

# Product Information

Original Instructions

## Magnetically Coded Non-contact Switch (MC2)

Catalog Numbers 440N-Z21W1PA, 440N-Z21W1PB, 440N-Z21W1PH



**ATTENTION:** Read this document and the documents that are listed in [Additional Resources on page 2](#) about installation, configuration, and operation of this equipment before you install. Users are required to familiarize themselves with installation and connection instructions and requirements of all applicable codes, laws, and standards. In accordance with applicable codes of practice, suitably trained personnel are required to implement installation, adjustments, service initiation, use, assembly, disassembly, and maintenance. If this equipment is used in a manner that the manufacturer does not specify, the protection that is provided by the equipment may be impaired.

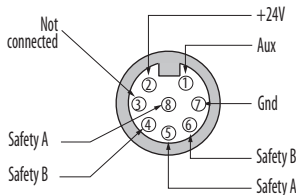


**ATTENTION:** The presence of spare actuators can compromise the integrity of safety systems. Personal injury or death, property damage, or economic loss can result. Appropriate management controls, working procedures, and alternative protective measures should be introduced to control their use and availability.



**WARNING:** Do not defeat, tamper, remove, or bypass this unit. Severe injury to personnel could result.

### Wiring



Pin	Wire Color	Signal
1	White	PNP Aux
2	Brown	+24V <sup>(1)</sup>
3	Green	Not connected
4	Yellow	Safety B
5	Gray	Safety A
6	Pink	Safety B
7	Blue	0V
8	Red	Safety A

(1) Operating voltage is 24V DC +10%/-15% Class 2 SELV or PELV power supply.

### Recommended Mating Cable

The standard cable lengths are 2 m, 5 m, and 10 m. Use catalog number 889D-F8AB-2 [2 m (6.5 ft)] for the standard length. Replace the 2 with 5 [5 m (16.4 ft)] or 10 [10 m (32.8 ft)] for other standard cable lengths.

**IMPORTANT** When the MC2 is used with any MSRT00 series relay, for the diagnostic function to operate correctly the red and gray wires (Safety A) must be connected to S11 and S12.

### Status/Diagnostic Indicator

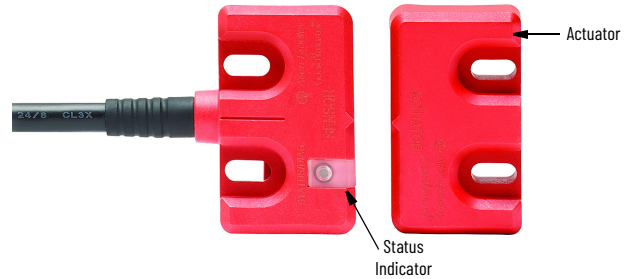


Table 1 - Status Indicators (per IEC 60073)

State	Status	Troubleshooting
Off	Not powered	Check supply, check wiring to controller A
Off	Overload	Check AUX connections
Red	Actuator not present	If actuator present check misalignment.
Green	Actuator present	-
Green flashing	Actuator present Actuation not present on other switches or wiring fault	Check wiring to controller. Check actuators on other switches

### Mounting Information

Use nonremovable screws, bolts, or nuts to mount the switch and actuator. Do not over torque the mounting hardware. It is recommended to use M3 screws and washers throughout. Maximum torque is 1 N·m (8.86 in·lb). Use nonmagnetic mounting hardware. Position the switch and actuator so they are aligned with each other.

### Mounting for Maximum Misalignment

Mount the sensor to the fixed part of the guard and the actuator to the movable section. Keep the sensor and actuator within the sensing range detailed as shown in [Figure 3 on page 2](#). Minimum distance between sensors is 50 mm (1.97 in.).

**IMPORTANT** To obtain maximum switching distance, center the switches ±4 mm (0.24 in.).

Figure 2 - Sensor Alignment

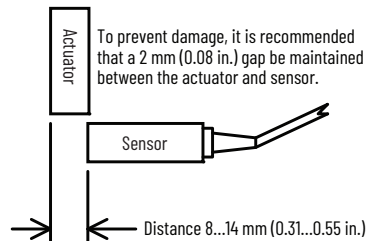
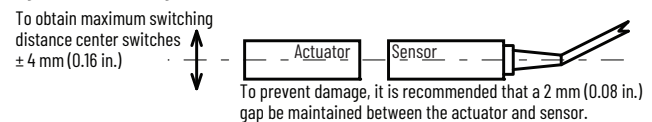
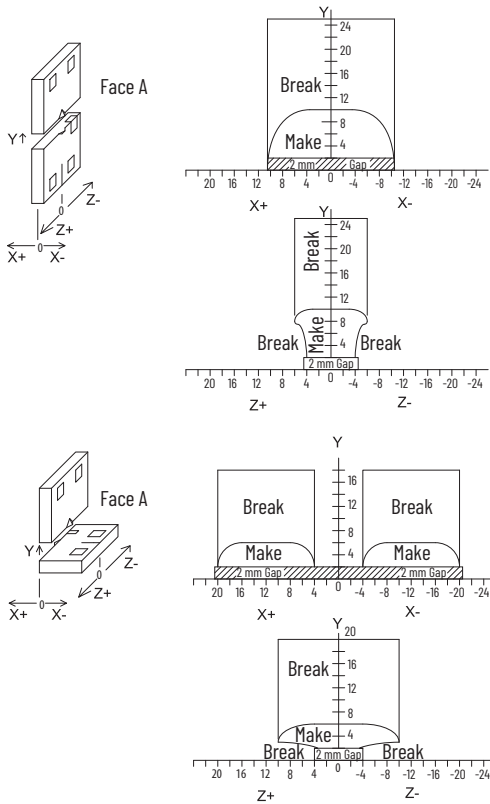
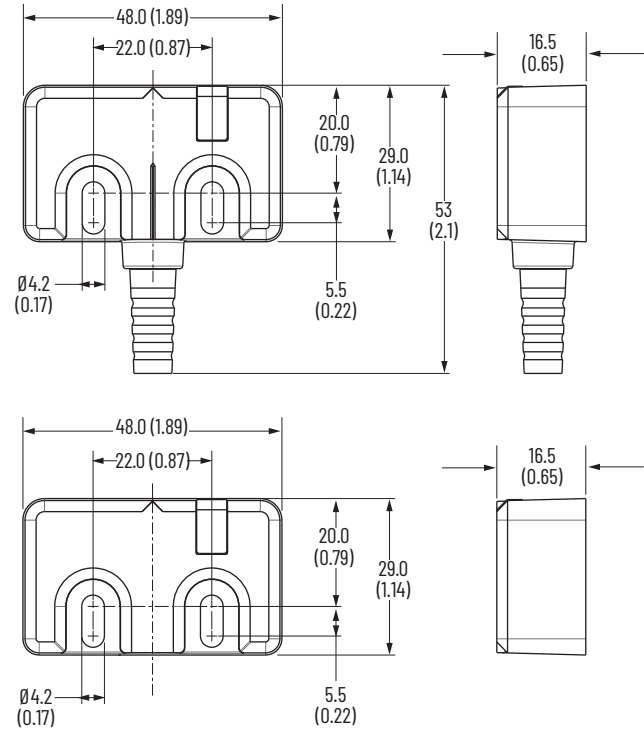


Figure 3 - Misalignment Curve



## Approximate Dimensions

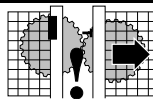
Figure 4 - Plastic Barrel [mm (in.)]



## Maintenance



**ATTENTION:** Verify that the machine is isolated and stopped whenever the interlocked guard door is open.



Every six months, check the correct operation of the switching circuit. Also check for signs of abuse or tampering. Inspect the switch casing for damage.

## Repair

If there is any malfunction or damage, no attempts at repair should be made. The unit should be replaced before machine operation is allowed.

## Waste Electrical and Electronic Equipment (WEEE)







At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at [rok.auto/docfeedback](http://rok.auto/docfeedback).

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