

## Magnetically Coded Non-contact Interlock Switches

The magnetically coded non-contact interlock switches have the following features:

- Non-contact actuation
- Magnetically coded sensing
- High tolerance to misalignment
- Designed for use with specified controllers



### Specifications

Attribute	Value
<b>Safety Ratings</b>	
Standards	ISO 14119, IEC 60947-5-3, ISO 13849-1, IEC 62061
Safety classification	Type 4 Interlocking Device with low coding per ISO 14119
Functional safety data	See publication <a href="#">SAFETY-SR001</a>
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives <a href="#">rok.auto/certifications</a>
<b>Outputs (Guard Door Closed, Actuator in Place)</b>	
Safety outputs	<ul style="list-style-type: none"> <li>• MC1: 2 N.C. REEDS</li> <li>• MC2: 2 N.C. solid-state relays</li> </ul>
Auxiliary outputs	<ul style="list-style-type: none"> <li>• MC1: –</li> <li>• MC2: 1x PNP, 0.2 A max; Status: OFF (0V DC)</li> </ul>
<b>Operating Characteristics</b>	
Operating distance, make	<ul style="list-style-type: none"> <li>• MC1: 8 mm (0.3 in.)</li> <li>• MC2: 10 mm (0.39 in.)</li> </ul>
Operating distance, break	<ul style="list-style-type: none"> <li>• MC1: 15 mm (0.59 in.)</li> <li>• MC2: 25 mm (0.98 in.)</li> </ul>
Repeat accuracy	10% of sensing range
Output current, max	200 mA
Switching current @ voltage	<ul style="list-style-type: none"> <li>• MC1: 24V DC @ 200 mA, max</li> <li>• MC2: 24V DC @ 200 mA +10%/-15%, max</li> </ul>
Operating voltage/power supply	<ul style="list-style-type: none"> <li>• MC1: –</li> <li>• MC2: 24V DC, +10%/-15%/50 mA max/Class 2 SELV</li> </ul>
Frequency of operating cycle	1 Hz
<b>Environmental</b>	
Enclosure type rating	MC1: IP67 (NEMA 6P) MC2: IP69K
Operating temperature	-10...+55 °C (14...131 °F)
Relative humidity	5...95%
Shock	IEC 68-2, 27, 30 g, 11 ms
Vibration	IEC 68-2-6, 10...55 Hz
Radio frequency	IEC 61000-4-3, IEC 61000-4-6
<b>Physical Characteristics</b>	
Material	MC1 <ul style="list-style-type: none"> <li>• Housing: Molded ABS</li> <li>• Actuator: Molded ABS</li> </ul> MC2 <ul style="list-style-type: none"> <li>• Housing: Ultrador</li> <li>• Actuator: Ultrador</li> </ul>
Color	Red

## Product Selection

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 (9.8 ft) cable	440N-Z2NRS1A
					10 m (32.8 ft) 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 (9.8 ft) cable	440N-Z21W1PA
					10 m (32.8 ft) cable	440N-Z21W1PB

Table 27 - Connection Systems

Description	Cat. No.	
	Connection to Distribution Box 4-pin Micro (M12) 2 N.C.	8-pin Micro (M12) 2 N.C. & 1 N.O.
Cordset	889D-F4AC-x <sup>(1)</sup>	889D-F8AB-x <sup>(1)</sup>
Patchcord	889D-F4ACDM-y <sup>(2)</sup>	889D-F8ABDM-y <sup>(2)</sup>
Distribution box	898D-4zLT-DM4 <sup>(3)</sup>	—
Shorting plug	898D-41LU-DM	—
T-port	898D-43LY-D4	—

(1) Replace x with 2 (2 m [6.6 ft]), 5 (5 m [16.4 ft]), or 10 (10 m [32.8 ft]) for standard cable lengths.

(2) Replace y with 1 (1 m [3.3 ft]), 2 (2 m [6.6 ft]), 3 (3 m [9.8 ft]), 5 (5 m [16.4 ft]), or 10 (10 m [32.8 ft]) for standard cable lengths.

(3) Replace z with 4 or 8 for number of ports.

## Accessories

Description	Cat. No.
MC1 spare actuator	440N-A17233
MC2 spare actuator	440N-A32114

## Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.

Figure 22 - MC1

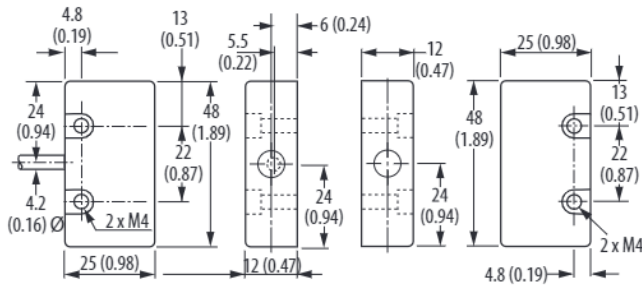
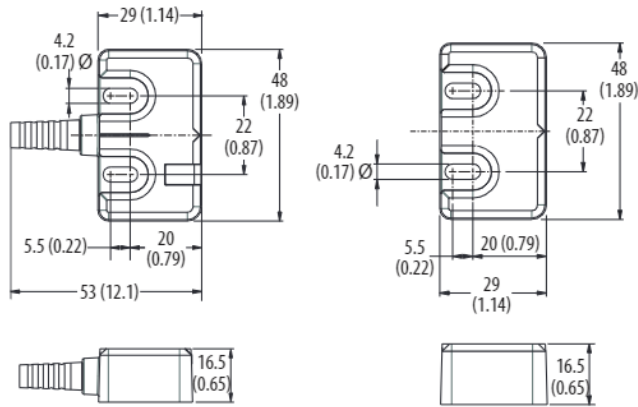


Figure 23 - MC2



## Typical Wiring Diagrams

Description		MC1 – 2 N.C.	MC2 – 2 N.C. and 1 N.O.
4-pin Micro (M12)			—
8-pin Micro (M12)		—	
Cordset 889D-F4AC-x or Cable Version <sup>(1)</sup>	Brown	Safety A	—
	Blue		
	White	Safety B	
	Black		
8-pin Cordset 889D-F8AB-x or Cable Version <sup>(1)</sup>	Gray	—	Safety A
	Red		Safety A
	Pink		Safety B
	Yellow		Safety B
	White		Aux
	Brown		24V DC +
	Blue		Gnd
	Green		—

(1) Replace x with 2 (2 m [6.6 ft]), 5 (5 m [16.4 ft]) or 10 (10 m [32.8 ft]) for standard cable lengths.