid-state isolated N.O.	42GRR-9003-QD
Large aperture fiber optic	10…30V DC, 30 mA	Infrared	Depends on fiber optic cable	Selectable L.O. or D.O., NPN and PNP	42GRF-9000-QD
	70…264V AC/DC, 15 mA			Selectable L.O. or D.O., SPDT EM Relay	42GRF-9002-QD
	40…264V AC, 15 mA			Selectable L.O. or D.O., Solid-state isolated N.O.	42GRF-9003-QD

Specifications

Certifications	UL Listed, CSA Approved, and CE Marked for all applicable directives
Enclosure Type Rating	IP69K, IP67 with 1200 psi; NEMA 3, 4X, 6P, 12, 13; ECOLAB rated
Operating Temperature [C (F)]	-34…+70 ° (-29…+158 °)
Operating Voltage	10…30V DC, 40…264V AC/DC (see product selection table)
Protection Type	False pulse, reverse polarity, overload, short-circuit,
Load Current	250 mA @ 30V DC (all models except 42GLP & 42GSP), 2 A @ 132V AC, 1 A @ 264 V AC (SPDT models)
Housing Material	Thermoplastic polyester resin
Lens Material	Acrylic
Cover Material	Neoprene

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
AC micro (M12) QD cordset, 4-pin, 2 m (6.6 ft)	889N-F4AF-6F
Mounting bracket, plastic, swivel/tilt	60-2439
Mounting bracket, heavy duty impact	60-2702
Reflector, round, 76 mm(3 in.) diameter	92-39
Reflector, round, 32 mm (1.25 in.) diameter	92-47
Extended range lens assembly	60-2661
Extended range lens assembly	60-2559
Fiber optic cable lens extender	60-2738

RFID



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Photoelectric Sensors



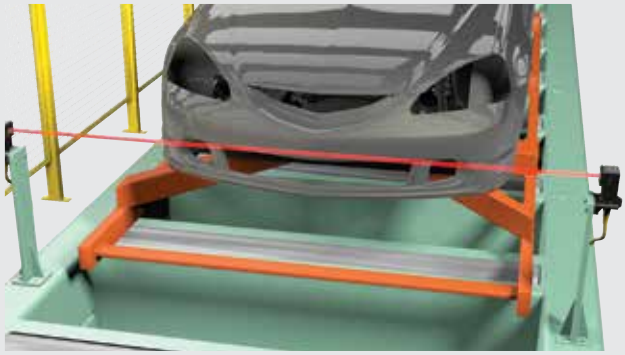
Series 9000 LaserSight 42G

- Class 1 visible laser
- Ranges up to 304.8 m (1000 ft)
- Harsh duty
- IP69K and 1200 psi washdown rating with ECOLAB
- Relay output models

Precision with Maximum Range

The 42GR LaserSight 9000 sensors are ideal for tough sensing applications that require a longer range, when the environment is dusty or dirty, or when the object to be sensed is small. The Class 1 laser source provides a visible red beam for easy alignment even at these distances. Use this sensor when your application calls for precision and maximum sensing range.





Body shop application – A LaserSight 9000 detecting precise position of a car body skid.

Product Selection

Series 9000 LaserSight

Sensing Mode	Sensing Distance	Operating Voltage	Light Source	Output Configuration	Cat. No. [1]
Polarized retroreflective	0.3 … 40 m (1 … 130 ft)	10…30V DC, 45 mA	Class 1 laser	Selectable L.O. or D.O., NPN and PNP	42GRU-92L0-QD
		110…132V AC, 70 mA		Selectable L.O. or D.O., SPDT EM Relay	42GRU-92L2-QD
Diffuse	800 mm (31.5 in.)	10…30V DC, 45 mA		Selectable L.O. or D.O., NPN and PNP	42GRP-92L0-QD
		110…132V AC, 70 mA		Selectable L.O. or D.O., SPDT EM Relay	42GRP-92L2-QD
Transmitted beam emitter	300 m (1000 ft)	10…264V AC/DC, 10 mA		NA light source	42GRL-90L0-QD
					42GRL-90L2-QD
Transmitted beam receiver	5…300 m (16…1000 ft)	10…40V DC, 25 mA		Selectable L.O. or D.O., NPN and PNP	42GRR-90L0-QD
		70…264V AC/DC, 10 mA		Selectable L.O. or D.O., SPDT EM Relay	42GRR-90L2-QD

[1] The -QD suffix describes a 4-pin DC micro (M12) integral QD for DC models, a 5-pin mini QD for SPDT EM relay models.



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	UL Listed, CSA Approved, and CE Marked for all applicable directives
Enclosure Type Rating	IP69K, IP67 with 1200 psi; NEMA 3, 4X, 6P, 12, 13; ECOLAB rated
Operating Temperature [C (F)]	-10…+50 ° (-14…+122 °)
Operating Voltage	10…30V DC, 40…264V AC/DC (see product selection table)
Protection Type	False pulse, reverse polarity, overload, short-circuit,
Load Current	250 mA @ 30V DC (all models except 42GLP & 42GSP),2 A @ 132V AC, 1 A @ 264 V AC (SPDT models)
Housing Material	Thermoplastic polyester resin
Lens Material	Acrylic
Cover Material	Neoprene

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
Mini QD cordset, 4-pin, 1.8 m (6 ft)	889N-F4AF-6F
Mini QD cordset, 5-pin, 1.8 m (6 ft)	889N-F5AF-6F
Mounting bracket, plastic, swivel/tilt	60-2439
Mounting bracket, heavy duty impact	60-2702
Reflector, round, 76 mm(3 in.) diameter	92-39
Reflector, round, 32 mm (1.25 in.) diameter	92-47
Extended range lens assembly	60-2661
Extended range lens assembly	60-2559
Fiber optic cable lens extender	60-2738

RFID



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Photoelectric Sensors

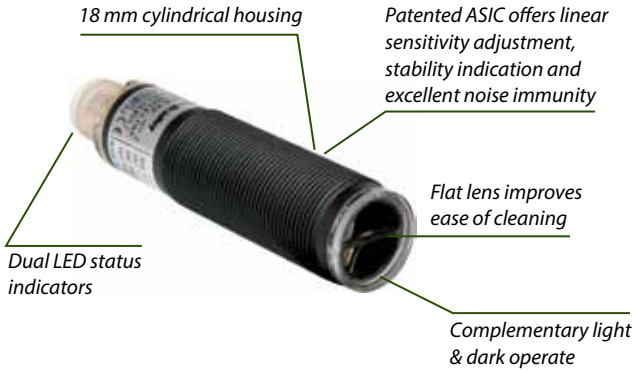


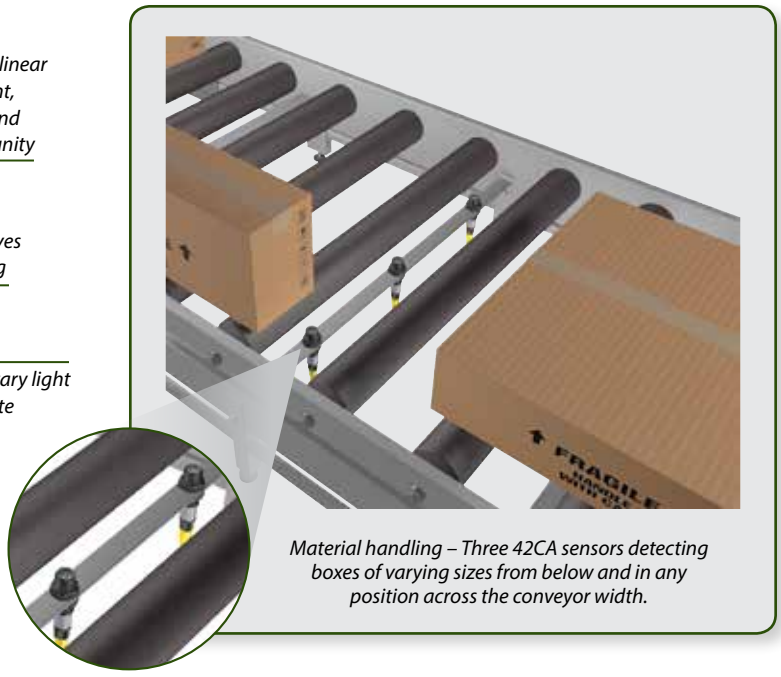
18 mm Plastic Cylindrical
42CA

- 18 mm plastic cylindrical
- Ranges up to 16 m (52.5 ft)
- Extended range high-speed models
- IP67 rating
- Linear sensitivity adjustment
- Stability indication
- Dual LED indicators

A Cost-effective General-purpose Solution

The 42CA 18 mm plastic cylindrical general-purpose sensors are ideal for light to medium duty industrial applications. Five possible sensing modes allow the 42CA to be used in a variety of complex applications. These sensors offer a highly linear sensitivity adjustment, stability indication and excellent noise immunity; making them easy to apply and maintain.





Material handling – Three 42CA sensors detecting boxes of varying sizes from below and in any position across the conveyor width.

Product Selection

18 mm Plastic Cylindrical

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Retroreflective	Visible red	0.002…4.8 m (0.0 …15.7 ft)	None	Complementary L.O. & D.O., PNP	1 ms	42CA-U2MPB-D4
		0.002…7.2 m (0.0 …23.6 ft)	Single-turn potentiometer		0.5 ms	42CA-U2MPA-D4
Polarized retroreflective		0.002…3.8 m (0.0 …12.5 ft)	None		1 ms	42CA-P2MPB-D4
Standard diffuse	Infrared	0…100 mm (0…3.9 in.)	Single-turn potentiometer		1 ms	42CA-D1MPAE-D4
		0…400 mm (0…15.7 in.)				42CA-D1MPAJ-D4
		0…1 m (0…3.28 ft)				42CA-D1MPAL-D4
Background suppression	Visible red	50 mm (2 in.)	None	Selectable L.O. or D.O., PNP	0.5 ms	42CA-B2LPBC-D4
		100 mm (3.9 in.)				42CA-B2LPBE-D4
Transmitted beam emitter	Infrared	0.003…16 m (0.01…52.5 ft)		NA	NA	42CA-E1EZB1-D4
Transmitted beam receiver			Single-turn potentiometer	Complementary L.O. & D.O., PNP	1 ms	42CA-R1MPA1-D4

[1] The -D4 suffix describes a 4-pin DC micro (M12) QD connector.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC, 30 mA
Protection Type	Reverse polarity, overload, short-circuit,
Load Current	100 mA
Housing Material	PBT
Lens Material	PMMA

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro QD cordset, right angle, 4-pin, 2 m (6.6 ft)	889D-R4AC-2
Mounting bracket, snap-clamp	871A-SCBP18
Mounting bracket, right angle	60-2657
Mounting bracket, swivel/tilt	60-2649
Mounting bracket, straight	60-2656
Spare corner cube reflector (76 mm (3 in.) diameter with mounting hole)	92-39
Spare corner cube reflector (32 mm (1.3 in.) diameter with mounting hole)	92-47

RFID



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Photoelectric Sensors



18 mm Metal Cylindrical 42CM

- Heavy duty 18 mm metal housing
- Ranges up to 20 m (65.6 ft)
- IP67 rating
- Sensitivity adjustment (diffuse models only)

General-purpose Sensing in a Rugged Metal Housing

The 42CM 18 mm Metal Cylindrical General-purpose Sensors are intended for heavy-duty industrial applications requiring an industry standard 18 mm cylindrical housing. Five possible modes of sensing allow the 42CM to be used in a variety of complex applications. Outputs are short-circuit protected to provide continuous operation even under unexpected conditions.





Feeder bowl application – A 42CM monitors bowl level to prevent component runout. This background suppression model ignores reflections from the bowl to accurately detect the components only.

Product Selection

18 mm Metal Cylindrical

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Retroreflective	Infrared	0.003…4 m (0.0…13.2 ft)	None	Complementary L.O. & D.O., PNP	4 ms	42CM-U1MPB-D4
Polarized retroreflective	Visible red	0.003…3 m (0…9.9 ft)	None	Complementary L.O. & D.O., PNP	4 ms	42CM-P2MPB-D4
Standard diffuse	Visible red	0…100 mm (0…3.9 in.)	Potentiometer	Complementary L.O. & D.O., PNP	2 ms	42CM-D2MPAE-D4
Standard diffuse	Visible red	0…400 mm (0…15.7 in.)	Potentiometer	Complementary L.O. & D.O., PNP	2 ms	42CM-D1MPAL-D4
Background suppression	Visible red	50 mm (2 in.)	None	Selectable L.O. or D.O., PNP	0.5 ms	42CM-B2LPBC-D4
Background suppression	Visible red	100 mm (3.9 in.)	None	Selectable L.O. or D.O., PNP	0.5 ms	42CM-B2LPBE-D4
Transmitted beam emitter	Infrared	3…20 m (0…65.6 ft)	None	NA	NA	42CM-E1EZB-D4
Transmitted beam receiver	Infrared or visible red	3…20 m (0…65.6 ft)	None	Complementary L.O. & D.O., PNP	2 ms	42CM-R1MPB-D4

[1] The -D4 suffix describes a 4-pin DC micro (M12) QD connector.



Need Help?

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www.rockwellautomation.com/support/overview.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC, 30 mA
Protection Type	Reverse polarity, overload, short-circuit
Load Current	100 mA
Housing Material	Nickel-plated brass
Lens Material	PMMA/PC

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro QD cordset, right angle, 4-pin, 2 m (6.6 ft)	889D-R4AC-2
Mounting bracket, snap-clamp	871A-SCBP18
Mounting bracket, right angle	60-2657
Mounting bracket, swivel/tilt	60-2649
Mounting bracket, straight	60-2656
Spare corner cube reflector (76 mm (3 in.) diameter with mounting hole)	92-39
Spare corner cube reflector (32 mm (1.3 in.) diameter with mounting hole)	92-47

RFID



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Photoelectric Sensors



LaserSight 18 mm Metal Cylindrical 42CM

- Class 1 laser
- Heavy duty 18 mm metal housing
- Ranges up to 50 m (164 ft)
- Small 0.1 mm spot size
- IP67 rating

Rugged, Laser-based Sensing

The 42CM 18 mm LaserSight photoelectric laser sensors combine an eye-safe Class 1 visible laser light source and an industry standard cylindrical housing. They are ideal for tough sensing applications that require a longer range, where the environment is dusty, dirty, or when the object to be sensed is small.





Roll detection – A 42CM LaserSight monitors a roll of film to indicate low film level.

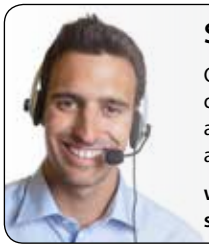
IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

LaserSight 18 mm Metal Cylindrical

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Polarized retroreflective	Class 1 laser	0.003…30 m (0…78 ft)	None	Complementary L.O. and D.O., PNP	0.7 ms	42CM-P8MPB-D4
Diffuse		3…300 mm (0…11.8 in.)	Teach button			42CM-D8MPA-D4
Transmitted beam emitter		3…50 m (0…164 ft)	Potentiometer	NA	NA	42CM-E8EZB-D4
Transmitted beam receiver				Complementary L.O. and D.O., PNP	0.5 ms	42CM-R8MPB-D4

[1] The -D4 suffix describes a 4-pin DC micro (M12) QD connector.



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www.rockwellautomation.com/sales-partners/overview.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-10…+55 ° (14…131 °)
Operating Voltage	10…30V DC, 25 mA
Protection Type	Reverse polarity, overload, short-circuit,
Load Current	100 mA
Housing Material	Nickel-plated brass
Lens Material	Glass

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro QD cordset, right angle, 4-pin, 2 m (6.6 ft)	889D-R4AC-2
Mounting bracket, snap-clamp	871A-SCBP18
Mounting bracket, right angle	60-2657
Mounting bracket, swivel/tilt	60-2649
Mounting bracket, straight	60-2656
Rectangular reflector, 51 x 51 mm (2 x 2 in.)	92-118

Photoelectric Sensors



18 mm Stainless Steel Cylindrical 42CS

- Stainless steel 18 mm cylindrical
- Smooth barrel design
- Ranges up to 20 m (65.6 ft)
- IP69K, ECOLAB, and Johnson Diversey rated
- Extended temperature operating range
- Ferromagnetic teach

The Ideal Solution for Food and Beverage Applications

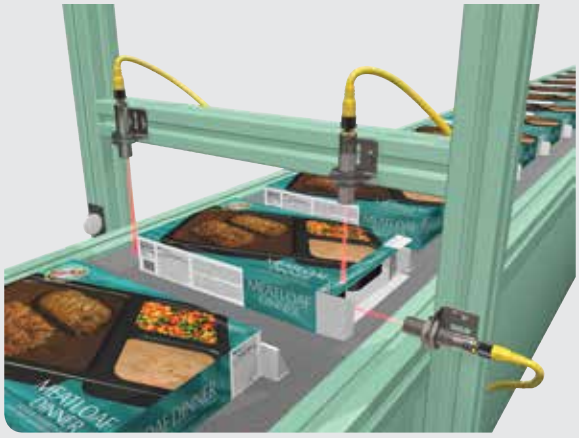
The 42CS stainless steel cylindrical sensors are ideal for food, beverage, and pharmaceutical applications. The smooth, clean design minimizes the collection and accumulation of undesired particles allowing for a fast and easy clean up. An innovative teach feature also simplifies setup – just place a ferromagnetic metal object on a section of the sensor housing to initiate the teach process.



Flush, hardened PMMA lens prevents build-up



Optional block mounting bracket for smooth barrel housing (Cat. No. 60-BCS-18B)



Flap detection – When the single 42CS mounted on the side of the conveyor senses a food package, it triggers the two sensors above to check for open box flaps, ensuring all packages are sealed.

Product Selection

18 mm Stainless Steel Cylindrical

Sensing Mode	Light Source	Sensing Distance	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Polarized retroreflective	Visible red	4 m (13.1 ft)	None	Complementary L.O./D.O., PNP	1 ms	42CSS-P2MPB1-D4
Standard diffuse	Visible red	100 mm (3.9 in.)	Ferromagnetic teach			42CSS-D2MPA1-D4
	Infrared	400 mm (15.8 in.)				42CSS-D1MPA2-D4
		800 mm (31.5 in.)				42CSS-D1MPA3-D4
Background suppression	Visible red	60…100 mm (2.4…3.9 in.)			1.25 ms	42CSS-B2MPA1-D4
Clear object detection		1 m (3.2 ft)			1 ms	42CSS-C2MPA1-D4
Transmitted beam emitter	Infrared	0…20 m (0…65.6 ft)	None	NA	NA	42CSS-E1EZB1-D4
Transmitted beam receiver				Complementary L.O./D.O., PNP	2 ms	42CSS-R9MPB1-D4

[1] The prefix 42CSS denotes smooth barrel. For threaded models, replace the **42CSS** with **42CST** (e.g., **42CST**-P2MPB1-D4). The -D4 suffix describes a 4-pin DC micro (M12) QD connector.



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP69K, ECOLAB, and Johnson Diversey rated
Operating Temperature [C (F)]	-25…+85 ° (-13…+185 °)
Operating Voltage	10…30V DC @ 35 mA max.
Protection Type	Reverse polarity, transient noise, short-circuit,
Load Current	100 mA
Housing Material	316 stainless steel
Lens Material	PMMA

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro (M12) QD patchcord	889D-F4ACDM-2
Block mounting bracket for smooth barrel housing	60-BCS-18B
Straight mounting bracket for threaded models	60-2656
Right angle mounting bracket for threaded models	60-2657
Spare corner cube reflector (32 mm (1.26 in.) diameter with mounting hole)	92-47

Photoelectric Sensors

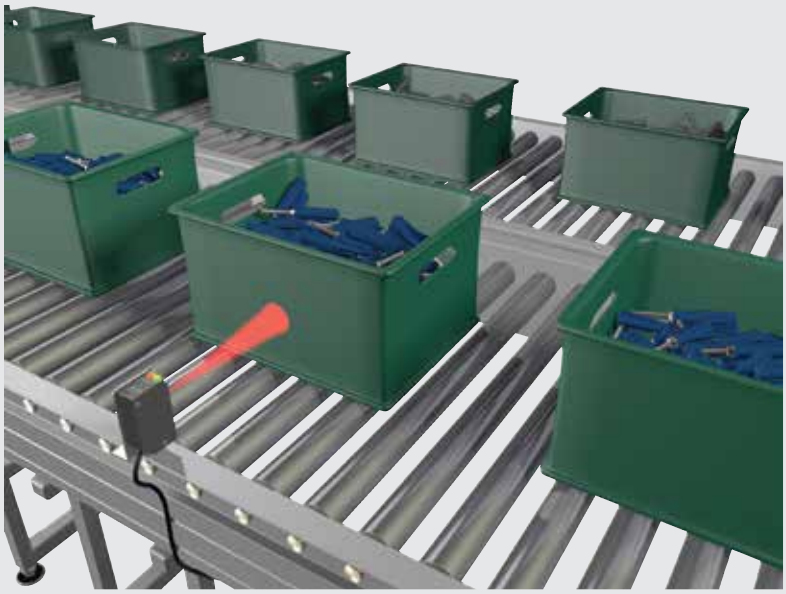


Long-Range Background Suppression 42BT and 42BC

- Adjustable 1 m and 2 m range background suppression
- Slim flat pack housing design
- Infrared LED or red LED
- Selectable L.O. and D.O.
- Dual (PNP and NPN) outputs
- AC/DC relay output models (42BC)

Sensing the Target While Ignoring the Background

Background suppression sensors are designed for applications requiring the sensor to see a target very close to a reflective background. Background suppression is particularly effective when the target and background have similar reflectivities or when dark targets are to be sensed against a lighter, more reflective background. These long range models offer high background suppression performance at sensing ranges up to 2 m (6.6 ft).



Side-by-side conveyors – A 42BT background suppression sensor detects bins on the near conveyor while ignoring bins on the second.

Product Selection

Long-Range Background Suppression

Sensing Mode	Light Source	Sensing Distance [mm (in.)]	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No.
Background suppression	Visible red	100…1000 (3.94…39.4)	5-turn potentiometer	Selectable L.O./D.O., NPN & PNP	2 ms	42BT-B2LBSL-F4
	Infrared	100…2000 (3.94…78.7)				42BT-B1LBSN-F4
		200…1000 (7.87…39.4)	Adjustment knob		20 ms	42BC-B1LBAL-T4
				Selectable L.O./D.O., SPST N.O Relay		42BC-B1CRAL-T4
		200…2000 (7.87…78.7)		Selectable L.O./D.O., NPN & PNP	30 ms	42BC-B1LBAN-T4
				Selectable L.O./D.O., SPST N.O Relay		42BC-B1CRAN-T4



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Certifications	42BT	cULus Listed and CE certified for all applicable directives
	42BC	UL Listed and CSA certified
Enclosure Type Rating	42BT	IP66
	42BC	IP65
Operating Temperature [C (F)]	42BT	-25…+55 ° (-13…+131 °)
	42BC	
Operating Voltage	42BT	12…24V DC
	42BC	12…24V DC, 24…240V AC/DC
Protection Type	42BT	Short circuit
	42BC	Short circuit, reverse polarity, overload
Load Current	42BT	100 mA
	42BC	100 mA, 3A (AC/DC)
Housing Material	42BT	Polyarilate
	42BC	Polycarbonate and acrylic
Lens Material	42BT	Polyarilate
	42BC	

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, stainless steel, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro (M12) QD receptacle	888D-M4AC1-0M3
Vertical mounting bracket for 42BT	61-6738
Horizontal mounting bracket for 42BT	61-6739
Mounting bracket	60-2637
Replacement cover	60-2669
Mini QD receptacle	60-2668

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Photoelectric Sensors



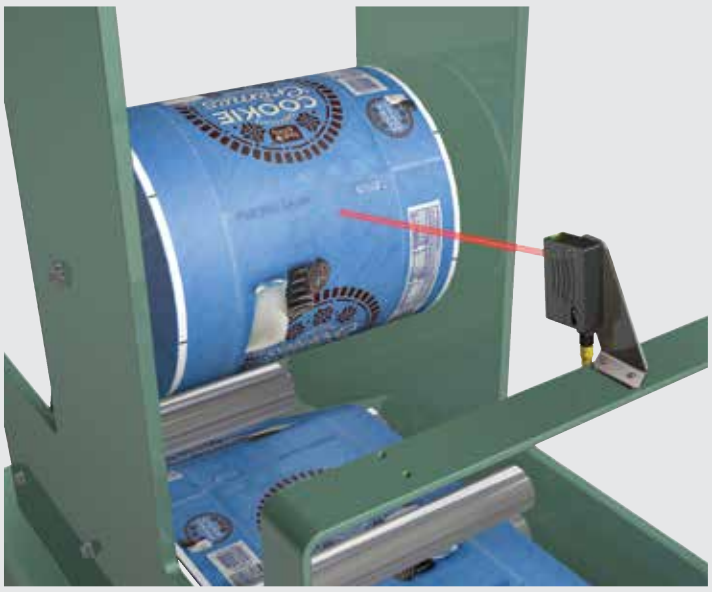
Laser Measurement
45LMS

- Long-range, high performance laser measurement
- Time of Flight (ToF) technology
- Ranges up to 50 m (164.04 ft)
- Eye Safe Class 1 or Class 2 laser (by model)
- One discrete and one analog (4…20 mA) output
- Push button setup of switch points or analog scaling

IO-Link

Solve Difficult Measurement Applications

The 45LMS is a great solution for long range detection/measurement in difficult applications that exceed the capabilities of standard diffuse or background suppression photoelectric sensors. Available in three ranges, this sensor uses the Time of Flight (ToF) principle and has a relatively small beam spot, even from a distance of 50 m (164 ft).



Roll diameter – A 45LMS sensor measures the diameter of a web roll for speed control and runout prevention.

Typical applications include:

- Distance measurement
- Verifying material position
- Stack level
- Roll diameter or thickness measurement
- Fixture positioning
- Error-proofing inspection
- Level monitoring
- Crane crash protection

Product Selection

Laser Measurement

Sensing Mode	Light Source	Sensing Distance	Spot Size	Measuring Rate	Cat. No.
Diffuse	Class 1 laser	0.2…8 m (0.66…26.25 ft)	< 10 mm (0.39 in.) at 8 m (26 ft) and 20 °C (68 °F)	7.8 m (25.59 ft)	45LMS-D8LGC1-D4
	Class 2 laser	0.2…15 m (0.66…49.21 ft)	< 15 mm (0.59 in.) at 15 m (49 ft) and 20 °C (68 °F)		45LMS-D8LGC2-D4
Retroreflective	Class 1 laser	0.2…50 m (0.66…164.04 ft)	< 50 mm (2 in.) at 50 m (164 ft) and 20 °C (68 °F)		45LMS-U8LGC3-D4

IO-Link enabled.



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	UL Listed, cULus Listed, and CE Marked for all applicable directives
Enclosure Type Rating	IP65
Operating Temperature [C (F)]	-30…+50 ° (-22…+122 °)
Operating Voltage	10…30V DC, (18…30V DC in IO-Link mode)
Protection Type	Short circuit, reverse polarity (for discrete output); Short circuit, overload protected (for analog output)
Load Current	100 mA max.
Housing Material	Plastic ABS
Lens Material	Plastic pane

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) straight QD cordset, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
DC micro (M12) right angle cordset, 4-pin, 2 m (6.6 ft)	889D-R4AC-2
Mounting bracket	45LMS-BKT1
Mounting bracket (L shape)	45LMS-BKT2
Weld slag cover	45LMS-BKT3
Point I/O IO-Link Master Module	1734-4IOL



Color Registration/Contrast 45CRM

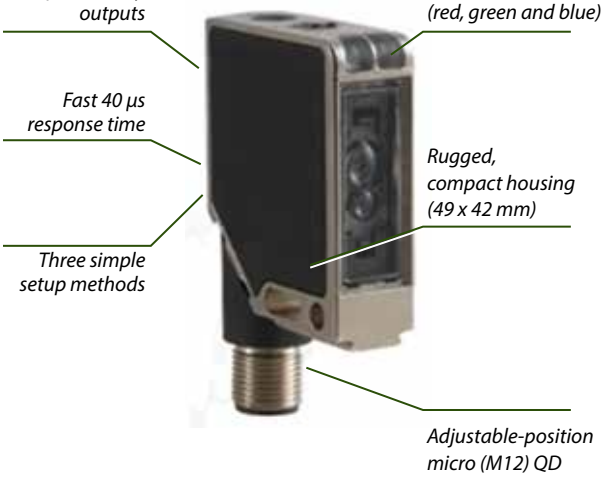
- High-speed color registration sensing
- 40 µs response time
- Rotatable M12 connector
- Rotary switch setup
- 2 x PNP/NPN (push-pull) complementary outputs
- Compact size (49 x 42 x 15 mm (1.93 x 1.65 x 0.59 in.))
- IP67 rating

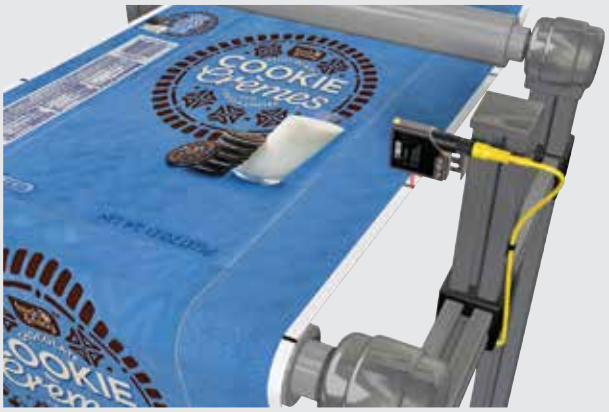
IO-Link

Reliable, High-speed Registration Sensing

The 45CRM high-speed contrast sensor uses red, green, and blue emitter LEDs to reliably discern between registration marks and the background of a web.

With its rugged, compact housing, quick response time and ease-of-use, the 45CRM is an ideal solution for a wide range of applications in a variety of industries including packaging, material handling, food and beverage, and printing.





Color registration mark sensing – The 45CRM detects registration marks to synchronize sealing and cutting operations located later in the process.

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Ultrasonic 6-76…6-79
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Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Color Registration/Contrast

Sensing Mode [1]	Sensing Distance [mm (in.)]	Spot Size [mm (in.)]	Sensitivity Adjustment	Output Configuration	Response Time	Light Source	Cat. No.
Parallel beam	11 ± 2 (0.43…0.08)	1 x 3 (0.04 x 0.12)	Rotary switch	L.O./D.O., 2 x PNP/NPN (push-pull) complementary outputs	40 µs	3 LEDs (red, green, blue)	45CRM-4LHT1-D4
Perpendicular beam							45CRM-4LHT2-D4

[1] Beam orientation is relative to the long axis of the sensor body and should match the orientation of the registration mark being detected.
IO-Link enabled.



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www.rockwellautomation.com/support/overview.page

Specifications

Certifications	UL Listed, cULus Listed, and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-20…+60 ° (-4…+140 °)
Operating Voltage	10...30V DC (18…30V DC when operating in IO-Link mode)
Protection Type	Short circuit, reverse polarity, overload
Load Current	100 mA
Housing Material	Die-cast zinc, nickel-plated
Lens Material	PMMA plastic, clear

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) straight QD cordset, 4-pin, 2 m (6.6 ft)	889D-F4AC-2
Mounting bracket	45CRM-BRK1-ADAPT
Point I/O IO-Link Master Module	1734-4IOL

Photoelectric Sensors

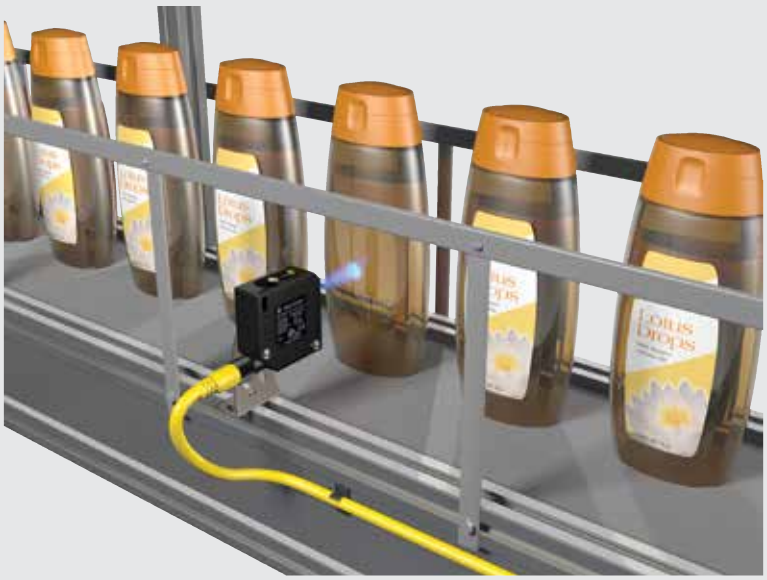


Luminescence
45LUM

- Detects luminescent/fluorescent particles
- 5…50 mm (0.2…2 in.) sensing range
- Teach button setup
- External teach capability
- Rotatable M12 connector
- IP67 rating

Detect What Is Invisible to the Human Eye

The 45LUM luminescence sensor provides a solution for detection of substances which are invisible to the human eye. This sensor detects luminophores or fluorescence, which are emitted from the object being detected. The sensor converts the UV light into a visible light, which is then received by the luminescence sensor. This sensor can detect particles such as glue, clear labels, oils, greases, paint, detergents, and chalks.



Label detection – A 45LUM checks bottles for missing labels

Product Selection

Luminescence

Sensing Mode	Light Source	Sensing Distance	Spot Size	Cat. No.
Diffuse	Ultraviolet LED	5…50 mm (0.2…2 in.)	3 mm (0.12 in.) at 18 mm (0.71 in.) distance	45LUM-D7JPT1-D5

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www.rockwellautomation.com/sales-partners/overview.page



Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-10…+55 ° (+14…+131 °)
Operating Voltage	12…28V DC
Protection Type	Class 2, short circuit and reverse polarity
Supply Current	≤ 40 mA (no load)
Housing Material	ABS
Lens Material	Glass

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) straight QD cordset, 5-pin, 2 m (6.6 ft)	889D-F5AC-2
DC micro (M12) straight QD cordset, 5-pin, 2 m (6.6 ft)	889D-R5AC-2
Mounting bracket	45BPD-BKT1
Protective mounting bracket	45BPD-BKT2



Measuring and Discrete Light Arrays 45MLA and 45DLA

- Detect oddly shaped or non-uniform objects
- Detect targets with gaps or spaces
- Large sensing area
- Discrete (45DLA) and measurement (45MLA) models
- Slim housing profiles
- Sensing range:
  – 45MLA: 4 m;
  – 45DLA: 1.5 m or 8 m, selectable via wiring



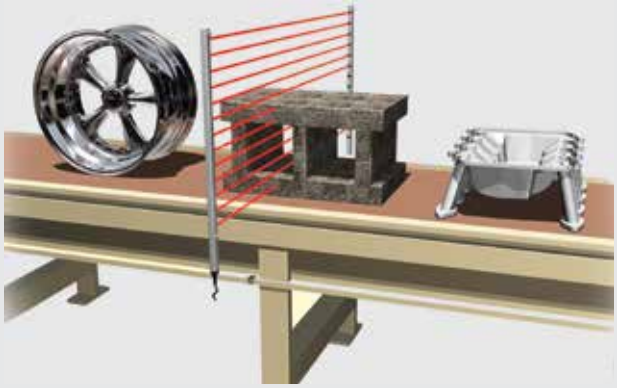
Traditional photoelectric transmitted beam sensor – single sensing beam



Light array sensor – multiple sensing beams

Light Array Concept

Traditional photoelectric transmitted beam sensors detect in a single line from the emitter to the receiver. Light array sensors combine multiple emitter or receiver elements into a single housing to create a sensing field instead of a single sensing beam. Therefore, light arrays are capable of detecting targets over a wider area. This makes them ideal for detecting oddly shaped parts, products with gaps or spaces, or inconsistently positioned targets, at a fraction of the cost of using multiple sensor pairs.



45DLA detects product with gaps or spaces

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Condition Sensing 6-100…6-107

Product Selection – Measuring and Discrete Light Arrays

45MLA Measuring Light Arrays

No. of Beams	Housing Height [mm (in.)]	Sensing Height* [mm (in.)]	Beam Spacing [mm (in.)]	Cat. No.
30	320 (12.6)	300 (11.8)	10 (0.39)	45MLA-AT0300P10
60	630 (24.4)	600 (23.6)	10 (0.39)	45MLA-AT0600P10
90	920 (36.2)	900 (35.4)	10 (0.39)	45MLA-AT0900P10
120	1220 (48)	1200 (47.2)	10 (0.39)	45MLA-AT1200P10
36	920 (36.2)	900 (35.4)	25 (0.98)	45MLA-AT0900P25
48	1220 (48)	1200 (47.2)	25 (0.98)	45MLA-AT1200P25

* Sensing heights up to 3m and ATEX certification available upon request

45MLA Controllers

Description	Cat. No.
45MLA controller – I/O	45MLA-CTRL
45MLA controller – RS-485	45MLA-CTRL-485
45MLA controller – analog	45MLA-CTRL-ALG
45MLA controller – basic	45MLA-CTRL-BSC
45MLA controller – CAN	45MLA-CTRL-CAN

45DLA Discrete Array

Housing Height [mm (in.)]	Sensing Height [mm (in.)]	Response Time	Sensing Distance [m (ft.)]	Resolution [mm (in.)]	Output	Cat. No.
266 (10.5)	118 (4.65)	25 ms	0.2…8 (0.7…26.2)	30 (1.2)	NPN/PNP	45DLA-1LEB1T-F4
354 (13.9)	206 (8.11)	45 ms	0.2…8 (0.7…26.2)	30 (1.2)	NPN/PNP	45DLA-1LEB2T-F4
530 (20.9)	382 (15.04)	85 ms	0.2…8 (0.7…26.2)	30 (1.2)	NPN/PNP	45DLA-1LEB4T-F4
706 (27.8)	558 (21.97)	125 ms	0.2…8 (0.7…26.2)	30 (1.2)	NPN/PNP	45DLA-1LEB6T-F4
882 (34.7)	734 (28.9)	165 ms	0.2…8 (0.7…26.2)	30 (1.2)	NPN/PNP	45DLA-1LEB8T-F4

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	45MLA and 45DLA: IP54
Operating Temperature [C (F)]	45MLA: 0...+55° (32…131°) 45DLA: -20...+65° (-4…+149°)
Operating Voltage	45MLA: 204…27.6V DC 45DLA: 14…30V DC
Protection Type	Short circuit, reverse polarity, overload
Load Current	100 mA
Housing Material	Aluminum
Lens Material	Polycarbonate

Required Cordsets and Accessories

Description	Cat. No.
Flash mounting kit (two pieces/set)	445L-AF6145
Adjustable 180° bracket kit (two per kit) supplied with each pair. Two kits required per pair	445L-AF6143
180° adjustable flat bracket (two per kit). Two kits required per pair	445L-AF6149
Cable-light array to controller, 3 m patchcord, PVC jacket	445L-AC8RJ3
Cable-light array to controller, 5 m patchcord, M12 to RJ45	445L-AC8RJ5
Cable-light array to controller, 8 m patchcord, PVC jacket	445L-AC8RJ8
Cascadeable array extension patchcord, 1 m (3.28 ft) patchcord (optional)	445L-AC8PC1
Cascadeable array extension patchcord, 3 m (9.8 ft) patchcord (optional)	445L-AC8PC3
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
DC micro QD cordset, straight, 4-pin, 0.3 m (1 ft)	889D-F4AC-5

RFID



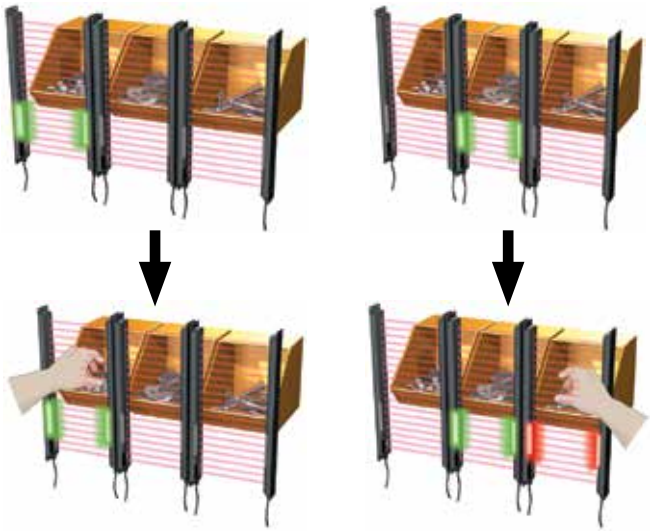
6-108…6-109

For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing



Area and Bin Picking Arrays 45AST and 45PVA

- Specialty light arrays
- Small parts detection (45AST)
- "Pick-to-light" bin picking verification (45PVA)
- Large detection area



45PVA Parts Verification Array

The 45PVA parts verification array is a special purpose light array for bin picking applications. By mounting the sensors on parts bins and wiring them into a controller programmed with the necessary logic, a virtually error-free bin-picking process can be achieved.

- Bin picking sensors – "pick-to-light" with automatic feedback
- Green "job light" indicates proper bin
- Red "warning indicator" automatically indicates incorrect bin pick
- Reduce risk of missing components or incorrect assembly



Part ejection/counting – A 45AST uses two-dimensional scanning technology to sense an object regardless of its orientation. This is ideal for the detection and counting of parts being ejected from a machine.

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Product Selection

45AST Area and Bin Picking Arrays

Housing Height [mm (in.)]	Sensing Height [mm (in.)]	Response Time	Sensing Distance [m (ft.)]	Resolution [mm (in.)]	Output	Cat. No.
100 (3.9)	50 (2)	4 ms	0.5…2 (1.6…6.5)	15 (0.59)	PNP	45AST-1JPB1-F4
150 (5.9)	100 (3.9)	8 ms	0.15…0.8 (0.5…2.6)	11 (0.43)	PNP	45AST-1JPB2-F4
150 (5.9)	100 (3.9)	8 ms	0.5…2.5 (1.6…8.2)	13 (0.51)	PNP	45AST-1JPB3-F4
200 (7.9)	150 (5.9)	8 ms	0.15…0.8 (0.5…2.6)	17 (0.66)	PNP	45AST-1JPB4-F4

45PVA Parts Verification Arrays

Housing Height [mm (in.)]	Sensing Height [mm (in.)]	Response Time (ms)	Sensing Distance [m (ft.)]	Sensing Mode	Cat. No.
140 (5.5)	100 (3.9)	35 (L.O.), 25 (D.O.)	2 (6.5)	Transmitted beam pair	45PVA-1LEB1-F4
265 (10.4)	225 (8.9)	68 (L.O.), 42 (D.O.)	2 (6.5)	Transmitted beam pair	45PVA-1LEB2-F4
340 (13.4)	300 (11.8)	70 (L.O.), 42 (D.O.)	2 (6.5)	Transmitted beam pair	45PVA-1LEB3-F4
415 (16.3)	375 (14.7)	94 (L.O.), 58 (D.O.)	2 (6.5)	Transmitted beam pair	45PVA-1LEB4-F4
140 (5.5)	100 (3.9)	120	Retro: 2 (6.5); diffuse 0.4 (1.3)	Retroreflective/diffuse	45PVA-2LEA1-F4
265 (10.4)	225 (8.9)	120	Retro: 2 (6.5); diffuse 0.4 (1.3)	Retroreflective/diffuse	45PVA-2LEA2-F4



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	45AST: IP67 45PVA: NEMA 12, IP62
Operating Temperature [C (F)]	45AST: -5…+55 ° (23…131 °) 45PVA: 0…50 ° (32…122 °) for transmitted beam, -10…+50 ° (14…122 °)
Operating Voltage	45AST & 45PVA: 12…24V DC
Protection Type	45AST: Short circuit protection, reverse polarity, false pulse, overload; 45PVA: short circuit protection
Load Current	45AST: 100 mA, max. 45PVA: 50 mA, max.
Housing Material	Aluminum
Lens Material	45AST: Acrylic 45PVA: Polycarbonate

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
DC micro QD cordset, straight, 4-pin, 0.3 m (1 ft)	889D-F4AC-5
Mounting bracket used for parts verification array 45PVA	60-2773
Mounting bracket used for parts verification array 45PVA	60-2779
Mounting bracket used for parts verification array 45PVA	60-2772
Protective mounting bracket for 45PVA-1LEB1-F4	60-2775-1
Protective mounting bracket for 45PVA-1LEB2-F4	60-2776-1
Protective mounting bracket for 45PVA-1LEB3-F4	60-2777-1
Protective mounting bracket for 45PVA-1LEB4-F4	60-2778-1
Protective mounting bracket for 45PVA-2LEA1-F4	60-2785-1
Replacement reflective tape roll	92-100

RFID



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For more information on our complete family of photoelectric products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing



Optical Fork
45LSP

- Detects objects as small as 0.2 mm (0.008 in.)
- Highly visible status indication on both sides
- Through-hole, threaded hole, or dovetail mounting
- Gap size up to 120 mm (4.7 in.)
- Remote teach and teach button lock (4-pin models)
- No alignment required
- IP67 rated

Alignment-free Small Part Detection

By eliminating the alignment and adjustment issues associated with other transmitted beam sensing solutions, optical fork sensors are the most easy-to-apply and cost-effective method for small part detection and counting in a wide range of industries.



The range of gap sizes and flexible mounting options make the 45LSP a viable solution for a broad range of applications. In addition to small object detection, these include, but are not limited to, edge detection, parts counting, gear tooth detection, and dimension verification.



Web alignment application – Two 45LSP fork sensors monitor horizontal film position on both sides of the roll. If the film drifts in either direction the sensor's light beam will be interrupted, causing the machine's dancer arm to correct the film position.

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Product Selection

Optical Fork

Sensing Mode	Light Source	Sensing Gap [mm (in.)]	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Transmitted beam fork	Visible red	30 (1.2)	Teach button	Selectable L.O./D.O., PNP	250 µs	45LSP-2LPA1-P3
			Teach button + remote teach			45LSP-2LPA1-P4
		50 (2)	Push button			45LSP-2LPA2-P3
			Teach button + remote teach			45LSP-2LPA2-P4
		80 (3.2)	Push button			45LSP-2LPA3-P3
			Teach button + remote teach			45LSP-2LPA3-P4
		120 (4.7)	Push button			45LSP-2LPA4-P3
			Teach button + remote teach			45LSP-2LPA4-P4

[1] The -P3 suffix describes a 3-pin pico (M8) integral QD and the -P4 suffix describes a 4-pin pico (M8) integral QD.



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-20…+60 ° (-4…+140 °)
Operating Voltage	10…30V DC
Protection Type	Short circuit, reverse polarity
Load Current	100 mA, max.
Housing Material	Polycarbonate

Required Cordsets and Accessories

Description	Cat. No.
DC pico QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
DC pico QD cordset, straight, 4-pin, 2 m (6.5 ft)	889P-F4AB-2
Dovetail mounting bracket	44B-BKT

Photoelectric Sensors



Fiber Optic
45FPL

- Long range (2x standard models)
- Large back-lit display
- High-speed and long-range modes
- DIN Rail or side mounting
- Push button static or dynamic teach
- Use with fiber optic cables up to 2.2 mm (0.09 in.) in diameter

Sensing for Space-critical Applications

Ideal for sensing small objects, fiber optic cables can be mounted in locations that would otherwise be inaccessible to photoelectric sensors. Other characteristics/advantages of fiber optic sensors include:

- Some glass fiber optic tips have the ability to withstand high temperatures [up to 482 °C (900 °F)]
- Withstand extreme shock and vibration
- Often have the fastest response times
- Immunity to electrical interference (EMI, RFI)



Small part detection – The 45FPL fiber optic ensures continuous flow of small parts exiting from a feeder bowl.

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Photoelectric 6-4…6-45



Proximity 6-46…6-75



Ultrasonic 6-76…6-79



Limit Switches 6-80…6-93



Encoders 6-94…6-99



Condition Sensing 6-100…6-107



Product Selection

45FPL Fiber Optic

Sensing Mode	Sensing Distance	Light Source	Sensitivity Adjustment	Output Configuration	Response Time	Cat. No. [1]
Small aperture fiber optic	Depends on fiber optic cable	Visible red	Push button	Selectable L.O./D.O., NPN, 25 mA	Long range: 1.8 ms and High speed: 0.19 ms	45FPL-2LGE-Y3
				Selectable L.O./D.O., PNP, 32 mA		45FPL-2LHE-Y3

[1] The suffix -Y3 describes a 3-pin pico (M8) QD on a 150 mm (6 in.) pigtail.



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http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP40
Operating Temperature [C (F)]	-25…+55 ° (-13…+131 °)
Operating Voltage	12…24V DC ± 10%
Protection Type	Short-circuit, reverse polarity, surge absorption (overload)
Load Current	100 mA
Housing Material	Polycarbonate
Lens Material	Depends on fiber optic cable selected

Required Cordsets and Accessories

Description	Cat. No.
DC pico QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
Fiber optic cables	Refer to page 6-45
Mounting assembly (included)	60-2638

Photoelectric Sensors



Glass and Plastic Fiber Optic Cables

- Plastic Fiber Optics
  - Best used with visible light sources
  - High flex applications
  - Cost effective
- Glass Fiber Optics
  - Suitable for visible or infrared light source
  - High temperature applications
  - Chemically resistant

Product Selection – Fiber Optic Cables

Fiber Optic Cables for Use with These Large Aperture Sensors:

- Series 9000 42GxF-900x
- RightSight 42EF-G1xxA

Description	Sensing Tip Material	Fiber Bundle Diameter [mm (in.)]	Sheathing Material	Nominal Sensing Ref. [mm (in.)]	Cat No.
Bifurcated Cables for Large Aperture Sensors [4.6 mm/0.187 in.] [1]					
Threaded 5/16 in. straight tip	Brass	–	PVC	120 (4.75)	43GR-TBB25ML
Threaded 5/16 in. straight tip	Brass	–	Stainless steel	120 (4.75)	43GR-TBB25SL
Right angle tip with 5/16 in. x 24 thread	Stainless steel	–	PVC	120 (4.75)	43GR-TMS25ML
Right angle tip with 5/16 in. x 24 thread	Brass/Stainless steel	–	Stainless steel	120 (4.75)	43GR-TMC25SL
Ferrule (smooth) right angle tip	Stainless steel	–	PVC	120 (4.75)	43GR-FIS25ML
Ferrule (smooth) right angle tip	Stainless steel	–	Stainless steel	120 (4.75)	43GR-FIS25SL
Transmitted Beam Cables for Large Aperture Sensors [4.6 mm/0.187 in.] [2]					
Threaded 5/16 in. straight tip	Brass	–	PVC	508 (20)	43GT-TBB25ML
Threaded 5/16 in. straight tip	Brass	–	Stainless steel	508 (20)	43GT-TBB25SL
Threaded 5/16 in. with right angle tip	Brass	–	PVC	508 (20)	43GT-TQS25ML
Threaded 5/16 in. with right angle tip	Brass	–	Stainless steel	508 (20)	43GT-TQS25SL
Right angle tip with 5/16 in. x 24 thread	Stainless steel	–	PVC	508 (20)	43GT-TMS25ML
Right angle tip with 5/16 in. x 24 thread	Brass/Stainless steel	–	Stainless steel	508 (20)	43GT-TMC25SL
Ferrule (smooth) right angle tip	Stainless steel	–	PVC	508 (20)	43GT-FIS25ML
Ferrule (smooth) right angle tip	Stainless steel	–	Stainless steel	508 (20)	43GT-FIS25SSL

Product Selection – Fiber Optic Cables

Fiber Optic Cables for Use with These Small Aperture Sensors:

- 45FPL-xxxx
- Series 9000 42G*F-910x

Glass Fiber Optic Cables

Sensing Tip Description	Sensing Tip Material	Fiber Bundle Diameter [mm (in.)]	Sheathing Material	Nominal Sensing Ref. [mm (in.)]	Cat. No.
Bifurcated Cables for Small Aperture Sensors [2.2 mm/0.09 in.] [1]					
Threaded M6 x 1 straight tip	Brass	2.2 (0.09)	Stainless steel	63 (2.5)	43GR-TAB20SS
Transmitted Beam Cables for Small Aperture Sensors [2.2 mm/0.09 in.] [2]					
Threaded M6 x 1 straight tip	Brass	1.6 (0.062)	Stainless steel	215 (8.5)	43GT-TAB15SS
Right angle tip with M6 x 0.75 mm thread	Stainless steel	1.2 (0.046)	Stainless steel	203 (8.0)	43GT-TIS10SS
Threaded M4 x 0.7 mm with right angle tip	Stainless steel	1.2 (0.046)	Stainless steel	203 (8.0)	43GT-TDS10SS

Note: The standard length for glass fiber optic cables is 0.91 m (36 in.) from tip to tip.

Fiber Optic Cables for Use with These Small Aperture Sensors:

- 45FPL-xxxx
- Series 9000 42G*F-910x

Plastic Fiber Optic Cables

Sensing Tip Description	Sensing Tip Material	Fiber Bundle Diameter [mm (in.)]	Sheathing Material	Nom. Sen. Ref. [mm (in.)]	Cat. No.
Bifurcated Cables for Small Aperture Sensors [2.2 mm/0.09 in.] [1]					
Threaded M6 x 0.75 mm straight tip	Stainless steel	2 x 1 (0.04)	Polyethylene	40 (1.6)	43PR-NES57ZS
Threaded M6 x 0.75 mm with 90 mm (3.5 in.) bendable probe	Stainless steel	2 x 1 (0.04)	Polyethylene	40 (1.6)	43PR-PIS57ZS
Fork TB tip with 11.9 mm (0.27 in.) gap	Plastic	1 (0.04)	Polyethylene	12 (0.5)	43PR-UAA56MS
Transmitted Beam Cables for Small Aperture Sensors [2.2 mm/0.09 in.] [3]					
Threaded M4 x 0.70 mm straight tip	Stainless steel	1.5 (0.06)	Polyethylene	230 (9.0)	43PT-NAS58FS
Threaded M5 x 0.8 mm tip with side-view	Stainless steel	1 (0.04)	Polyethylene	230 (9.0)	43PT-SAS56FS
Ferrule (smooth) straight 3 mm tip	Stainless steel	1 (0.04)	Polyethylene	230 (9.0)	43PT-CBS56FS

Note: The standard length for plastic fiber optic cables is 2 m (6.5 ft) from tip to tip. Cables can be cut to shorter lengths.

[1] Bifurcated cables can be used for diffuse or retroreflective applications.
[2] Two glass transmitted beam fiber optic cables are required for each sensor.
[3] Plastic transmitted beam fiber optic cables are shipped in pairs.

Proximity Sensors

Sensor Selection

Inductive proximity sensors provide non-contact detection of metal objects across relatively short distances (up to 2.5 inches or 65 mm). Sensor size, along with whether the sensor has shielded (flush-mountable) or unshielded (non flush-mountable) construction, dictates sensing range. Other factors/functions to consider include output and connection type, environmental protection rating, power requirements and proximity to electrical fields (i.e. weld field immunity).

Allen-Bradley® inductive proximity sensors set the standard for ruggedness, reliability and application flexibility. We offer one of the industry's widest sensor offerings serving the full spectrum of your needs, from light-duty packaging applications to the punishing environments on automotive welding equipment or the harsh washdowns in food processing plants. Below is a quick selection guide for our most popular products – to see our complete line of sensors, go to http://ab.rockwellautomation.com.

Inductive Sensors

	Application	Housing Diameter/ Dimensions (mm)	Sensing Range Shielded (mm)	Sensing Range Unshielded (mm)	Enclosure Ratings	2-wire DC	3-wire DC	4-wire DC	2-wire AC	2-wire AC/DC
872 WorldProx 	General Purpose	6.5	2 & 3	3	IP67	✔	✔	✔	✔	✔
		8	2 & 3	3, 4, 6						
		12	3, 4, 6	4, 8, 10						
		18	5, 8, 12	8, 12, 20						
		30	10, 15, 22	15, 20, 40						
871TM 	Harsh Duty/Welding	8	3	6	All units IP67 & 1200 psi wash down rated (Selected units meet IP69K)	✔	✔		✔	✔
		12	2 & 6	4 & 10						
		18	5 & 10	8 & 20						
		30	10 & 20	15 & 40						
871TS 	Food & Beverage	12	4	4 & 8	IP67, IP68 & IP69K		✔			
		18	8	8 & 12						

Inductive Sensors

	Application	Housing Diameter/ Dimensions (mm)	Sensing Range Shielded (mm)	Sensing Range Unshielded (mm)	Enclosure Ratings	2-wire DC	3-wire DC	4-wire DC	2-wire AC	2-wire AC/DC
871Z 	Welding	12	2	4	IP67		✔			✔
		18	5	8						
		30	10	15						
871ZT 	Welding	12	3	8	IP67		✔			
		18	5	12						
		30	10	20						
871 VersaCube 	Material Handling & Welding	40 x 40	20	40	All units IP67 & 1200 psi wash down rated (Selected units meet IP69K)			✔		✔
		40 x 40 WFI	15 & 20	25 & 40						
871F Flat Pack 	Material Handling & Welding	80 x 80	50	65	All units IP67 & 1200 psi wash down rated (Selected units meet IP69K)		✔			✔
		80 x 80 WFI	40	50						
871C Mini Tubular 	Automated Assembly & Robotics	3 smooth barrel	0.6 & 1	NA	IP67		✔			
		4 smooth barrel	0.6 & 1	NA						
		4	0.8 & 1.5	NA						
		5	1 & 1.5	NA						
871FM Miniature Rectangular 	Automated Assembly & Robotics	5 x 5	0.8 & 1.5	NA	IP67		✔			
		8 x 8	2	3						
		26 x 16 x 11	2	NA						
		25 x 50 x 10	5	8						
		31 x 18 x 10	NA	5						

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http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing

Proximity Sensors



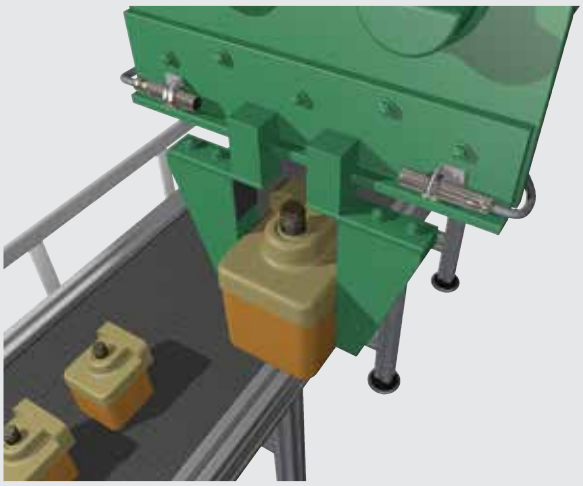
Miniature
871C

- Miniature housings for space-critical applications
- Extended sensing range
- Stainless steel housing
- Quick disconnect and cable options
- Fully integrated electronics

IO-Link

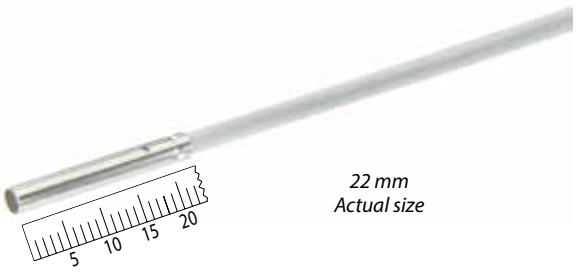
Miniature Sensors for Industrial Automation

Our miniature inductive sensors were designed to meet the needs of today's compact machines. With limited space on these machines, mounting space for sensors is limited. Allen-Bradley 871C sensors were developed to meet this design requirement while providing superior performance, including longer sensing range. Longer sensing ranges allow our sensors to be mounted further away from the target reducing the risk of mechanical contact.



Gripper application – Two 871C inductive sensors detecting open position of gripper jaws

These small-barrel sensors are designed for space-critical applications where standard size sensors simply won't fit.



22 mm
Actual size

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

3-wire DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
3 mm, smooth	1 (0.04)	Yes	N.O., PNP	3000	22 (0.87)	–	2 m cable	871C-MM1NP3-E2
							6 in. pico QD pigtail	871C-MM1NP3-AP3
4 mm, threaded						19 (0.74)	2 m cable	871C-M1NP4-E2
							6 in. pico QD pigtail	871C-M1NP4-AP3
4 mm, smooth	1.5 (0.06)				25 (0.98)	–	2 m cable	871C-MM2NP4-E2
					38 (1.50)		Pico QD	871C-MM2NP4-P3
5 mm, threaded					25 (0.98)	20 (0.79)	2 m cable	871C-M2NP5-E2
					38 (1.50)	23 (0.90)	6 in. pico QD pigtail	871C-M2NP5-P3

IO-Link enabled.



Need Help?

The Rockwell Automation Support Center is your 24/7 support for the answers you need now.

www.rockwellautomation.com/support/overview.page

Specifications

Certifications	UL Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 12, 13; IP67 (cable only), IP65 (QD only) (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse, transient noise, reverse polarity, short circuit
Load Current	3 mm smooth and 4 mm threaded barrel: ≤100 mA 4 mm smooth and 5 mm threaded barrel: ≤200 mA
Housing Material	Stainless steel barrel, polyester face

Required Cordsets and Accessories

Description	Cat. No.
DC pico QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
Clamp style bracket, 4 mm (0.16 in.)	871-BP4
Clamp style bracket, 5 mm (0.2 in.)	871-BP5
Point I/O IO-Link Master Module	1734-4IOL

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Proximity Sensors



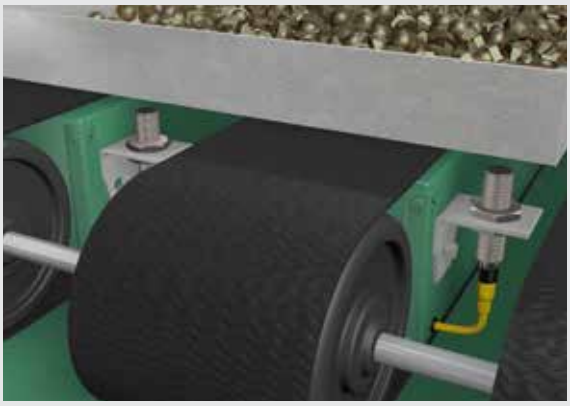
WorldProx 872C

- General purpose
- Wide range of options
- Standard, extended and long range
- Extended range and long range models offer up to three times standard sensing range
- Multiple connection styles

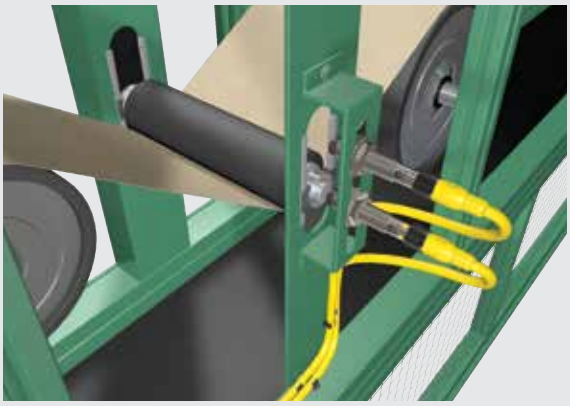
An Extended Range, General Purpose Solution

The most common cause of sensor failure is contact with the intended target. Sensors with longer range can be used to eliminate/limit contact with the target, thus reducing the cost associated with replacing damaged sensors (due to the cost of the sensor, maintenance time, and lost production).

Additionally, increased sensing range allows machine manufacturers to use smaller sensors and save space on the machine or to locate the sensors in previously inaccessible areas.



Conveyor application – Two 872CWorldProx sensors detecting presence of a part bin on a conveyor belt



Paper tension – A pair of WorldProx sensors detecting the tension roller position for speed control

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

3-Wire DC Standard Barrel

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
6.5 mm, smooth	3 (0.12)	Yes	N.O./PNP	1,000	66.0 (2.59)	–	Micro QD	872C-M3NP7-D4
8 mm	2 (0.08)	Yes		2500	58.7 (2.31)	27.7 (1.09)		872C-D2NP8-D4
	3 (0.12)	No			62.7 (2.47)			872C-D3NP8-D4
	3 (0.12)	Yes			58.7 (2.31)			872C-M3NP8-D4
	4 (0.16)	No			62.0 (2.44)			872C-N4NP8-D4
	6 (0.23)	No		500	66.0 (2.59)	40.0 (1.57)		872C-N6NP8-D4
12 mm	3 (0.12)	Yes		1300	64.3 (2.53)	38.1 (1.50)		872C-D3NP12-D4
	4 (0.16)	No			72.4 (2.85)			872C-D4NP12-D4
	4 (0.16)	Yes			64.3 (2.53)			872C-M4NP12-D4
	8 (0.31)	No			72.4 (2.85)			872C-N8NP12-D4
	6 (0.23)	Yes		800	60.0 (2.36)	40.0 (1.57)		872C-M6NP12-D4
	10 (0.39)	No		400	60.0 (2.36)	38.1 (1.50)		872C-N10NP12-D4
18 mm	5 (0.2)	Yes		1500	65.5 (2.58)			872C-D5NP18-D4
	8 (0.31)	No			75.5 (2.97)			872C-D8NP18-D4
	8 (0.31)	Yes			65.5 (2.58)			872C-M8NP18-D4
	12 (0.47)	No			75.5 (2.97)			872C-N12NP18-D4
	12 (0.47)	Yes		500	63.5 (2.5)	42.0 (1.65)		872C-M12NP18-D4
	20 (0.79)	No		200	63.5 (2.5)	32.0 (1.25)		872C-N20NP18-D4
30 mm	10 (0.39)	Yes		1000	64.3 (2.53)	48.3 (1.90)		872C-D10NP30-D4
	15 (0.59)	No			76.5 (3.01)	42.5 (1.67)		872C-D15NP30-D4
	15 (0.59)	Yes			64.3 (2.53)	48.3 (1.90)		872C-M15NP30-D4
	20 (0.79)	No			76.5 (3.01)	42.5 (1.67)		872C-N20NP30-D4
	22 (0.86)	Yes		200	73.5 (2.89)	52.0 (2.04)		872C-M22NP30-D4
	40 (1.57)	No		100	73.5 (2.89)	42.0 (1.65)		872C-N40NP30-D4

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, short circuit, overload
Load Current	≤200 mA
Housing Material	Nickel-plated brass barrel, plastic face (PBT)

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **8**, **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

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http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing

Proximity Sensors

Product Selection

3-Wire DC Short Barrel

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
8 mm	2 (0.08)	Yes	N.O./PNP	2500	45.2 (1.78)	20.1 (0.79)	Micro QD	872C-DH2NP8-D4
	3 (0.12)	No			49.3 (1.94)			872C-DH3NP8-D4
	3 (0.12)	Yes			45.2 (1.78)			872C-MH3NP8-D4
	4 (0.16)	No			49.3 (1.94)			872C-NH4NP8-D4
12 mm	3 (0.12)	Yes		1300	48.3 (1.90)	27.4 (1.08)		872C-DH3NP12-D4
	4 (0.16)	No			56.3 (2.22)			872C-DH4NP12-D4
	4 (0.16)	Yes			48.3 (1.90)			872C-MH4NP12-D4
	8 (0.32)	No			56.3 (2.22)			872C-NH8NP12-D4
18 mm	5 (0.20)	Yes		1500	49.5 (1.95)	26.4 (1.04)		872C-DH5NP18-D4
	8 (0.31)	No			59.5 (2.34)			872C-DH8NP18-D4
	8 (0.32)	Yes			49.5 (1.95)			872C-MH8NP18-D4
	12 (0.47)	No			61.7 (2.43)			872C-NH12NP18-D4
30 mm	15 (0.59)	No		1000	63.2 (2.49)	29.2 (1.15)		872C-DH15NP30-D4
	15 (0.59)	Yes			50.8 (2.00)	31.8 (1.25)		872C-MH15NP30-D4
	20 (0.79)	No			63.2 (2.49)	29.2 (1.15)		872C-NH20NP30-D4

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, short circuit, overload
Load Current	≤200 mA
Housing Material	Nickel-plated brass barrel, plastic face (PBT)

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **8**, **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

Product Selection

2-Wire DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	3 (0.12)	Y	N.O.	2000	65.0 (2.56)	38.1 (1.50)	Micro QD	872C-D3NE12-D4
	4 (0.16)	N			72.4 (2.85)			872C-D4NE12-D4
18 mm	5 (0.20)	Y		1000	65.0 (2.56)			872C-D5NE18-D4
	8 (0.31)	N			76.5 (3.01)			872C-D8NE18-D4
30 mm	10 (0.39)	Y		500	65.0 (2.56)	46.7 (1.84)		872C-D10NE30-D4
	15 (0.59)	N			76.5 (3.01)			872C-D15NE30-D4

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

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Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, overload
Load Current	≤100 mA
Housing Material	Nickel-plated brass barrel, plastic face (PBT)

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **8**, **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

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Proximity Sensors

Product Selection

2-Wire AC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	2 (0.08)	Y	N.O.	15	75.0 (2.95)	45.0 (1.77)	Micro QD	872C-A2N12-R3
	4 (0.16)			20				872C-F4N12-R3
	4 (0.16)	N		15		40.0 (1.57)		872C-A4N12-R3
	8 (0.31)			20				872C-G8N12-R3
18 mm	5 (0.20)	Y		15	80.0 (3.15)	60.0 (2.36)		872C-A5N18-R3
	8 (0.31)			20				872C-F8N18-R3
	10 (0.39)	N		15		52.0 (2.05)		872C-A10N18-R3
	12 (0.47)			20				872C-G12N18-R3
30 mm	10 (0.39)	Y		15	80.0 (3.15)	50.0 (1.96)		872C-A10N30-R3
	15 (0.59)			20				872C-F15N30-R3
	15 (0.59)	N		15		38.0 (1.50)		872C-A15N30-R3
	30 (1.18)			20				872C-G30N30-R3

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	20…250V AC
Protection Type	False pulse on power, transient noise
Load Current	≤300 mA
Housing Material	Nickel-plated brass barrel, plastic face (PBT)

Required Cordsets and Accessories

Description	Cat. No.
AC micro (M12) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3ECA-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

2-Wire AC/DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	2 (0.08)	Y	N.O.	30	75.0 (2.95)	45.0 (1.77)	Micro QD	872C-J2N12-R3
	4 (0.16)	N				40.0 (1.57)		872C-K4N12-R3
18 mm	5 (0.20)	Y			80.0 (3.15)	60.0 (2.36)		872C-J5N18-R3
	8 (0.31)	N				52.0 (2.05)		872C-K8N18-R3
30 mm	10 (0.39)	Y			80.0 (3.15)	50.0 (1.96)		872C-J10N30-R3
	15 (0.59)	N				38.0 (1.50)		872C-K15N30-R3



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	20…250V AC/DC
Protection Type	False pulse on power, transient noise, short circuit, overload
Load Current	≤300 mA for 12 mm units, and ≤350 mA for 18 and 30 mm units
Housing Material	Nickel-plated brass barrel, plastic face (PBT)

Required Cordsets and Accessories

Description	Cat. No.
AC micro (M12) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3ECA-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

Proximity Sensors



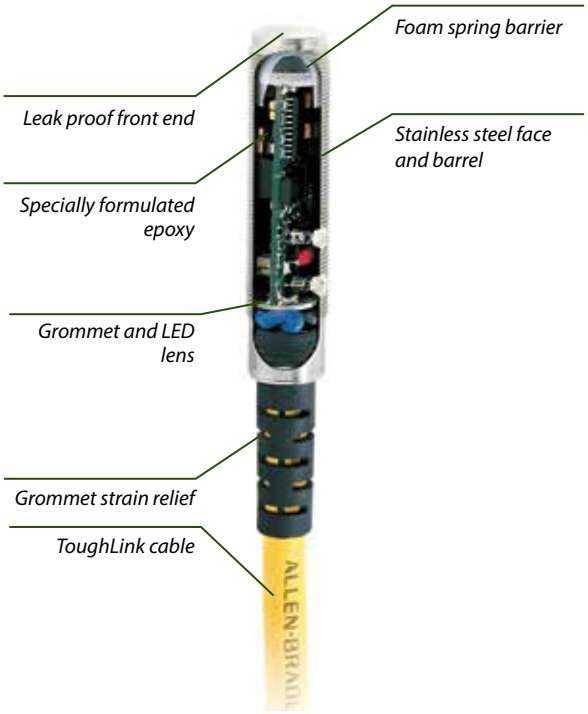
Stainless Steel – Weld Field Immune 871TM

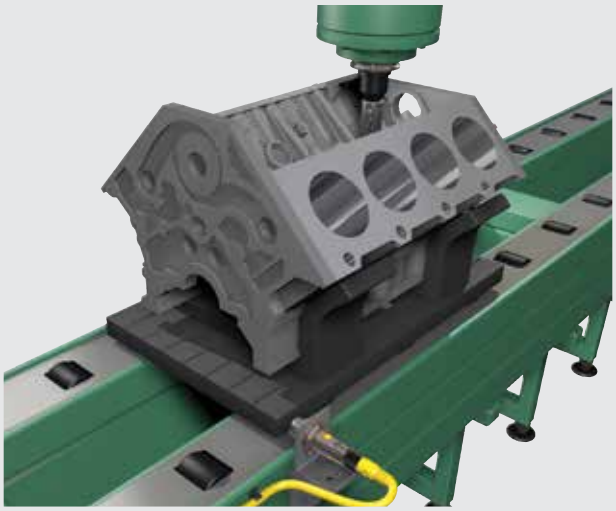
- Heavy duty stainless steel face and barrel
- IP69K and 1200 psi washdown rated
- Chemical and abrasion resistant
- Long range models offer equal sensing distance for all metals
- Long range weld field immune up to 40mT (select models)
- IO-Link enabled (select models)

IO-Link

For Your Toughest Applications

The 871TM stainless steel sensors are ideal for harsh or extremely demanding environments. These sensors resist impact, abrasion and corrosion – to keep things moving where ordinary sensors grind to a halt. This line features full mechanical seals at all barrel openings and full epoxy encapsulation for optimal performance in the toughest environments.





Automotive application – An 871TM detecting presence of an engine block skid

Welding Applications

Select weld field immune models are ideal for welding environments and other applications where strong magnetic fields are present.

Product Selection

3-Wire DC (weld field immune select models)

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Weld Field Immune	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
8 mm	3 (0.12)	Yes	No	N.O./PNP	700	66 (2.59)	46 (1.81)	Micro QD	871TM-M3NP8-D4
	3 (0.12)	Yes	Yes		400	60 (2.36)	45 (1.77)	Pico QD	871TM-MW3NP8-P3
	6 (0.23)	No	No		700	66 (2.59)	42 (1.65)	Micro QD	871TM-N6NP8-D4
12 mm	2 (0.08)	Yes	No		75	61 (2.40)	26.4 (1.04)		871TM-DH2NP12-D4
	6 (0.23)				400	60 (2.36)	41 (1.61)		871TM-M6NP12-D4
	6 (0.23)		Yes		400	60 (2.36)	41 (1.61)		871TM-MW6NP12-D4
	4 (0.16)	No	No		70	61 (2.40)	28 (1.10)		871TM-DH4NP12-D4
	10 (0.39)				400	60 (2.36)	36 (1.42)		871TM-N10NP12-D4
18 mm	5 (0.20)	Yes	No		60	65 (2.55)	41.7 (1.64)		871TM-DH5NP18-D4
	10 (0.39)				200	63.5(2.5)	42.5 (1.67)		871TM-M10NP18-D4
	10 (0.39)		Yes		400	63.5(2.5)	42.5 (1.67)		871TM-MW10NP18-D4
	8 (0.31)	No	No		40	65 (2.55)	41.7 (1.64)		871TM-DH8NP18-D4
	20 (0.79)				200	63.5 (2.5)	35.5 (1.40)		871TM-N20NP18-D4
30 mm	10 (0.39)	Yes	No		40	66.3 (2.61)	41.9 (1.65)		871TM-DH10NP30-D4
	20 (0.79)				80	63.5 (2.5)	42.5 (1.67)		871TM-M20NP30-D4
	15 (0.59)	No			30	66.3 (2.61)	39.4 (1.55)		871TM-DH15NP30-D4
	40 (1.57)				80	63.5 (2.5)	35.5 (1.40)		871TM-N40NP30-D4

IO-Link enabled.

Specifications

Certifications	CE Marked for all applicable directives (standard range models also UL Listed and CSA Certified), long range also cULus Listed)
Enclosure Type Rating	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529) all models; 1200 psi (8270 kPa) washdown; standard range micro connector versions are also rated IP69K (IEC 529) except for 8 mm versions
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse, transient noise, reverse polarity, short-circuit (trigger at 340 mA typical), overload
Load Current	≤200 mA
Leakage Current, Max.	≤10 mA on standard range models, ≤0.1 mA on extended range models
Housing Material	Stainless steel face and barrel

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
DC pico QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
Right angle mounting bracket	871A-BRN [2]
Snap clamp mounting bracket	871A-SCPB [3]
Point I/O IO-Link Master Module	1734-4IOL

[2] Add **8**, **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[3] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

RFID



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Proximity Sensors

Product Selection

2-Wire DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	2 (0.08)	Y	N.O.	75	61.0 (2.40)	26.4 (1.04)	Micro QD	871TM-DH2NE12-D4
	4 (0.16)	N				19.6 (0.77)		871TM-DH4NE12-D4
18 mm	5 (0.20)	Y		60	65.0 (2.56)	41.7 (1.64)		871TM-DH5NE18-D4
	8 (0.31)	N						871TM-DH8NE18-D4
30 mm	10 (0.39)	Y		40	66.3 (2.61)	41.9 (1.65)		871TM-DH10NE30-D4
	15 (0.59)	N				39.4 (1.55)		871TM-DH15NE30-D4



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529) all models; 1200 psi (8270 kPa) washdown; ToughLink™ and micro connector versions are also rated IP69K (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, short-circuit, overload
Load Current	≤ 25 mA
Housing Material	Stainless steel face and barrel

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

Product Selection

2-Wire AC/DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Threaded Length [mm (in.)]	Cat. No.
12 mm	3 (0.12)	Yes	N.O.	35	83.4 (3.28)	38.4 (1.51)	871TM-B3N12-R3
	4 (0.16)	No		20		31.5 (1.24)	871TM-B4N12-R3
18 mm	5 (0.20)	Yes		20	84.3 (3.32)	60 (2.36)	871TM-B5N18-R3
	8 (0.31)	No		15		48.2 (1.90)	871TM-B8N18-R3
30 mm	10 (0.39)	Yes		15	85.7 (3.37)	61.3 (2.41)	871TM-B10N30-R3
	15 (0.59)	No		12		46.1 (1.81)	871TM-B15N30-R3

PLC Interfacer Models

Barrel Diameter [mm]	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Threaded Length [mm (in.)]	Cat. No.
12 mm	2 (0.08)	Yes	N.O.	75	61 (2.40)	26.4 (1.04)	871TM-BH2N12-R3
	4 (0.16)	No		35		19.6 (0.77)	871TM-BH4N12-R3
18 mm	5 (0.20)	Yes		65	65 (2.56)	41.7 (1.64)	871TM-BH5N18-R3
	8 (0.31)	No		30		41.7 (1.64)	871TM-BH8N18-R3
30 mm	10 (0.39)	Yes		45	66.3 (2.61)	41.9 (1.65)	871TM-BH10N30-R3
	15 (0.59)	No		20	66.3 (2.61)	39.4 (1.55)	871TM-BH15N30-R3

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529) all models; 1200 psi (8270 kPa) washdown; ToughLink and micro connector versions are also rated IP69K (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	20…250V AC/DC
Protection Type	False pulse, transient noise, short-circuit, overload
Load Current	12 mm models: 5…200 mA; 18 & 30 mm models: 5…250 mA; PLC Interfacer models: 2…25 mA
Leakage Current, Max.	≤1.9 mA @ 120V AC (PLC Interfacer models: ≤0.9 mA @ 24V DC, ≤1.7 mA @ 20...120V AC, ≤2.5 mA @ 121…250V AC)
Housing Material	Stainless steel face and barrel

Required Cordsets and Accessories

Description	Cat. No.
AC micro (M12) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3ECA-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

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Proximity Sensors



Food and Beverage
871TS

- Corrosion-resistant stainless steel housing with FDA Certified PPS sensing face
- IP67, IP68, and IP69K enclosure ratings
- Extended sensing range
- Extended temperature rating
- ECOLAB and Johnson Diversey Certified
- Smooth barrel models for sanitary applications (18 mm models)
- Laser etched product markings

Sensors for the Food & Beverage Industry

The Allen-Bradley 871TS food and beverage inductive proximity sensors are designed to address the most demanding applications in the food and beverage industry. These sensors withstand high pressure and high temperature washdown, while offering superior resistance to corrosion and damage caused by harsh cleansing agents.

871TS Sensor



+

871TS Smooth barrel clamp bracket



=

Sanitary application





Bottling application – An 871TS ensures a bottle cap is in place prior to a cartoning process

Product Selection

4-Wire DC

Barrel Diameter	Barrel Type	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	Threaded	4 (0.16)	Y	N.O. and N.C., PNP	2000	65.0 (2.56)	38.1 (1.50)	Micro QD	871TS-M4BP12-D4
		8 (0.31)	N				32.5 (1.28)		871TS-N8BP12-D4
18 mm	Threaded	8 (0.31)	Y		1500	63.0 (2.48)	34.5 (1.36)		871TS-M8BP18-D4
		12 (0.47)	N				26.5 (1.04)		871TS-N12BP18-D4
	Smooth	8 (0.31)	Y			63.0 (2.48)	–		871TS-MM8BP18-D4
		12 (0.47)	N						871TS-NM12BP18-D4



Need Help?

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www.rockwellautomation.com/support/overview.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives; ECOLAB and Johnson and Diversey Certified
Enclosure Type Rating	IP67, IP68, and IP69K (IEC 529)
Operating Temperature [C (F)]	-40…+80 ° (-40…+176 °)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, short-circuit, overload
Load Current	≤200 mA
Housing Material	Stainless steel 316L barrel and PPS sensing face (FDA Certified)

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]
Smooth barrel clamp bracket, stainless steel, 18 mm	60-BCS-18B

[1] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

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Proximity Sensors

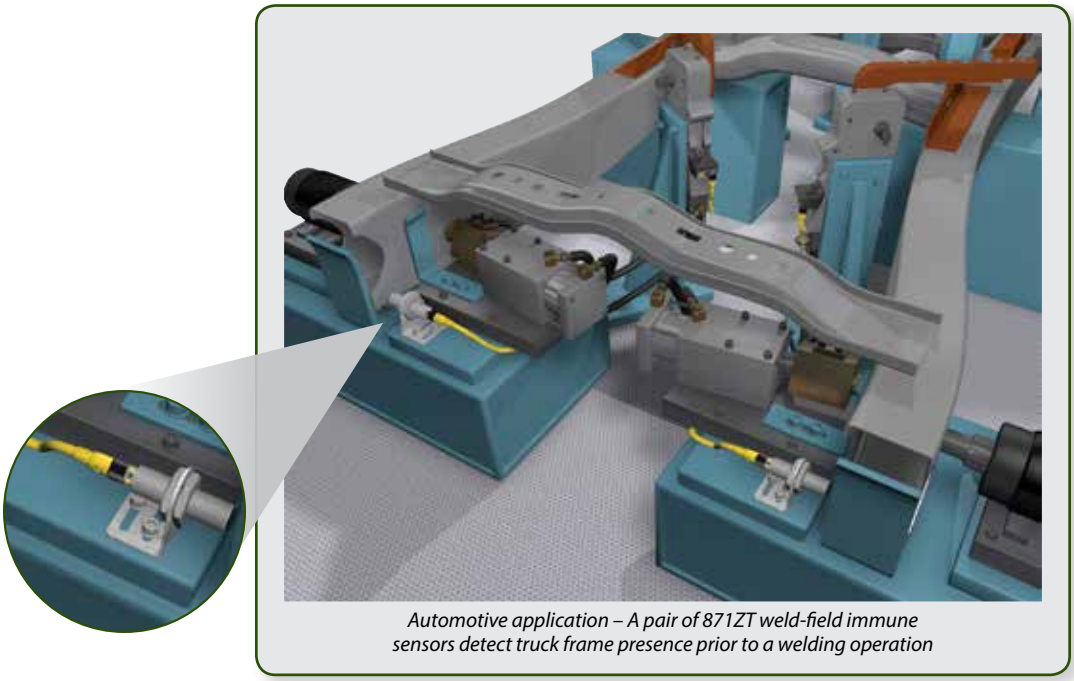


Weld Field Immune with Equal Sensing 871ZT

- Equal sensing distance for all metals
- Weld-field immune
- Weld-slag resistant PTFE-coated brass barrel and face
- Extended sensing range
- IP67, IP69K, and 1200 psi washdown rated
- 360° visible LED status indicator

The Full-featured Line for Welding Applications

The 871ZT inductive proximity sensors are equal sensing models – they sense all metals at nearly the same distance. Plus, these special weld-field immune models are ideal for welding environments and other applications where large magnetic fields are present.



Automotive application – A pair of 871ZT weld-field immune sensors detect truck frame presence prior to a welding operation

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

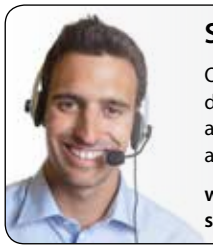
Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

3-Wire DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	3 (0.12)	Yes	N.O., PNP	2000	65.0 (2.56)	50.0 (1.97)	Micro QD	871ZT-MB3NP12-D4
	8 (0.31)	No				40.0 (1.58)		871ZT-NB8NP12-D4
18 mm	5 (0.20)	Yes		2500		50.0 (1.97)		871ZT-MB5NP18-D4
	12 (0.47)	No				40.0 (1.58)		871ZT-NB12NP18-D4
30 mm	10 (0.39)	Yes		600		50.5 (1.99)		871ZT-MB10NP30-D4
	20 (0.79)	No		1000		37.5 (1.48)		871ZT-NB20NP30-D4



Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC
Protection Type	False pulse, transient noise, reverse polarity, short-circuit (trigger at 340 mA typical), overload
Load Current	≤200 mA
Leakage Current, Max.	≤0.08 mA
Housing Material	PTFE-coated brass barrel and PTFE face

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) ToughWeld™ QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4WE-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

RFID



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Proximity Sensors

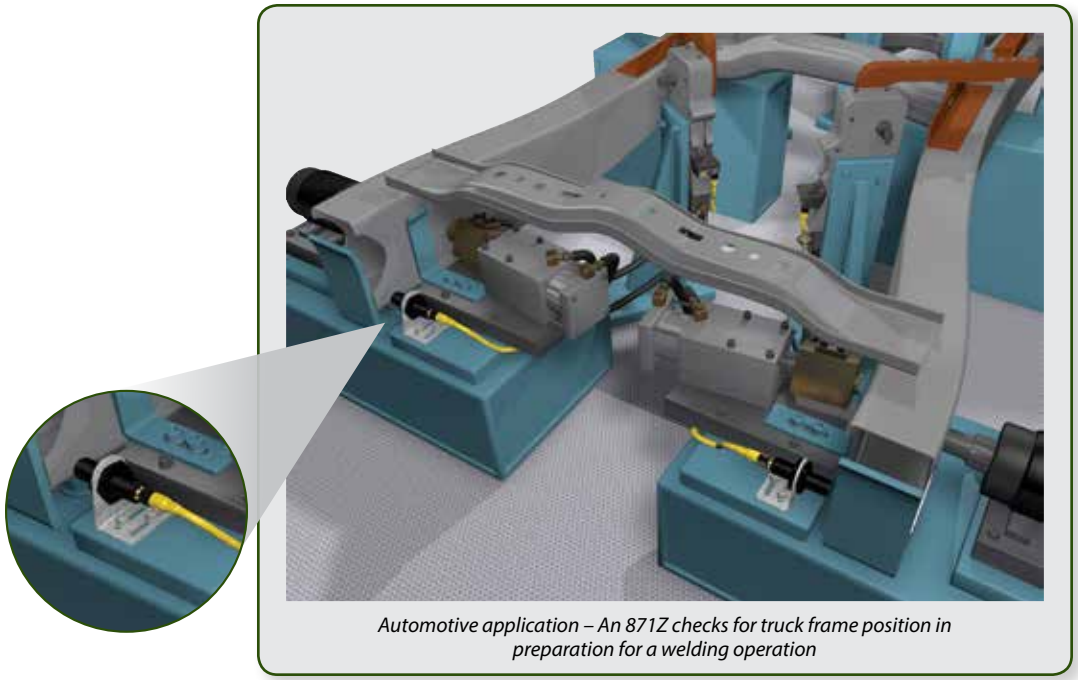


Weld Field Immune
871Z

- Weld-field immune
- PTFE-coated brass barrel
- High-heat and weld slag resistant face
- Three-wire DC or two-wire AC/DC models

Tough Sensors for Automotive Applications

The 871Z inductive proximity sensors are special weld-field immune models ideal for welding environments and other applications where large magnetic fields are present.



Automotive application – An 871Z checks for truck frame position in preparation for a welding operation

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

3-Wire DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	2 (0.08)	Yes	N.O., PNP	15	70.0 (2.76)	50.0 (1.97)	Micro QD	871Z-DW2NP12-D4
18 mm	5 (0.20)				80.0 (3.15)	60.0 (2.36)		871Z-DW5NP18-D4
30 mm	10 (0.39)				80.0 (3.15)	60.0 (2.36)		871Z-DW10NP30-D4

2-Wire AC/DC

Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Housing Length [mm (in.)]	Thread Length [mm (in.)]	Connection Type	Cat. No.
12 mm	2 (0.07)	Y	N.O.	30	90.1 (3.55)	46.7 (1.85)	Micro QD (1/2-20 UNF-2 A)	871Z-BW2N12-R3
	4 (0.15)	N				39.7 (1.56)		871Z-BW4N12-R3
18 mm	5 (0.19)	Y			83.5 (3.29)	61.6 (2.43)		871Z-BW5N18-R3
30 mm	10 (0.39)	Y			86.0 (3.38)	64.3 (2.53)		871Z-BW10N30-R3

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 12, 13; IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	10…30V DC, 20…250V AC/DC
Protection Type	False pulse on power, transient noise, short-circuit, overload
Load Current	200 mA DC, 5…200 mA for 12 mm AC/DC, 5…250 mA for 18 and 30 mm AC/DC
Housing Material	PTFE-coated brass

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) ToughWeld QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4WE-2
AC micro (M12) ToughWeld QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3WEA-2
Right angle mounting bracket	871A-BRN [1]
Snap clamp mounting bracket	871A-SCPB [2]

[1] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[2] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

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Proximity Sensors



Miniature Rectangular 871FM

- Space-critical applications
- Sensing ranges up to 8 mm (0.31 in.)
- Cable, Pico quick-disconnect and Pico quick-disconnect on 6-inch pigtail
- Chrome-plated brass and plastic housings
- IP67 rated
- IO-Link enabled (select models)

IO-Link

Smaller Sensors for Your Hard-to-reach Applications

There are some applications that can't be solved with an industry standard-sized proximity sensor. Whether the application you're trying to solve is part of the semiconductor industry, or you're an OEM who manufactures machines which generate miniature parts, these sensors are able to go where traditional proximity sensor sizes cannot. These miniature inductive proximity sensors are ideal for applications where limited space – not sensing distance – is the driving factor.



871FM Miniature Rectangular sensors can be applied where traditional tubular proximity sensors cannot, whether you're trying to sense small parts, space is at a premium, or both.

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

3-Wire DC

Dimensions w x h x d [mm (in.)]	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Connector Type	Cat. No.
5 x 22 x 5 (0.19 x 0.86 x 0.19)	0.8 (0.03)	Y	N.O., PNP	5,000	2 m cable	871FM-M1NP5-E2
	1.5 (0.05)	Y		3,000		871FM-M2NP5-E2
5 x 25 x 5 (0.20 x 0.98 x 0.20)	0.8 (0.03)	Y		5,000	Pico QD with 6" pigtail	871FM-M1NP5-AP3
5 x 25 x 5 (0.20 x 0.98 x 0.20)	1.5 (0.05)	Y		3,000	Pico QD with 6" pigtail	871FM-M2NP5-AP3
8 x 35 x 8 (0.31 x 1.37 x 0.31)	2 (0.07)	Y		3,000	2 m cable	871FM-M2NP8-E2
	3 (0.11)	N		1,000		871FM-N3NP8-E2
8 x 50 x 8 (0.31 x 1.97 x 0.31)	2 (0.07)	Y		3,000	Pico QD	871FM-M2NP8-P3
28 x 16 x 11 (1.10 x 0.62 x 0.43)	2 (0.07)	Y		600	Pico QD	871FM-D2NP11-P3
25 x 50 x 10 (0.98 x 1.96 x 0.93)	5 (0.19)	Y		500		871FM-D5NP25-P3
	8 (0.31)	N		200		871FM-D8NP25-P3
31 x 18 x 10 (1.22 x 0.70 x 0.39)	5 (0.19)	Y		200	2 m cable	871FM-D5NP10-E2

IO-Link enabled.

Specifications

Certifications	CE Marked for all applicable directives
Enclosure Type Rating	IP67 (IEC 529)
Operating Temperature [C (F)]	-25…+70 °C (-13….+158 °F)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, reverse polarity, short circuit, overload
Load Current	≤50mA at 12V and ≤100mA for 31 x 18 x10 sensors; all others ≤200 mA
Housing Material	5 x 22 x 5 and 8 x 35 x 8 chrome-plated brass with plastic face; all other products completely constructed of plastic

Required Cordsets and Accessories

Description	Cat. No.
DC pico (M8) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
Point I/O IO-Link Master Module	1734-4IOL

Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

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http://ab.rockwellautomation.com/Sensors-Switches/Presence-Sensing

Proximity Sensors



VersaCube Equal Sensing 871P

- Weld-field immune
- Equal sensing for all metals
- Five-position sensing face
- Enhanced-visibility status LEDs
- Optional slag resistant ToughCoat Finish™
- Unique jam nut and L-bracket mounting option

Equal Sensing, Versatility, and Durability

These 4-wire DC sensors integrate standard and specialty features into a 40 mm rectangular housing suited for general purpose and welding applications. For the most demanding welding applications, the 871P VersaCube can be ordered with ToughCoat Finish (our patented weld-slag resistant coating).

Changing the Sensing Head Position

To switch the sensing head between top and side sensing positions, follow these steps:



Mounting

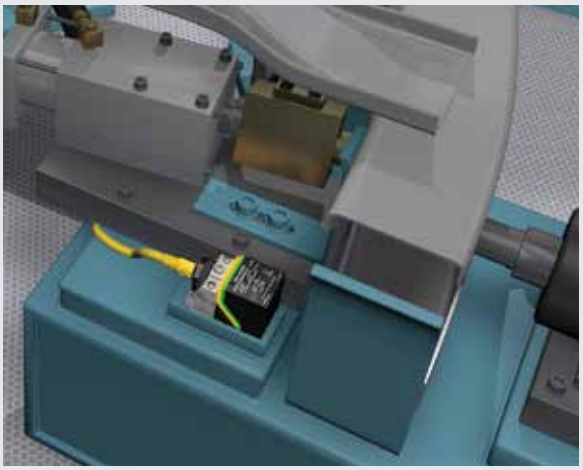


Standard Zinc Mounting Bracket



Optional Stainless Steel Mounting L-Bracket





Automotive application – A VersaCube detecting the presence of a truck frame prior to initiating a weld

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

4-Wire DC[1]

Dimensions w x h x d [mm (in.)]	Weld Field Immune	Nominal Sensing Distance [mm (in.)	Shielded	Output Configuration	Switching Frequency (Hz)	Connector Type	Cat. No.
40 x 68.2 x 40 (1.57 x 2.68 x 1.57)	Y	20 (0.78)	Y	N.O. and N.C., PNP	40	Micro QD	871P-D20BP40-D4
		40 (1.57)	N				871P-D40BP40-D4
	Yes with ToughCoat Weld Slag finish	20 (0.78)	Y				871P-DV20BP40-D4
		40 (1.57)	N				871P-DV40BP40-D4

[1] All units ship with a standard zinc mounting bracket.



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6, 12, 13; IP67, IP68, and IP69K (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158°)
Operating Voltage	10…30V DC
Protection Type	False pulse on power, transient noise, short-circuit, overload, reverse polarity
Load Current	≤200 mA from 25…50 °C (77…122 °F) ≤100 mA from 50…70 °C (122…158 °F)
Housing Material	PBT housing, acrylic lens covers and zinc base

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD ToughWeld cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4WE-2
Standard zinc mounting bracket	871A-PBR
Stainless steel L-bracket (with 22 mm plastic mounting nut)	871A-BRS59
22 mm plastic mounting nut	871T-N9

RFID



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Proximity Sensors



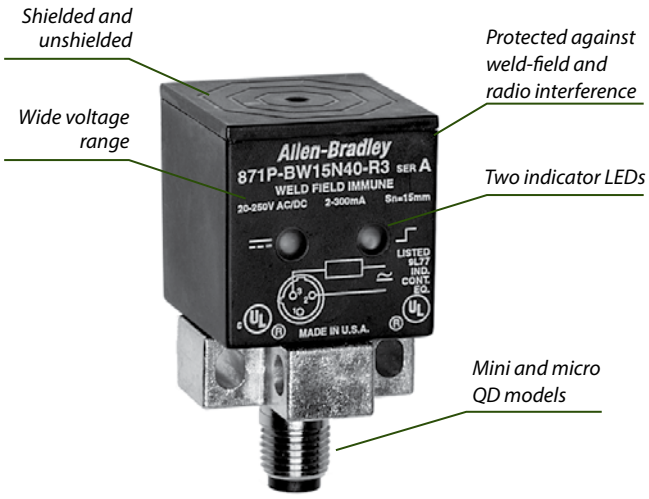
General Purpose Model

VersaCube General Purpose
871P

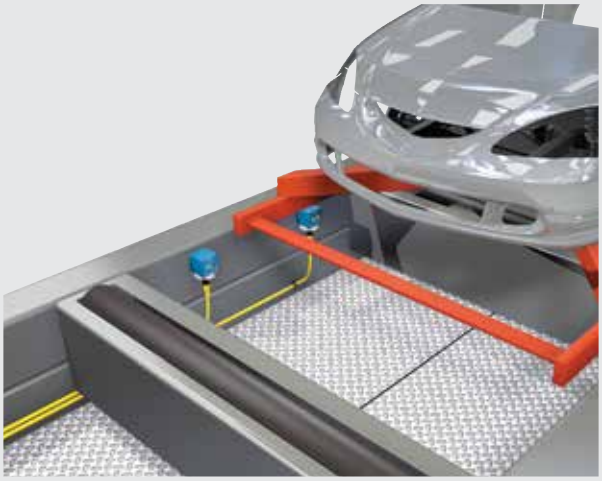
- General purpose and weld-field immune versions
- Weld-slag resistant PEEK housing (WFI models)
- One-piece housing and mounting bracket
- Five-position sensing face

Long Range General-purpose Sensing

The VersaCube package is ideal for applications that require long-range sensing in a compact sensor. Their size is approximately half that of a NEMA style limit switch. In fact, the mounting holes on the VersaCube base align with the standard NEMA limit switch mounting holes allowing for an easy and convenient retrofit.



Weld-field Immune Model



Automotive application – Two general purpose VersaCubes detecting skid position in a body shop

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

2-Wire AC/DC

Dimensions w x h x d [mm (in.)]	Weld Field Immune	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Connector Type	Cat. No.
40 x 68.7 x 40 (1.57 x 2.70 x 1.57)	N	20 (0.78)	Y	N.O.	30	Micro QD (1/2-20 UNF-2A)	871P-B20N40-R3
		40 (1.57)	N		20		871P-B40N40-R3
	Y	15 (0.59)	Y		30		871P-BW15N40-R3
		25 (0.98)	N		20		871P-BW25N40-R3



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6, 6P, 12, 13; IP67 and IP69K (IEC 529)
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Operating Voltage	20…250V AC/DC
Protection Type	False pulse on power, transient noise, short-circuit, overload
Load Current	100 mA for standard versions and 300 mA for WFI versions
Housing Material	Plastic body and zinc base

Required Cordsets and Accessories

Description	Cat. No.
AC micro (M12) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3ECA-2
Mounting kit [1]	871A-PKIT
Limit Switch style mounting kit (w/22 mm plastic mounting nut)	871A-PKITLS
PTFE cover – short	871A-KCT40-F
PTFE cover – long	871A-KCT40-T

[1] Each mounting kit includes a ground lug, a ground screw, and an optional adaptor for competitive retrofits.

Proximity Sensors



Flat Pack
871F

- General purpose and weld-field immune versions
- Sensing ranges up to 65 mm (2.55 in.)
- Through-hole or DIN Rail mounting
- Complementary N.O. and N.C. outputs

Maximum Sensing Range

The 871F is ideal for applications that require long sensing range – up to 65 mm (2.56 in.). This sensor is often used in material handling and welding applications.



Automotive application – An 871F sensing car door carriers to position them for final assembly

Mounting Requirements

Shielded units must be fully embedded in mild steel to achieve maximum sensing distance.



Product Selection

4-Wire DC

Dimensions w x h x d [mm (in.)]	Weld Field Immune	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Connector Type	Cat. No.
83 x 94 x 40 (3.26 x 3.70 x 1.57)	N	50 (1.96)	Y	N.O. and N.C., PNP	100	Micro QD	871F-P50BP80-D4
		65 (2.55)	N				871F-N65BP80-D4
	Y	40 (1.57)	Y		15		871F-PW40BP80-D4
		50 (1.96)	N				871F-NW50BP80-D4

2-Wire AC/DC

Dimensions w x h x d [mm (in.)]	Weld Field Immune	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency (Hz)	Connector Type	Cat. No.
83 x 94 x 40 (3.26 x 3.70 x 1.57)	N	50 (1.96)	Y	N.O.	10	Micro QD (1/2-20 UNF-2A)	871F-R50N80-R3
		65 (2.55)	N				871F-K65N80-R3
	Y	40 (1.57)	Y				871F-JW40N80-R3
		50 (1.96)	N				871F-KW50N80-R3

Specifications

Certifications	UL Listed, cUL Certified,and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6, 6P, 12, 13; IP67 and IP69K (IEC 529)
Operating Temperature [C (F)]	-25…+70 °C (-13….+158 °F)
Operating Voltage	10…30V DC or 20…250V AC/DC
Protection Type	False pulse on power, transient noise, short circuit, overload, reverse polarity
Load Current	DC models: ≤200 mA AC models: ≤100 mA
Housing Material	PBT

Required Cordsets

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
AC micro (M12) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889R-F3ECA-2



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Proximity Sensors

Sensors



Capacitive
875C and 875CP

- Metal, nonmetal solid, and liquid sensing
- Adjustable sensing distance
- Ni-plated brass (875C) or plastic (875CP) housings
- NEMA 12 and IP67 (IEC 529) enclosure
- Cable or quick-disconnect styles

Reliably Detect a Variety of Materials

Unlike inductive proximity sensors, the 875C and 875CP capacitive sensors can detect non-metal solids and liquids in addition to standard metal targets. They can even sense the presence of some targets through certain other materials, making them an ideal choice in those applications where the inductive proximity and photoelectric sensors cannot be used.



Pellet level detection – An 875CP detects the level of plastic pellets through a glass vessel

Product Selection

3-Wire DC

Barrel Diameter	Housing Material	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Connection Type	Cat. No. [1]
12 mm	Ni-plated brass	2.5 (0.09)	Yes	N.O./PNP	2 m cable	875C-M2NP12-A2
18 mm	Ni-plated brass	1…5 (0.04…0.20)	Yes		2 m cable	875C-M5NP18-A2
					3-pin pico QD	875C-M5NP18-P3
	Plastic	2…8 (0.08...0.31)	No		2 m cable	875CP-N8NP18-A2
					3-pin pico QD	875CP-N8NP18-P3
30 mm	Ni-plated brass	2…10 (0.08…0.39)	Yes		2 m cable	875C-M10NP30-A2
					4-pin micro QD	875C-M10NP30-D4
	Plastic	5 …20 (0.2...0.79)	No		2 m cable	875CP-N20NP30-A2
					4-pin micro QD	875CP-N20NP30-D4
34 mm	Plastic	7…30 (0.28...1.18)	No		2 m cable	875CP-NM30NP34-A2
					4-pin micro QD	875CP-NM30NP34-D4

[1] The -A2 suffix describes a 2 m cable; -P3 suffix describes a pico (M8) QD connector; and -D4 suffix describes a micro (M12) QD connector.

Specifications

Certifications	CE Marked for all applicable directives
Enclosure Type Rating	875C: NEMA 1, 3, 4, 6, 13 and IP67; 875CP: NEMA 12, IP67
Operating Temperature [C (F)]	-25…+75 ° (-13…+167 °)
Operating Voltage	10…48V DC
Protection Type	Transient noise, reverse polarity, short circuit, overload
Load Current	300 mA
Switching Frequency	100 Hz
Housing Material	Nickel-plated brass (875C) or plastic (875CP)

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
DC pico (M8) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
Right angle mounting bracket	871A-BRN [2]
Snap clamp mounting bracket	871A-SCPB [3]
Sight glass mounting bracket	871A-BGD [2]
Threaded sensor well (acetal resin)	871A-WTD [4]
Threaded sensor well (PTFE)	871A-WTT [4]
Bolt-on sensor well (30 mm only)	871A-WSPE30

[2] Add **12**, **18**, or **30** to the end of the catalog number for sensor barrel diameter in mm.

[3] Add **12** or **18** to the end of the catalog number for sensor barrel diameter in mm.

[4] Add **12**, **18**, **30**, or **34** to the end of the catalog number for sensor barrel diameter in mm.

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Ultrasonic Sensors

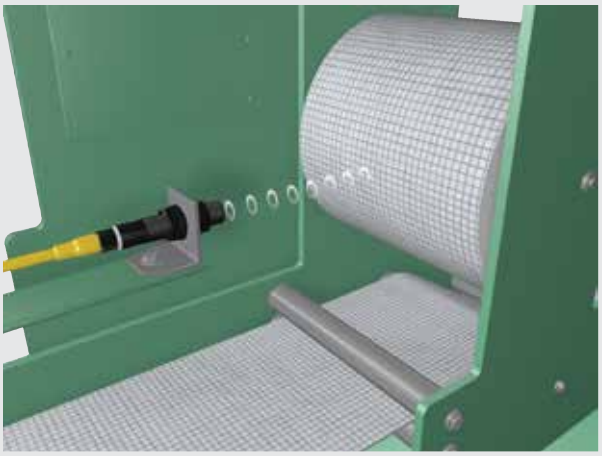


18, 30 and 38.8 mm Plastic Discrete and Analog 873P

- Detect clear, shiny or non-reflective objects
- Sensing range up to 6 m (19.6 ft)
- Push button programming
- Discrete output models (single set-point or window mode)
- Scalable analog output models
- Wide range of operating voltages
- Synchronization on select models to prevent crosstalk
- Four output modes

A Sound Solution

The 873P ultrasonic sensors use reflected sound waves to detect targets – such as clear, shiny, or non-reflective objects – that can be challenging for other sensing technologies. The 873P sensors offer a wide range of operating voltages, simple push-button setup and a synchronization feature to reduce cross-talk between adjacent sensors.





Roll diameter and tank level – An 873P analog ultrasonic continuously measures roll diameter or tank level and provides a proportional 4…20 mA or 0…10V DC output. If a dual discrete output sensor is used, one switch point is set for low level indication and the other set for a full condition.

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

18 and 30 mm Plastic Discrete and Analog

Sensing Distance [mm (in.)] [1]	Beam Angle	Operating Voltage	Switching Frequency [Hz]	Output Type	Resolution	Response Time	Transducer Frequency	Operating Temperature [C (F)]	Cat. No. [2,3]
Single Discrete									
100…900 (3.93…35.43)	±7°	15…30V DC	4 Hz	(1) PNP	2 mm	125 ms	300 kHz	-20…+60 ° (-4…140 °)	873P-D18P1-900-D4
200…2200 (7.87…86.61)			1 Hz		3 mm	500 ms	200 kHz		873P-D18P1-2200-D4
350…6000 mm (13.8…236.2 in.)	15° ±2°	12….30V DC	1 Hz		6 mm	500 ms	75 kHz	-20…+70 ° (-4…+158 °)	873P-D30P1-6000-D4
Analog									
100…900 (3.93…35.43)	±7°	15…30V DC	N/A	4…20 mA	2 mm	500 ms	300 kHz	-20…+60 ° (-4…140 °)	873P-D18AI-900-D4
200…2500 (7.87…98.42)	14 ±1°	12…30V DC				600 ms	150 kHz	-20…+70 ° (-4…158 °)	873P-D30AI-2500-D4
350…6000 mm (13.8…236.2 in.)	15° ±2°	12….30V DC			6 mm	600 ms	75 kHz	-20…+70 ° (-4…158 °)	873P-D30AI-6000-D4
100…900 (3.93…35.43)	±7°	15…30V DC		0…10V DC		500 ms	300 kHz	-20…+60 ° (-4…140 °)	873P-D18AV-900-D4
200…2200 (7.87…86.61)					3 mm		200 kHz		873P-D18AV-2200-D4
350…6000 mm (13.8…236.2 in.)	15° ±2°				6 mm	600 ms	75 kHz	-20…+70 ° (-4…158 °)	873P-D30AV-6000-D4
Dual Discrete and One Analog									
200….2500 (7.87…98.42)	14 ±1°	15…30V DC	2 Hz	2 PNP & (1) 0…10V DC	2 mm	Analog = 600 ms, Discrete =250 ms	150 kHz	-20…+70 ° (-4…158 °)	873P-D30AVP2-2500-D5
250…3500 (9.84…137.79)	15 ±2°	12…30V DC		2 PNP & (1) 4…20 mA	4 mm		112 kHz		873P-D30AIP2-3500-D5
350…6000 mm (13.8…236.2 in.)	15° ±2°	12…30V DC	1 Hz (digital output)		6 mm	500 ms (digital output),600 ms (analog output)	75 kHz	-20…+70 ° (-4…+158 °)	873P-D30AIP2-6000-D5

[1] Blind Zone = 0 mm to minimum sensing distance

[2] The barrel diameter is indicated after the first "D" in the catalog number. For example, catalog number 873P-D18P1-400-D4 is an 18 mm barrel diameter and 873P-D30P1-2500-D4 is a 30 mm barrel diameter.

[3] The D4 suffix indicates a 4-pin DC micro (M12) QD and the D5 suffix indicates a 5-pin DC micro (M12) QD.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP67
Current Consumption	<50 mA
Protection Type	Short circuit, reverse polarity, transient noise, overload
Housing Material	PBT
Repeatability	0.1% up to 3.5 m, 0.2% from 3.5 m to 6 m
Absolute Accuracy	0.1% of sensing range (analog only)
Sensor Voltage Drop	<2.2V DC (discrete only)
Hysteresis	1% of full scale value

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
DC micro (M12) QD cordset, straight, 5-pin, 2 m (6.5 ft)	889D-F5AC-2
Swivel/tilt style mounting bracket (M18)	60-2649
Swivel/tilt style mounting bracket (M30)	60-2439
Zinc-plated steel right angle bracket (M18)	871A-BRN18
Stainless steel right angle bracket (M18)	871A-BRS18
Zinc-plated steel right angle bracket (M30)	871A-BRN30
Stainless steel right angle bracket (M30)	871A-BRS30

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Ultrasonic Sensors



18 mm Metal General Purpose 873M

- Detect clear, shiny, or non-reflective objects
- Sensing range up to 800 mm (31.5 in.)
- Compact 18 mm (0.71 in.) housing
- Scalable analog output models
- Teachable discrete output models (single set-point or window mode)
- Remote teach or optional programming cable

Compact Clear Object Detection

The 873M general purpose ultrasonic sensors detect solid or liquid targets by using sound waves. These compact sensors are a great solution for areas with limited space and are excellent for standard packaging and assembly applications. They are ideal for sensing targets that are challenging for photoelectric sensors to detect, including clear, shiny, or non-reflective objects.



Film position detection – An 873M ultrasonic checks for continual feed of a clear wrap while monitoring tension



Part counting – A right angle 873M counts bottles that, due to color, luster and clarity, might be difficult to sense with photoelectric sensors

Product Selection

18 mm Metal General Purpose

Sensing Distance [mm (in.)] [1]	Sensing Direction	Operating Voltage	Switching Frequency [Hz]	Output Type	Repeatability	Transducer Frequency	Response Time	Cat. No.
30…300 (1.18…11.8)	Straight	10…30V DC	13	PNP, Selectable N.O./N.C.	<1%	390 kHz	30 ms	873M-D18PO300-D4
	Right angle							873M-D18RPO300-D4
			N/A	4…20 mA	±0.5% of full-scale value			873M-D18RAI300-D4
		15…30V DC		0…10V DC				873M-D18RAV300-D4
	Straight	10…30V DC		4…20 mA				873M-D18AI300-D4
		15…30V DC		0…10V DC				873M-D18AV300-D4
50…800 (1.97…31.5)	Straight	10…30V DC	4	PNP, Selectable N.O./N.C.	<1%	255 kHz	100 ms	873M-D18PO800-D4
	Right angle							873M-D18RPO800-D4
		10…30V DC	N/A	4…20 mA	±0.5% of full-scale value			873M-D18RAI800-D4
		15…30V DC		0…10V DC				873M-D18RAV800-D4
	Straight	10…30V DC		4…20 mA				873M-D18AI800-D4
		15…30V DC		0…10V DC				873M-D18AV800-D4

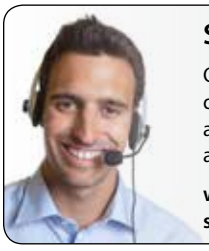
[1] Blind Zone = 0 mm to minimum sensing distance

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Barrel Size	M18
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Protection Type	Short circuit, overload, reverse polarity
Load Current	200 mA
Current Consumption	<20 mA
Housing Material	Nickel-plated brass
Resolution	0.4 mm at max. sensing range
Voltage Drop	<3V
Hysteresis	1% set operating distance

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Zinc-plated steel right angle bracket	871A-BRN18
Programming cable	873M-ProgCable
Snap clamp mounting bracket (18 mm)	871A-SCBP18
Swivel/tilt style bracket (18 mm)	60-2649



Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

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Limit Switches

Sensors



Oiltight Plug-in
802T

- Heavy duty
- Plug-in style
- Front mount
- Side rotary or side push styles
- Quick mode change (CW/CCW)
- Castle-lock head design

The Benchmark for Toughness and Reliability

The 802T limit switches are ideal for applications in which heavy-duty pilot ratings, small size, a high degree of versatility and a rugged NEMA Type 4, 13, and 6P construction are desirable. These limit switches are extensively applied in rugged and heavy-duty production environments.





Rockwell Automation has a full range of limit switch levers. See page 6-88 for levers.

Product Selection – Oiltight Plug-in

Lever Type, Spring Return Standard and Low Operating Torque Models – Switch without Lever

No. of Circuits	Lever Movement	Torque to Operate [N•m (lb•in.)]	Travel to Operate Contacts	Maximum Travel	Travel to Reset Contacts	Cat. No.
2	CW or CCW	0.29 (2.6) max.	13° max.	90°	7°	802T-AP
2	CW or CCW	0.29 (2.6) max.	18° max.	90°	7°	802T-A5P
2	CW or CCW	0.56 (5) max.	9° max.	90°	4°	802T-HP
2	CW	0.29 (2.6) max.	13° max.	90°	7°	802T-A1P
2	CW or CCW	0.106 (0.94) max.	13° max.	90°	7°	802T-ALP
4	CW or CCW	0.45 (4) max.	13° max.	90°	7°	802T-ATP
4	CW or CCW	0.79 (7) max.	9° max.	90°	4°	802T-HTP

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 4, 6P, and IP67
Ambient Temperature [C (F)]	-18…+110 ° (0…230 °) Wobble stick & cat whisker models: -18…+54 ° (0…130 °)



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Product Selection – Oiltight Plug-in

Lever Type, Maintained Contact Models – Switch without Lever

No. of Circuits	Lever Movement	Torque to Operate	Travel to Operate Contacts	Maximum Travel	Travel to Reset Contacts	Cat. No.
2	CW or CCW	0.31 N•m (2.75 lb•in.) max.	70° max.	88°	32° max.	802T-AMP

Lever Type, Spring Return Neutral Position Models – Switch without Lever

No. of Circuits	Torque to Operate, Max.	Travel to Operate Contacts	Maximum Travel	Travel to Reset Contacts	Cat. No.
4	CW: 0.28 N•m (2.5 lb•in.), CCW: 0.47 N•m (4.2 lb•in.)	13° max.	75°	7° max.	802T-NPTP

Wobble Stick and Cat Whisker, Spring Return – Complete Switch

No. of Circuits	Operator Type	Torque to Operate	Travel to Operate Contacts	Maximum Travel	Travel to Reset Contacts	Cat. No.
2	Nylon wobble stick	0.51 N•m (4.5 lb•in.) max.	9° max.	10°	5° max.	802T-WSP
	Wire cat whisker	0.06 N•m (8 oz•in.) max.	21° max.	28°	14° max.	802T-CWP



Rockwell Automation has a full range of limit switch levers. See page 6-88 for levers.

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection – Oiltight Plug-in

Push Type, Spring Return – Complete Switch

No. of Circuits	Operator Type	Force to Operate [N (lb)]	Travel to Operate Contacts [mm (in.)]	Maximum Travel [mm (in.]	Travel to Reset Contacts [mm (in.]	Cat. No.
2	Top push rod	13.8 (3.1)	1.4 (0.057) max.	6.0 (0.236)	0.9 (0.034) max.	802T-BP
	Adjustable top push rod					802T-BAP
	Side push rod	16.4 (3.7)	3.3 (0.131) max.	5.7 (0.226)	1.9 (0.074) max.	802T-CP
					1.3 (0.052) max.	802T-CGP [1]
	Top push rod	13.8 (3.1)	1.4 (0.057) max.	6.0 (0.236)	0.9 (0.034) max.	802T-DP
					0.7 mm (0.028 in.)	802T-DGP [1]
	Side push vertical roller	16.4 (3.7)	3.3 (0.131) max.	5.7 (0.226)	1.9 (0.074) max.	802T-KP
					1.3 (0.052) max.	802T-KGP [1]
4	Top push rod	22.2 (5.0)	1.4 (0.057) max.	6.0 (0.236)	0.9 (0.034) max.	802T-BTP
						802T-DTP

[1] Low energy models.

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 4, 6P, and IP67
Ambient Temperature [C (F)]	-18…+110 ° (0…230 °) Wobble stick & cat whisker models: -18…+54 ° (0…130 °)



Connected Components

Simpler, faster, cost-effective machine building.

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Limit Switches

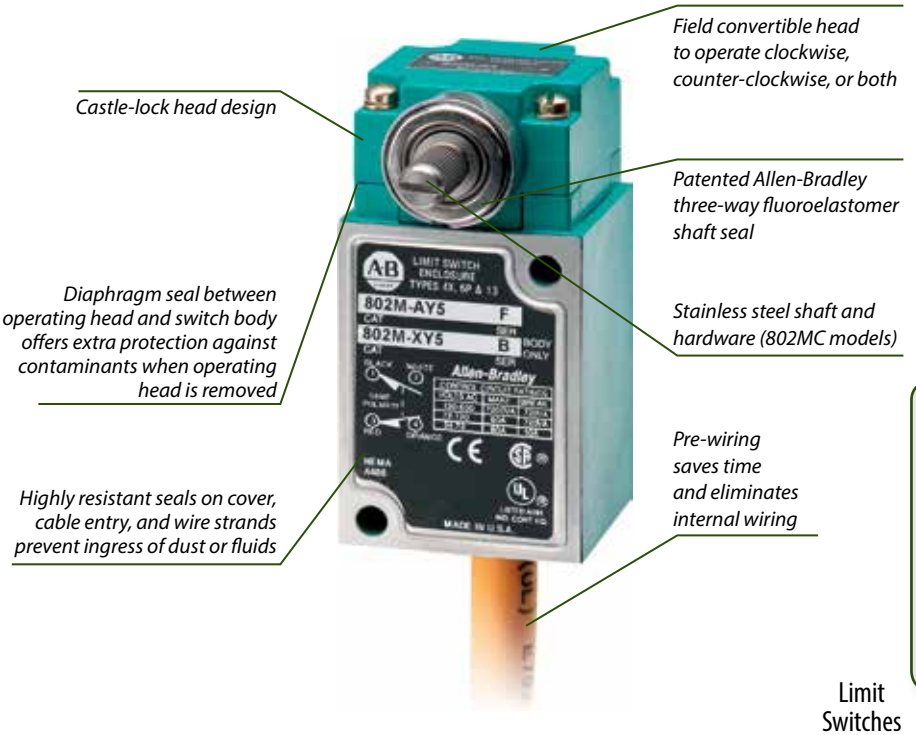


Pre-wired, Factory Sealed 802M and 802MC

- Harsh environment applications
- NEMA 4, 4X, 6P, and IP69K enclosure ratings
- Resistant to moisture and cleaning agents
- Submersible (802MC)
- Sealed, corrosion resistant versions with stainless steel shaft and hardware (802MC)
- Two- and four-circuit versions (only two-circuit for 802MC)
- Oil resistant cable on pre-wired models

For the Most Demanding Environments

The 802M and 802MC compact pre-wired limit switches are factory-sealed to meet the demanding requirements for NEMA Type 4, 4X, 6P, and IP67 enclosures. A large variety of operating heads and levers are available to suit a wide range of applications, especially where the switch may be subject to washdowns, steams of coolant, or occasionally submerged in fluids commonly found on machines or in industrial processes.





Rockwell Automation has a full range of limit switch levers. See page 6-88 for levers.

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Pre-wired, Factory Sealed

Description	Torque/Force to Operate, Max.	Travel to Operate Contacts, Max.	Maximum Travel	Travel to Reset Contacts, Max.	Connection Type	Cat. No.
Lever type – spring return	0.34 N•m (3 lb•in.)	15°	86°	6°	1.5 m (5 ft) cable	802M-AY5
					5-pin mini QD	802M-AJ1
Lever type – spring return corrosion resistant					1.5 m (5 ft) cable	802MC-AY5
					5-pin mini QD	802MC-AJ1
Lever type neutral position – spring return (4 circuit)	CW: 0.79 N•m (7 lb•in.), CCW: 0.85 N•m (7.5 lb•in.)	16°	75°	7°	1.5 m (5 ft) cable	802M-NPY5
Push type – spring return top push rod	13.3 N (3 lb)	1.45 mm (0.057 in.)	5.26 mm (0.207 in.)	0.56 mm (0.022 in.)	1.5 m (5 ft) cable	802M-BY5
Push type – spring return top push roller	14.7 N (3.3 lb)					802M-DY5
Push type – spring return side push vertical roller	20 N (4.5 lb)	2.59 mm (0.102 in.)	5.1 mm (0.203 in.)	1.14 mm (0.045 in.)	1.5 m (5 ft) cable	802M-KY5



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 4, 6P, 13 and IP67 (802MC also NEMA 4X)
Ambient Temperature [C (F)]	0…80 ° (32…180 °)

Required Cordsets and Accessories

Description	Cat. No.
Mini plus QD cordset, straight, 5-pin, 1.8 m (6 ft)	889N-F5AFC-6F

Limit Switches



IEC 30 mm Metal
802K

- Rugged die-cast 30 mm housing
- Large selection of actuator heads
- Positive operation, forced disconnection of contacts
- Snap-acting, slow make before break, or slow break before make contact blocks
- Two- or four-contact configurations
- IP66 enclosure

Our Rugged, IEC-style Offering

The 802K limit switches have a range of options including snap action or slow break/make with two or four contact configurations and a choice of actuator heads. You can rotate the head in 90° increments before installation for easy mounting. Operation of these limit switches is achieved by the moving objects deflecting the plunger or lever.





Rockwell Automation has a full range of limit switch levers. See page 6-89 for levers.

Product Selection

IEC 30 mm Metal

Operator Type	Force/Torque to Operate, Max.	Contacts	Aux Contacts	Contact Action	Connection Type	Cat. No.
Metal roller plunger	11 N (2.5 lb)	2 N.C.	2 N.O.	BBM	1/2 in. NPT conduit	802K-MRPB22E
	13 N (2.9 lb)	1 N.C.	1 N.O.	Snap acting		802K-MRPS11E
						802K-MDPS11E
	11 N (2.5 lb)	2 N.C.	2 N.O.	BBM	1/2 in. NPT conduit	802K-MDPB22E
					M20 conduit	802K-MDPB22B
Metal short lever	0.34 N•m (3.01 lb•in.)	1 N.C.	1 N.O.	Snap acting	1/2 in. NPT conduit	802K-MSLS11E
					M20 conduit	802K-MSLS11B
	0.20 N•m (1.77 lb•in.)	4 N.C.	–	–	1/2 in. NPT conduit	802K-MSLB04E
	0.34 N•m (3.01 lb•in.)	2 N.C.	2 N.O.	BBM	1/2 in. NPT conduit	802K-MSLB22E
					M20 conduit	802K-MSLB22B
Metal short lever, metal roller	0.34 N•m (3.01 lb•in.)	1 N.C.	1 N.O.	Snap acting	1/2 in. NPT conduit	802K-MMHS11E
					M20 conduit	802K-MMHS11B
		2 N.C.	2 N.O.	BBM	1/2 in. NPT conduit	802K-MMHB22E
Metal adjustable lever	0.34 N•m (3.01 lb•in.)	1 N.C.	1 N.O.	Snap acting	1/2 in. NPT conduit	802K-MALS11E
					M20 conduit	802K-MALS11B
		2 N.C.	2 N.O.	BBM	1/2 in. NPT conduit	802K-MALB22E
					M20 conduit	802K-MALB22B
Metal rod lever	0.34 N•m (3.01 lb•in.)	1 N.C.	1 N.O.	Snap acting	1/2 in. NPT conduit	802K-MARS11E
Metal spring rod	0.20 N•m (1.77 lb•in.)	1 N.C.	1 N.O.	Snap acting	1/2 in. NPT conduit	802K-MSRS11E
					M20 conduit	802K-MSRS11B

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	IP66
Ambient Temperature [C (F)]	-25…+80 ° (-18…+176 °)



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For more information on our complete family of limit switch products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Limit-Switches



Operating Levers 802T and 802M

- Use with 802T, 802M, and 802MC limit switches
- Adjustable and non-adjustable levers
- Fork levers
- Offset levers
- Rod levers

Roller Levers

For use with the 802T, 802M, & 802X switches

Description	Roller Material	Roller Diameter	Roller Width	Cat. No.
Non-adjustable cast-lever 1.5 in. radius roller on front	Nylon	19 (0.748)	7.11 (0.28)	802T-W1
	Nylon	19 (0.748)	25.4 (1.0)	802T-W1H
	Steel	19 (0.748)	6.35 (0.25)	802T-W1A
	Ball bearing	19 (0.748)	5.84 (0.229)	802T-W1B
Non-adjustable cast-lever 1.5 in. radius roller on rear	Nylon	19.05 (0.749)	25.4 (1)	802T-W1D
	Steel	19.05 (0.749)	6.35 (0.25)	802T-W1F
	Steel	19.05 (0.749)	19.05 (0.749)	802T-W1C
Adjustable lever 1.19…3 in. radius	Nylon	19.05 (0.749)	7.11 (0.28)	802T-W2
	Nylon	19.05 (0.749)	25.4 (1.0)	802T-W2D
	Nylon	38.1 (1.5)	7.11 (0.28)	802T-W2A
	Steel	19.05 (0.749)	6.35 (0.25)	802T-W2B
	Ball bearing	19.05 (0.749)	5.8 (0.228)	802T-W2C
Fork lever 1.5 in. radius	Steel; both rollers on front	19.05 (0.749)	6.35 (0.25)	802T-W4C
Micrometer adjustment lever 1.5 in. radius [1]	Nylon R.H. adjustable	19.05 (0.749)	7.11 (0.28)	802T-W6
	Steel R.H. adjustable	19.05 (0.749)	6.35 (0.25)	802T-W6A
Non-adjustable offset lever 1.44 in. radius roller on front	Steel	19.05 (0.749)	6.35 (0.25)	802T-W12A [2]

Roller Levers

For use with the 802T, 802M, & 802X switches

Material	Rod Diameter [mm (in.)]	Cat. No.
Stainless steel rod, 5 in. long	3.3 (0.13)	802T-W3 [3]
Stainless steel rod, 8.5 in. long	3.3 (0.13)	802T-W3B [3]
Stainless steel rod, 11.5 in. long	3.3 (0.13)	802T-W3A
Stainless steel rod, 11.5 in. long	2.03 (0.08)	802T-W3F [4]
Nylon rod, 12 in. long	6.35 (0.25)	802T-W3C
Stainless steel, 5 in. long	1.52 (0.06)	802T-W5 [3]
Nylatron looped rod, 6 in. long, 2 in. wide loop	4.57 (0.18)	802T-W14

[1] The micrometer adjustment roller lever is designed especially for installations where the position of the roller is a critical factor. This lever has a pivoted roller which can be turned laterally. After clamping the lever to the switch shaft, the position of the roller can be precisely adjusted through an arc of 7.5° on either side of the center or straight-line position.

[2] When mounted on Plug-In devices, the offset lever provides equivalent cam tracking to the Non-Plug-In devices using catalog number 802T-W1 levers.

[3] Recommended for use with low-operating-torque switches.

[4] Not for use with catalog number 802M-NPY5 type switches.

Replacement Operating Levers 802K and 440P

- Use with all 440P safety and 802K non-safety lever type limit switches
- Adjustable and non-adjustable levers
- Rod levers
- Spring rod levers
- Short levers with wide roller
- Telescopic arm levers



Operating Levers, Rods, Spring Rods and Telescopic Arms

For use with 802K and 440P limit switches

Description	Cat. No.
Levers	
Short lever with nylon roller for 440P-ASL [1] or -AWL [1]	440P-WA1
Short lever with metal roller for 440P-ASL [1] or -AWL [1]	440P-WA1A
Short lever with wide roller for 440P-ASL [1] or -AWL [1]	440P-WA1B
Short lever with nylon roller for 440P-CSL [1] or -CHM [1]	440P-WC1
Short lever with metal roller for 440P-CSL [1] or -CHM [1]	440P-WC1A
Short lever with nylon roller for 802K-/440P-MSL [1] or -MMH [1]	440P-WM1
Short lever with metal roller for 802K-/440P-MSL [1] or -MMH [1]	440P-WM1A
Adjustable lever arm with nylon roller for 440P-AAL [1] or -AA1L [1]	440P-WA2A
Adjustable lever arm with steel roller for 440P-AAL [1] or -AA1L [1]	440P-WA2B
Adjustable lever with nylon roller for 440P-CAL [1], -CRR [1], -MRR [1]	440P-WC2
Adjustable lever with large rubber roller for 440P-CAL [1], -CRR [1], -MRR [1]	440P-WC2A
Adjustable lever with metal roller for 440P-CAL [1] or -CRR [1]	440P-WC2B
Adjustable lever with nylon roller for 802K-/440P-MAL [1] or -MRR [1]	440P-WM2
Adjustable lever with metal roller for 802K-/440P-MAL [1] or -MRR [1]	440P-WM2A
Rods	
Adjustable metal rod for 802K-/440P-MAR [1]	440P-WM3
Spring Rods	
Metal spring rod for 802K-/440P-MSR [1]	440P-WM4
Telescopic Arms	
Telescopic arm for 802K-/440P-MTA [1]	440P-WM5

[1] Use these levers only with this catalog number

RFID



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For more information on our complete family of limit switch products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Limit-Switches

Limit Switches

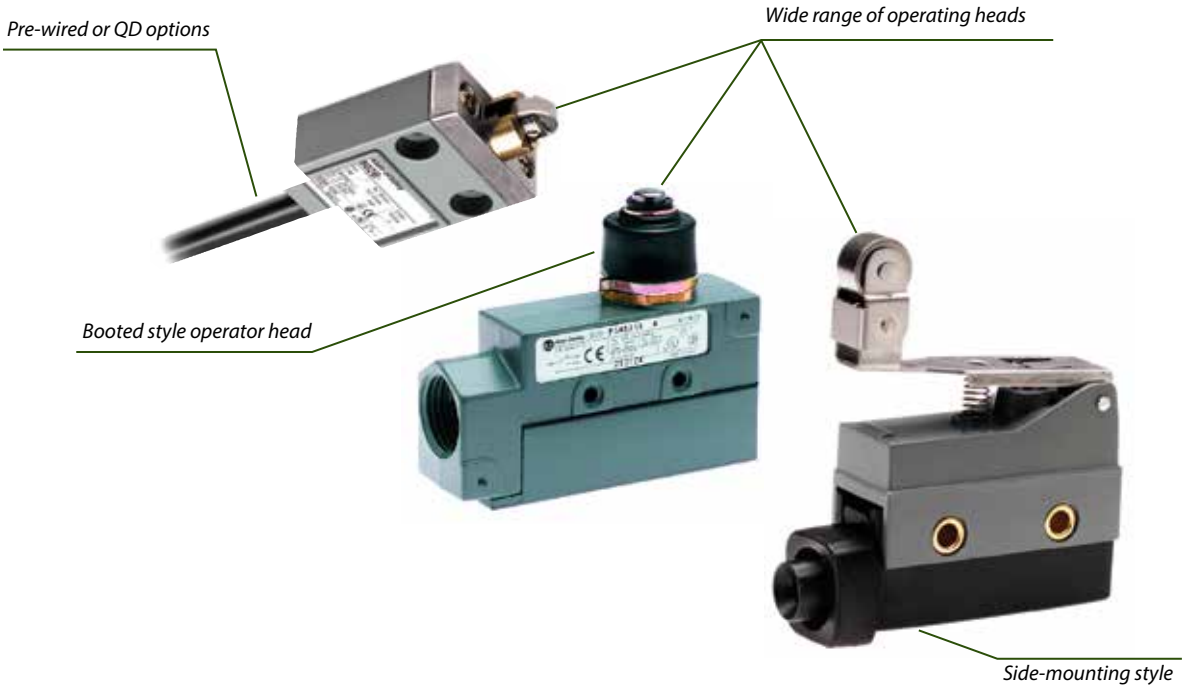


Compact, Precision and Small Precision 802B

- Rugged die-cast housings
- Industry standard dimensions
- Low trip and reset points (precision and small precision models)
- Wide range of options and operators

For When Bigger Switches Won't Fit

The 802B product line consists of different body styles: compact, precision, and small precision. Each style has been designed to withstand the rugged environments that industrial applications demand. The 802B family of limit switches can be mounted in areas that traditional NEMA limit switches can not, due to their size and mounting options.



Product Selection

Compact

Head Type	Torque to Operate, Max. [N•m (lb•in.)]	Force to Operate [N (lb)]	Travel to Operate Contacts, Max.	Maximum Travel	Travel to Reset Contacts	Cat. No.
Rotary arm	0.216 (2)	–	25°	70°	3°	802B-CSAAXSXC3
Center rotary arm	0.216 (2)	–	10 ±3°	65°	4°	802B-CSAA2XSXC3
Wobble stick	0.118 (1.04)	–	15°	18° (Nominal Value)	11° (Nominal Value)	802B-CSACXSXC3
Top push booted head	–	17.65 (3.97)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CSABBSXC3
Top push roller booted head	–	17.65 (3.97)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CSADBSXC3
Top push cross roller booted head	–	17.65 (3.97)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CSAD1BSXC3
Top push panel mount	–	11.77 (2.65)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CPABXSXC3
Top push roller panel mount	–	11.77 (2.65)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CPADXSXC3
Top push cross roller panel mount	–	11.77 (2.65)	1.8 mm (0.071 in.)	5 mm (0.197 in.)	0.2 mm (0.008 in.)	802B-CPAD1XSXC3

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 3, 4, 6, 12, 13 and IP67
Operating Temperature [C (F)]	-10…+70 ° (14…158 °)
Contact Type	SPDT form C
Mechanical Life	10 million operations

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



Product Selection

Precision

Head Type	Force to Operate [N (lb)]	Travel to Operate Contacts, Max. [mm (in.)]	Maximum Travel [mm (in.)]	Travel to Reset Contacts [mm (in.)]	Mounting	Cat. No.
Top push	2.45…3.43 (0.55…0.77)	0.4 (0.016)	5.9 (0.232)	0.05 (0.002)	Side	802B-PSABXSX
Top push roller	2.45…3.43 (0.55…0.77)	0.5 (0.020)	4.1 (0.161)	0.05 (0.002)	Side	802B-PSADXSX
Roller lever	5.59 (1.28)	4 (0.157)	10 (0.394)	0.4 (0.016)	Side	802B-PSARXSX
Top push booted	7.85 (1.76)	2 (0.079)	7 (0.276)	0.1 (0.004)	Side	802B-PSABBSX
Top push roller booted	4.9 (1.09)	1 (0.039)	4.5 (0.177)	0.12 (0.005)	Side	802B-PSADBSX
Top push cross roller booted	4.9 (1.09)	1 (0.039)	4.5 (0.177)	0.12 (0.005)	Side	802B-PSAD1BSX
Roller lever booted	6.28 (1.40)	5 (0.197)	11 (0.433)	0.4 (0.016)	Side	802B-PSARBSX

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	Non-booted models: NEMA 1 and IP60 Booted models: NEMA 1, 3, 4, and IP65
Operating Temperature [C (F)]	-10…+80 ° (14…176 °)
Contact Type	SPDT form C

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Small Precision

Head Type	Force to Operate [N (lb)]	Travel to Operate Contacts, Max. [mm (in.)]	Maximum Travel [mm (in.)]	Travel to Reset Contacts [mm (in.)]	Mounting	Cat. No.
Top push	11.8 (2.65)	1.5 (0.059)	3.9 (0.154)	0.2 (0.008)	Side	802B-SSABXSX
Top push panel mount	11.8 (2.65)	1.5 (0.059)	4.5 (0.177)	0.2 (0.008)	Side	802B-SPABXSX
Top push roller panel mount	11.8 (2.65)	1.5 (0.059)	4.5 (0.177)	0.2 (0.008)	Side	802B-SPADXSX
Top push roller booted	6.86 (1.54)	1.5 (0.059)	4 (0.157)	0.2 (0.008)	Side	802B-SSADBSX
Short hinge lever	3.92 (0.88)	6.2 (0.244) ± 1.2	12.2 (0.480)	1 (0.04)	Side	802B-SSAH1XSX
Hinge lever	2.75 (0.62)	8.2 (0.323) ± 1.2	16.6 (0.645)	1.4 (0.055)	Side	802B-SSAHXSX
Short roller lever	3.92 (0.88)	6.2 (0.244) ± 1.2	12.2 (0.480)	1 (0.04)	Side	802B-SSAR1XSX
Roller lever	2.75 (0.62)	8.3 (0.327) ± 1.2	16.7 (0.657)	1.4 (0.055)	Side	802B-SSARXSX

Specifications

Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 3, 4, 6, 13 and IP67
Operating Temperature [C (F)]	-10…+80 ° (14…176 °)
Contact Type	SPDT form C



Product Selection Tools

Available online or for download, our tools help you access info while in the office or on the go.

www.rockwellautomation.com/support/selection.page

Encoders



EtherNet/IP
842E

- EtherNet/IP Interface
- Single- and multi-turn
- Status indication LEDs
- Easy integration and setup in Logix Designer software (Studio5000®)
- Fully compliant CIP sync and CIP motion support (874E-CM)
- Endless shaft
- Flash upgradable

Integrated Motion on EtherNet/IP

EtherNet/IP uses CIP Sync and CIP Motion technologies to provide real-time, closed loop motion on standard Ethernet. This topology-independent network provides a simplified integration of the entire control solution on one network, including HMI, PAC, IO, and Motion Control.



Which version meets your application?

Velocity or Position Control
842E-*



- Use the EtherNet/IP Encoder
- Provides position and velocity back to the Logix controller on EtherNet/IP
- Ideal applications: standard VFD drives

Position/Servo Control
842E-CM-*



- Use the Integrated Motion on EtherNet/IP Encoder for servo applications
- Ideal applications: Kinetix® 5500 Servo drive applications that require auxiliary feedback or master half axis for gearing/camming applications

* Please see Product Selection on page 6-95 for complete catalog numbers.

Product Selection

EtherNet/IP

Description	Single-/Multi-turn	Shaft Size/Type	Power Supply	Resolution	Connector Type	Cat. No.
EtherNet/IP Encoder	Single-turn	Solid shaft 10 mm with flat	10…30V DC	18 bit	M12	842E-SIP4BA
		Solid shaft 3/8 in. with flat				842E-SIP2BA
		Hollow shaft 15 mm				842E-SIP12BA
	Multi-turn	Solid shaft 10 mm with flat		30 bit		842E-MIP4BA
		Solid shaft 3/8 in. with flat				842E-MIP2BA
		Hollow shaft 1/2 in.				842E-MIP10BA
CIP Motion Encoder EIP	Single-turn	Solid shaft 3/8 in. with flat		18 bit		842E-CM-SIP2BA
		Solid shaft 3/8 in. with flat				842E-CM-SIP1BA
		Hollow shaft 1/2 in.				842E-CM-SIP10BA
	Multi-turn	Solid shaft 10 mm with flat		30 bit		842E-CM-MIP4BA
		Solid shaft 3/8 in. with flat				842E-CM-MIP2BA
		Hollow shaft 1/2 in.				842E-CM-MIP10BA

Specifications

Transmission Rate	10/100 MBit/s
Code Type	Binary
Operating Voltage Range	10…30V
No. of Revolutions, Max.	4,096 (12 Bit)
Operating Speed	9,000 RPM (solid shaft), max. 6,000 RPM (blind hollow shaft), max.
Shaft Loading	Radial: 80 N max. (solid shaft) Axial: 40 N max. (solid shaft)
Housing Material	Aluminum
Shaft Material	Stainless steel
Operating Temperature [C (F)]	-30…+85 ° (-22…+185 °)
Enclosure Type Rating [1]	IP67
Certifications	CE Marked for all applicable directives

[1] With mating connector inserted.

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset (flying leads), straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
M12 D-code patchcord, straight, male/male, 2 m (6.5 ft)	1585D-M4TBDM-2
M12 to RJ45 patchcord, male/male, 2 m (6.5 ft)	1585D-M4TBJM-2
M12 D-code patchcord, straight, male/male (shielded, 2 m (6.5 ft))	1585D-M4UBDM-2
M12 to RJ45 patchcord (shielded), male/male, 2 m (6.5 ft)	1585D-M4UBJM-2
Flexible coupling	845-FC-B-B
Flexible coupling	845-CA-C-25



Connected Components

Simpler, faster, cost-effective machine building.

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Encoders



Sine Cosine/Serial 842HR

- High resolution auxiliary feedback
- Absolute feedback for position control
- High resolution incremental feedback for speed control
- Sine/Cosine differential interface
- Digital bi-directional RS-485 interface
- Compatible with Hiperface interface
- Internal diagnostic functions

Replace Multiple Encoders with a Single 842HR Encoder

Today's high performance digital servo drive systems require absolute feedback for position control and high resolution incremental feedback for speed control. Conventional systems use multiple incremental and absolute encoders to achieve this. The new Allen-Bradley® 842HR Sine/Cosine encoder combines the advantages of incremental and absolute encoder technologies in a single, standalone unit targeted for high performance digital servo drive systems.



Ideal Applications

Compatible with a variety of motor control products including Kinetix drives and the Allen-Bradley Guardmaster® MSR57 safe speed monitoring relay, the 842HR is a flexible solution for wide range of industrial applications.

Single- Versus Multi-turn

In a single-turn encoder, absolute position retention on one full rotation of the encoder is provided. Multi-turn encoders provide absolute position on multiple turns of the encoder shaft (better for linear applications).

Product Selection

Sine Cosine/Serial

Single-/Multi-turn	Shaft Size/Type	Power Supply	Resolution	Connector Type and Pinout	Cat. No.
Single-turn	Solid shaft 3/8 in. with flat	5…12V DC	15 bit	MS & 10-pin	842HR-SJDN115FWY2
					842HR-SJDZ115FWY2
				M23 & 17-pin	842HR-SJDZ115FWYD
Multi-turn	Solid shaft 3/8 in. with flat				842HR-MJDZ115FWYD
	Hub shaft 15 mm			MS & 10-pin	842HR-MJA1115FWY2
	Solid shaft 3/8 in. with flat			M23 & 17-pin	842HR-MJDN115FWYD



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

Specifications

Sine/Cosine	1024 cycles per revolution
Code Type	Binary
No. of Revolutions	4,096 (12 Bit), max.
Operating Speed	6,000 RPM, max.
Shaft Loading	Radial: 35 lb, max.
	Axial: 40 lb, max.
Housing Material	Aluminum
Shaft Material	Stainless steel
Operating Temperature [C (F)]	-20…+85 ° (-4…+185 °)
Enclosure Type Rating [1]	IP66
Certifications	CE Marked for all applicable directives

[1] With mating connector inserted.

Required Cordsets and Accessories

Description	Cat. No.
Pre-wired cable for 17-pin connector	2090-XXNFMF-Sxx [2]
10-pin encoder cable assembly	845-CA-C-10
3/8 in. bore flex coupling	845-FC-B-B

[2] Replace **xx** with **1**, **2**, **3**, **4**, **5**, **7**, **9**, **12**, **15**, **20**, **25**, or **30** for available lengths in meters.

Encoders



General Purpose and Compact Incremental 847H and 847T

- 847H: General purpose, 2.5 in. diameter
  847T: Compact, 2 in. diameter
- Revolution up to 65536
- Various output configurations, mounting options, and shaft sizes
- Cable, M12, and military-style connections
- Zero set input option

The General Purpose Encoder Family

Use the 847H incremental encoder for general purpose auxiliary feedback for a variety of configurable options. Ideal for machine tools, packaging machinery, motion control, and robotics.

847T



Square Flange

847H



Easy servo flange mount

847T-PY



2.5 in. with Bell housing and coupler, to protect encoder from damage and contamination

Product Selection

General Purpose and Compact Incremental

Mounting Configuration	Shaft Size	Power Supply	Output Configuration	Connector/ Cable Exit	Connector Type & Pinout	Cat. No. [1]
Standard square flange	3/8 in. diameter shaft with flat	4.5…5.5V DC	4.5…5.5V DC Line Driver Outputs(TTL)	Radial Exit	MS & 10-pin	847H-DN1A-RH01024
Standard servo mount		8…30V DC			M12 & 8-pin with mating connector [2]	847H-HN2A-RA01024
Standard square flange	10 mm diameter shaft with flat	4.5…5.5V DC	8…30V Line Driver Outputs(HTL)		MS & 6-pin with mating connector	847T-DL2C-RC01024
	3/8 in. diameter shaft with flat	4.5…5.5V DC	4.5…5.5V DC Line Driver Outputs(TTL)		MS & 10-pin with mating connector	847T-DN1A-RG01024
		8…30V DC	4.5…5.5V DC Line Driver Outputs(TTL)		MS & 10-pin	847T-DN2A-RH01024
			8…30V Line Driver Outputs(HTL)		MS & 6-pin	847T-DN2C-RD01024
					M12 & 8-pin with mating connector [2]	847T-DN2C-RA01024
5PY mounting	5/8 in. diameter extended shaft with flat	8…30V DC	8…30V Line Driver Outputs(HTL)		M12 & 8-pin with mating connector [2]	847T-PY2C-RA01024

[1] Replace **01024** (revolution) with **1**…**65536** for optional revolutions.

[2] 8-pin M12 connector is now available for all models.

Specifications

Revolutions	1…65536 CPR (16 bit)
Code Type	Incremental, 2 channels with zero index
Angular Acceleration	500,000 radians/sec^2
Operating Speed	9,000 RPM, max.
Shaft Loading	80 N radial
Housing Material	Aluminum
Shaft Material	Stainless steel
Operating Temperature [C (F)]	-30…+80 ° (-22…+176 °)
Enclosure Type Rating [3]	IP67 housing, shaft seal IP65
Certifications	CE Marked for all applicable directives

[3] With mating connector inserted.

Required Cordsets and Accessories

Description	Cat. No.
DC micro M12 QD cordset, straight, 8-pin, 2 m (6.5 ft)	889D-F8FB-2 [4]
6-pin encoder cable assembly	845-CA-A-10
7-pin encoder cable assembly	845-CA-B-10
10-pin encoder cable assembly	845-CA-C-10 [5]
Flexible coupling	845-FC-B-B
Flexible coupling	845-CA-C-2 [5]

[4] Replace **2** with **5** or **10** for other standard cable lengths in meters.

[5] Replace **10** with **25**, **50**, **100**, **200**, or **330** for standard cable lengths in feet.

Sales Offices and Distributors

Our network of sales offices and distributors offers exceptional knowledge and service to help you design, implement and support your automation investment.

www.rockwellautomation.com/sales-partners/overview.page



RFID



6-108…6-109

For more information on our complete family of encoder products, please visit:
http://ab.rockwellautomation.com/Motion-Control/Encoders



Solid-State Pressure Switches and Transmitters 836E

- Pressure ranges from 15…6000 psig
- Rugged, corrosion-resistant stainless steel housing
- Silicon based pressure sensor element
- Display and non-display models
- Independently programmable dual N.O./N.C. programmable PNP outputs or 4…20 mA analog output with single PNP output
- Operation and visualization via PC using ReadWin® 2000 software on display models

Accurate and Reliable with Quick Response Time

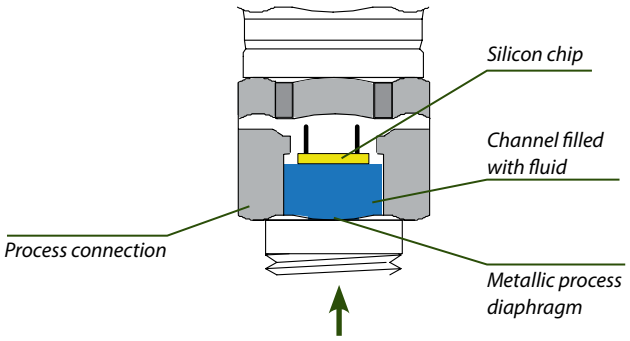
Allen-Bradley pressure sensors are for process and industrial automation applications such as pump control, monitoring of pneumatic and hydraulic systems, monitoring pressure inside an air compressor, and also to measure lubricant and coolant air pressures.

The 836E pressure switch is an ideal alternative to ceramic pressure sensor elements. With its silicon pressure sensor element, the sensor provides accurate pressure reading while maintaining response time in milliseconds.



Technology

The 836E silicon pressure sensor element provides accurate pressure reading while maintaining response time in milliseconds. The metallic diaphragm protects the sensing element from exposure to caustic media.



Silicon pressure sensor with protection membrane



Sanitary switch and clamp

IO-Link 6-2…6-3

Photoelectric 6-4…6-45

Proximity 6-46…6-75

Ultrasonic 6-76…6-79

Limit Switches 6-80…6-93

Encoders 6-94…6-99

Condition Sensing 6-100…6-107

Product Selection

Solid-State Pressure Switches & Transmitters

Process Connection	Pressure Range [psi]	Display	Output	Cat. No. [1]
1/4 in. NPT (female)	0…60	Yes	Dual PNP N.O./N.C. programmable	836E- DA1EL1-D4
	0…150			836E- DA1EN1-D4
	0…60		4…20 mA + 1 PNP	836E- DC1EL1-D4
	0…150			836E- DC1EN1-D4
SAE 7/16-20 UNF (female)	0…60	Yes	Dual PNP N.O./N.C. programmable	836E- DA1EL2-D4
	0…150			836E- DA1EN2-D4
	0…60		4…20 mA + 1 PNP	836E- DC1EL2-D4
	0…150			836E- DC1EN2-D4
G1/4 BSPP (female)	0…10 (bar)	Yes	Dual PNP N.O./N.C. programmable	836E- DA1EN3-D4
	0…40 (bar)			836E- DA1EQ3-D4
	0…10 (bar)		4…20 mA + 1 PNP	836E- DC1EN3-D4
	0…40 (bar)			836E- DC1EQ3-D4
1/2 in. NPT (male)	0….500	No	4…20 mA analog	836E-TD1EQ8-D4
	0…1,500			836E-TD1ER8-D4
1/4 in. NPT (male)	0….50			836E-TD1EL4-D4
	0….150			836E-TD1EN4-D4
1/2 in. NPT (male) & 1/4 in. NPT (female)	0….50	No	4…20 mA analog	836E-TD1EL9-D4
	0….150			836E-TD1EN9-D4
G 1/2 (flush mount)	0….50	No	4…20 mA analog	836E-TD1EL62-D4
	0….150			836E-TD1EN62-D4
G 1/4 (male)	0….50			836E-TD1EL6-D4
	0….150			836E-TD1EN6-D4

[1] Sanitary connection options are also available. Contact your Rockwell Automation sales office or Allen-Bradley distributor for more information.

Specifications

Certifications	CE Marked for all applicable directives (Display models also cULus)
Enclosure Type Rating	IP66
Operating Temperature [C (F)]	Display models: -40…+85 ° (-40…+185 °) Non-display models: -25…+70 ° (-13…+158 °)
Media Temperature [C (F)]	Display models: -40…+100 ° (-40…+212 °) Non-display models: -25…+70 ° (-13…+158 °)
Operating Voltage	12…30V DC
Load Current, Max.	250 mA (per PNP output)
Sensing Element	316L stainless steel
Housing Material	Display models: 316L stainless steel Non-display models: 304 stainless steel

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Configuration kit (includes converter cable and ReadWin 2000 software)	836E-NSR
1/4 in. NPT (female) adaptor	836E-NP71
7/16-20 UNF (female) adaptor	836E-NP72
G 1/4 BSPP (female) adaptor	836E-NP73
1/4 in. NPT (male) adaptor	836E-NP74
7/16-20 UNF (male) adaptor	836E-NP75
G 1/4 BSPP (male) adaptor	836E-NP76
1…1.5 in. sanitary clamp	836E-NH7B
2 in. sanitary clamp	836E-NH7C
O-ring (EPDM)	836E-NV1
O-ring (fluorinated elastomer seal)	836E-NV2

RFID



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For more information on our complete family of condition sensing products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Condition-Sensors



Solid-State Temperature Switches and Transmitters 837E

- Ranges from -50…+150 °C (-58…+302 °F)
- Rugged, corrosion-resistant stainless steel housing and sensing element
- RTD sensor technology
- Independently programmable dual N.O./N.C. programmable PNP outputs or 4…20 mA analog output with single PNP output
- Operation and visualization via PC using ReadWin 2000 software

Rugged, Reliable Temperature Sensing

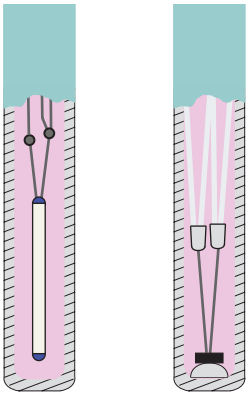
Allen-Bradley temperature sensors are used for process and industrial automation applications. These sensors are capable of measuring the temperature in liquids, gases, and vapors from -50…+150 °C (-58…302 °F).

Technology

Conventional insert probes do not display accuracy or quick response time because the probes have a sensing element that floats inside the probe.

Allen-Bradley temperature transmitters with soldered sensing element provides excellent thermal contact to the thermometer allowing the sensor to accurately and quickly sense the medium temperature.





Conventional insert

Allen-Bradley insert soldered to probe

IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Solid-State Temperature Switches and Transmitters

Process Connection	Probe Length	Display	Output	Cat. No. [1]
1/4 in. NPT (male)	50 mm (1.96 in.)	Yes	Dual PNP N.O./N.C. programmable	837E-DA1BN1A1D4
	100 mm (3.93 in.)			837E-DA1BN1A2D4
	50 mm (1.96 in.)		4…20 mA + 1 PNP	837E-DC1BN1A1D4
	100 mm (3.93 in.)			837E-DC1BN1A2D4
1/2 in. NPT (male)	50 mm (1.96 in.)		Dual PNP N.O./N.C. programmable	837E-DA1BN2A1D4
	100 mm (3.93 in.)			837E-DA1BN2A2D4
	50 mm (1.96 in.)		4…20 mA + 1 PNP	837E-DC1BN2A1D4
	100 mm (3.93 in.)			837E-DC1BN2A2D4
G 1/4 BSPP	50 mm (1.96 in.)		Dual PNP N.O./N.C. programmable	837E-DA1BN3A1D4
	100 mm (3.93 in.)			837E-DA1BN3A2D4
	50 mm (1.96 in.)		4…20 mA + 1 PNP	837E-DC1BN3A1D4
	100 mm (3.93 in.)			837E-DC1BN3A2D4
G 1/2 BSPP	50 mm (1.96 in.)		Dual PNP N.O./N.C. programmable	837E-DA1BN4A1D4
	100 mm (3.93 in.)			837E-DA1BN4A2D4
	50 mm (1.96 in.)		4…20 mA + 1 PNP	837E-DC1BN4A1D4
	100 mm (3.93 in.)			837E-DC1BN4A2D4
1/4 in. NPT (male)	50 mm (1.96 in.)	No	4…20 mA analog	837E-TD1BN1A1-D4
	100 mm (3.93 in.)			837E-TD1BN1A2-D4
1/2 in. NPT (male)	50 mm (1.96 in.)			837E-TD1BN2A1-D4
	100 mm (3.93 in.)			837E-TD1BN2A2-D4
G 1/4 BSPP	50 mm (1.96 in.)			837E-TD1BN3A1-D4
	100 mm (3.93 in.)			837E-TD1BN3A2-D4

[1] Sanitary connection options are also available. Contact your Rockwell Automation sales office or Allen-Bradley distributor for more information.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	Display models: IP66 Non-display models: IP67
Operating Temperature [C (F)]	-40…+85 ° (-40…+185 °)
Media Temperature [C (F)]	-50…+150 ° (-58…+302 °)
Operating Voltage	Display models: 12…30V DC Non-display models: 10…35V DC
Load Current, Max.	250 mA (per PNP output)
Wetted Parts	316L stainless steel
Housing Material	316L stainless steel

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Configuration Kit (includes converter cable and ReadWin 2000 software)	836E-NSR
1…1.5 in. sanitary clamp	836E-NH7B
2 in. sanitary clamp	836E-NH7C

RFID



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For more information on our complete family of condition sensing products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Condition-Sensors



Solid-State Flow Switches and Transmitters 839E

- Flow rates from 0.03…3 m/s
- Rugged, corrosion-resistant stainless steel housing, and sensing element
- RTD sensor technology
- Calorimetric measurement principle
- Independently programmable dual N.O./N.C. PNP outputs or 4…20 mA analog output with single PNP output
- Operation and visualization via PC using ReadWin 2000 software

Flow Sensors for the Harshest Environments

Allen-Bradley 839E solid-state flow sensors are used for process and industrial automation applications. Rockwell Automation sensors can be found in food and beverage, pharmaceuticals, water and waste water plants, and hydraulic applications.

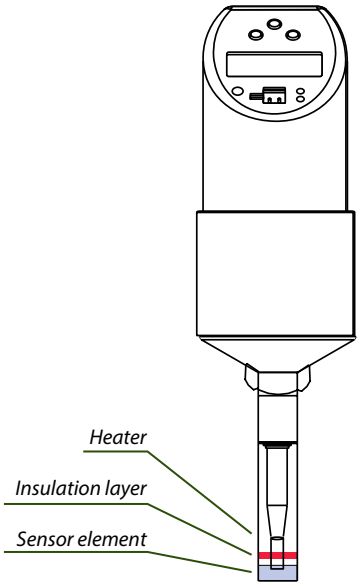
These sensors are capable of measuring the liquid flow rate from 0.03 m/s to 3 m/s. The flow rate is displayed as a percentage of flow rate. For example at no flow the display will read 0%. The sensor probe is designed using 316L stainless steel probe and is resistant to aggressive media and capable of withstanding corrosive liquids.



Sanitary switch

Technology

Allen-Bradley flow switches are based on the calorimetric principle. The 839E sensors incorporate a heated temperature element; as media flows passed the sensor heat is removed due to convection. The amount of heat transfer is dependent on the flow velocity of the medium and the temperature difference between the sensor and the medium.



IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Solid-State Flow Switches and Transmitters

Process Connection	Probe Length [mm (in.)]	Display	Output	Cat. No. [1]
1/4 in. NPT (male)	30 (1.18)	Yes	Dual PNP N.O./N.C. programmable	839E-DA1BN1A3D4
	100 (3.93)			839E-DA1BN1A2D4
	30 (1.18)		4…20 mA + 1 PNP	839E-DC1BN1A3D4
	100 (3.93)			839E-DC1BN1A2D4
1/2 in. NPT (male)	30 (1.18)		Dual PNP N.O./N.C. programmable	839E-DA1BN2A3D4
	100 (3.93)			839E-DA1BN2A2D4
	30 (1.18)		4…20 mA + 1 PNP	839E-DC1BN2A3D4
	100 (3.93)			839E-DC1BN2A2D4
G 1/4 BSPP	30 (1.18)		Dual PNP N.O./N.C. programmable	839E-DA1BN3A3D4
	100 (3.93)			839E-DA1BN3A2D4
	30 (1.18)		4…20 mA + 1 PNP	839E-DC1BN3A3D4
	100 (3.93)			839E-DC1BN3A2D4
G 1/2 BSPP	30 (1.18)		Dual PNP N.O./N.C. programmable	839E-DA1BN4A3D4
	100 (3.93)			839E-DA1BN4A2D4
	30 (1.18)		4…20 mA + 1 PNP	839E-DC1BN4A3D4
	100 (3.93)			839E-DC1BN4A2D4

[1] Sanitary connection options are also available. Contact your Rockwell Automation sales office or Allen-Bradley distributor for more information.

Specifications

Certifications	cULus Listed and CE Marked for all applicable directives, and 3 A authorized only with sanitary adaptor
Enclosure Type Rating	IP66
Operating Range	Liquids from 0.03…3 m/s (0.1… 9.84 ft/s) Mass flow as a relative value between 0 and 100%
Media Temperature [C (F)]	-20…+85 ° (-4…+185 °)
Operating Voltage	18…30V DC, < 100 mA
Load Current, Max.	250 mA
Housing Material	316L stainless steel

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Configuration Kit (includes converter cable and ReadWin 2000 software)	836E-NSR
1…1.5 in. sanitary clamp	836E-NH7B
2 in. sanitary clamp	836E-NH7C

RFID



6-108…6-109

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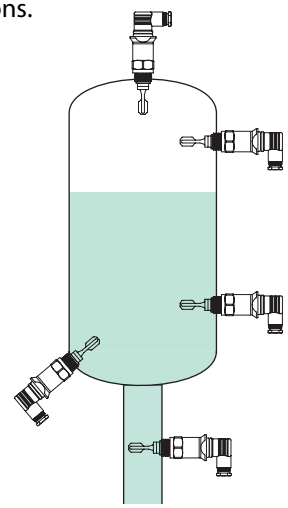
Solid-State Level Switches
840E

- Piezoelectric effect technology
- Rugged, corrosion-resistant stainless steel housing and sensing element
- DC micro (M12) and DIN valve connection types
- Highly-visible status LED for process monitoring
- Complementary N.O./N.C. outputs
- Operation independent of the medium properties – build up, changing media, turbulence, air bubbles, foam, and vibration

Reliable Level Detection Regardless of Media Characteristics

Allen-Bradley level sensors are a quick and easy solution for applications requiring point level detection. These sensors have been applied in applications such as liquid level monitoring in tanks, containers, and pipes.

The 840E stainless steel liquid level sensors are capable of detecting corrosive liquid media and operate independently of the media properties such as liquid build up on the forks, change of media structure, turbulence, foam or air bubbles as well as plant vibrations.



Technology

The 840E switch uses piezoelectric effect technology to see the difference in vibration when the medium is sensed on the forks. The use of alternating voltage current causes the piezo to expand and contract. The difference in vibration oscillation detected by the medium indicates the presence of the medium.



IO-Link 6-2…6-3
Photoelectric 6-4…6-45
Proximity 6-46…6-75
Ultrasonic 6-76…6-79
Limit Switches 6-80…6-93
Encoders 6-94…6-99
Condition Sensing 6-100…6-107

Product Selection

Solid-State Level Switches

Connector Type	Process Connection	Power Supply	Cat. No.
DC-PNP with M12 connector	1/2 in. NPT (male)	DC-PNP	840E-TB1B1A1D4
	3/4 in. NPT (male)	DC-PNP	840E-TB1B2A1D4
AC with NPT 1/2 valve connector	1/2 in. NPT (male)	AC	840E-TB2B1A1E4
	3/4 in. NPT (male)	AC	840E-TB2B2A1E4



Connected Components

Simpler, faster, cost-effective machine building.

www.rockwellautomation.com/go/cc

Specifications

Certifications	cCSAus Certified and CE Marked for all applicable directives
Enclosure Type Rating	DC-PNP with M12 connector: NEMA 4X (IP66/67) AC with NPT 1/2 valve connector: NEMA 4 (IP65)
Operating Temperature [C (F)]	-40…+70 ° (-40…+158 °)
Process Temperature [C (F)]	-40…+100 ° (-40…+212 °)
Operating Voltage	DC-PNP with M12 connector: 10…35V DC, 15 mA max. AC with NPT 1/2 valve connector: 19…253V AC, 3.8 mA max.
Load Current, Min.	250 mA
Repeatability	±0.5 mm (±0.02 in.)
Settling Time	< 2 s
Resolution [mm (in.)]	< 0.5 (0.02)
Hysteresis [mm (in.)]	3.0 ± 0.5 (0.12 ± 0.02)
Housing Material	316L stainless steel

Required Cordsets and Accessories

Description	Cat. No.
DC micro QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
AC DIN valve cordset	889V-RZ3ABE-2
Configuration Kit (includes converter cable and ReadWin 2000 software)	836E-NSR
1…1.5 in. sanitary clamp	836E-NH7B
2 in. sanitary clamp	836E-NH7C

RFID



6-108…6-109

For more information on our complete family of condition sensing products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches/Condition-Sensors

RFID



High Frequency 13.56 MHz ICODE with EtherNet/IP Interface
56RF

- One- and two-channel EtherNet/IP interface available
- Embedded switch with Device Level Ring (DLR)
- Rugged transceiver styles for industrial locations
- Thirteen 56 MHz high-frequency technology for light industrial applications
- Tag memory options: 64 B, 128 B, 256 B, and 2 KB
- Read/write speeds up to 625 Bs
- Different tag styles with sensing distances up to 185 mm (7.3 in.)

Track and Trace Materials Through Your Process

Industrial Radio Frequency Identification (RFID) systems are a rugged and reliable way to track and document products as they move through the manufacturing process. Unlike the bar code systems used for similar, less demanding applications, industrial RFID systems are designed to withstand harsh environments. Plus, reusable read/write tags allow for flexibility in information and application.

Manufacturing Application

Each tool, person, and machine has an RFID tag for validation and usage count.



- Inventory control by tagging each tool
- Validate user checking out tool



- Validate tool with machine
- Read/write tool usage count



- Schedule tool maintenance during downtime
- Total tool usage count stored on tool RFID tag

Other Applications

- Automotive
- Packaging
- AGV
- Pharmaceutical

To see the entire video and others, go to:
http://ab.rockwellautomation.com/Sensors-Switches/RFID/High-Frequency-RFID

Product Selection

High Frequency 13.56 MHz ICODE with EtherNet/IP Interface

Transceivers

Dimensions [mm (in.)]	Recommended Sensing Distance [mm (in.)]	Max. Sensing Distance [mm (in.)]	Cat. No.
Rectangular 80 x 90 (3.15 x 3.54)	100 (3.94)	168 (6.61)	56RF-TR-8090
Square 40 x 40 (1.57 x 1.57)	50 (1.97)	85 (3.35)	56RF-TR-4040
Cylindrical M30	35 (1.38)	60 (2.36)	56RF-TR-M30
Cylindrical M18	18 (7.09)	30 (1.18)	56RF-TR-M18

Tags

Description	Type	Memory Size	Dimensions [mm (in.)]	Cat. No.
Disc	SLI	128 Bytes	16 (0.63)	56RF-TG-16
Disc	SLI	128 Bytes	30 (1.18)	56RF-TG-30
Disc	SLI	128 Bytes	50 (1.97)	56RF-TG-50
Disc - Mount on Metal	SLI	128 Bytes	50 (1.97)	56RF-TG-50MOM
Disc - FRAM	FRAM	2K Bytes	20 (0.79)	56RF-TG-20-2KB
Disc - FRAM	FRAM	2K Bytes	30 (1.18)	56RF-TG-30-2KB
Disc - FRAM	FRAM	2K Bytes	50 (1.97)	56RF-TG-50-2KB
Square - Hi Temp (240 °C (464 °F) max.)	SLI	128 Bytes	50 x 50 (1.97 x 1.97)	56RF-TG-50HT

EtherNet/IP Interface Blocks

RFID Ports	Inputs	Outputs	Cat. No.
2	1	1	56RF-IN-IPD22
2	2	–	56RF-IN-IPD22A

Specifications

Certifications	Interfaces & rectangular transceivers: , cULus Listed, C-Tick, CE Marked for all applicable directives Cylindrical transceivers: CE Marked for all applicable directives
Enclosure Type Rating	Interfaces & transceivers: IP67; Tags: IP68, IP69K
Operating Temperature [C (F)]	Interfaces: -20…+60 ° (-4…+140 °) Transceivers, Disc Tags < 20mm: -25…+70 ° (-13…+158 °) Disc Tags ≥ 20mm: -25…+85 ° (-13…+185 °) Hi Temp Tags: -55…+240 ° (-67…+464 °)
Operating Voltage	24V DC
Output Current, max.	100 mA per transceiver
Frequency	13.56 MHz
Read/write Speed	625 B/s max.
Sensing Distance	185 mm (7.3 in.) max.
Tag Memory	Up to 2 KB, ICODE types SL1, SL2

Required Cordsets and Accessories

Description	Cat. No.
DC micro (M12) female straight to male straight QD patchcord, 5-pin, 2 m (6.5 ft)	889D-F5FCDM-J2
DC micro (M12) female straight to male straight QD patchcord, 4-pin, 2 m (6.5 ft)	889D-F4ACDM-2
M12 D-code patchcords	1585D-M4TBDM-2



Looking for More?

This catalog highlights only our most essential components; for a complete product selection, visit us at:

http://ab.rockwellautomation.com/allenbradley/productdirectory.page

RFID



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For more information on our complete family of Sensor products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches

Additional Sensor Products



42KL MiniSight General Purpose

Bulletin 42KL Minisight™ general purpose sensors are an exact match for one of the industry's most popular form factors, but with additional features. 871D cylinder position models for in-port end-of-stroke detection on hydraulic and pneumatic cylinders.

- Universal 18 mm and through-hole mounting
- Durable 1200 psi washdown-rated housing
- 360° visible status indicators

45CLR ColorSight

The 45CLR ColorSight™ is a compact color sensing solution that offers high-end performance and advanced features to address a broad range of color-based inspection challenges.

- Concurrent sensing of three different colors
- Easy-to-use teach button (3 channels) and remote teach (single channel)
- IP67 housing with 270° rotatable connector





45BPD/BRD Laser Measurement

The Allen-Bradley 45BPD and 45BRD are laser sensors intended for industrial applications requiring reliable small part detection, positioning and precision measurement.

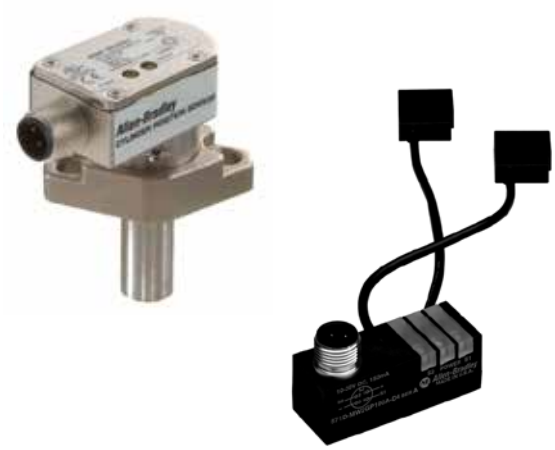
- Visible red Class 2 laser for small beam spot and easy alignment
- Teach-in and fixed range models
- IP67 housing with 270° rotatable connector

IO-Link	Photoelectric	Proximity	Ultrasonic	Limit Switches	Encoders	Condition Sensing
						
6-2…6-3	6-4…6-45	6-46…6-75	6-76…6-79	6-80…6-93	6-94…6-99	6-100…6-107

Cylinder Position Sensors

Our cylinder position inductive proximity sensors are specialty models used to indicate position of pneumatic and hydraulic cylinders or power clamps and grippers.

- 871D cylinder position models for in-port end-of-stroke detection on hydraulic and pneumatic cylinders
- 871D WorldClamp™ sensors for open/closed position indication in power clamp and gripper applications
- Rugged, low-profile housings
- Weld-field immune





Rectangular Inductive Proximity Sensors

Our rectangular inductive proximity sensors offer sensing ranges longer than those found in traditional cylindrical housings. Choose from our many styles of rectangular sensors for your welding applications and other environments.

- 802PR heavy duty limit switch style sensors (including hazardous location models)
- 871L/872L limit switch style sensors
- 871F aluminum block sensors
- 871P can sensors

871C Specialty Proximity Sensors

We offer a complete line of 871C specialty inductive proximity sensors to address your toughest industrial applications in the harshest environments. Models include:

- Extended temperature
- Analog output
- Intrinsically safe
- Miniature



RFID



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For more information on our complete family of Sensor products, please visit:
http://ab.rockwellautomation.com/Sensors-Switches

Additional Sensor Products



801 General Purpose Limit Switches

801 general purpose limit switches are ideal for a wide variety of applications.

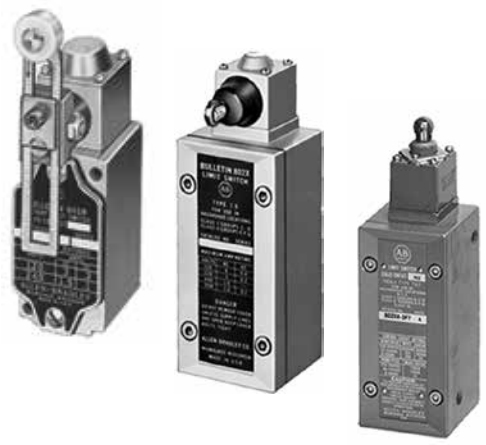
- Multiple contact arrangements
- Slow and snap action contacts
- High snap-through force

802T Direct Action Limit Switches

802T direct action NEMA-style limit switches are used for safety applications per ISO 14119. Direct opening action assures that the normally closed contacts open when the limit switch is actuated.

- Direct opening action
- Snap acting contacts
- Rugged metal construction
- NEMA 6P/IP67 plug-in design





802R/X/XR Hazardous Location Limit Switches

Our hazardous location switches are designed for use in applications such as refineries, distilleries, grain elevators, and flour mills where dangerous gases or other materials may be present.

- 802R sealed contact (Class 1, Division 2)
- 802X NEMA Type 4 watertight (Class 1, groups B, C and D or Class 2, groups E, F and G or Class 3)
- 802XR sealed contact (Class 1, Groups B, C, and D or Class 2, Groups E, F and G)

IO-Link	Photoelectric	Proximity	Ultrasonic	Limit Switches	Encoders	Condition Sensing
6-2…6-3	6-4…6-45	6-46…6-75	6-76…6-79	6-80…6-93	6-94…6-99	6-100…6-107

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