



Magnetic Non-Contact Safety Switches

With Compact Slim Fitting Housing

CMR and CPR Series



CMR Series switch and actuator.

All models shown actual size.



CPR Series switch and actuator.

- ✔ **Magnetic High Power Switching Up to 1 A**
- ✔ **Volt Free Contacts**
- ✔ **High Temperature Stability**
- ✔ **Wide Sensing at 12 mm (0.47") with High Tolerance to Guard Misalignment**
- ✔ **Will Operate with Most Safety Relays**
- ✔ **Compact Slim Fitting Housing—Easy to Install Within Narrow Frame Structures**
- ✔ **Can Be High Pressure Hosed at High Temperature Due to NEMA PW12 (IP69K) Rating**
- ✔ **Up to: PLe ISO13849-1**
- ✔ **2 NC 1 NO Circuits—High Switching Life—No Moving Parts**
- ✔ **CMR Series: 316 SS Body Mirror Polished to Ra4—Suitable for CIP and SIP Cleaning—Food Splash Zones EHEDG Guidelines**
- ✔ **CPR Series: High Specification Polyester Housing with Integral Back Plate**

The CMR and CPR Series magnetic non-contact safety switches with compact slim fitting housing have been designed to enable the conformance to EN60947-5-3 and be used as directed by ISO12100, ISO14121 and EN60204-1. They have magnetic sensing which

provides a wide sensing distance and provides a high tolerance to misalignment after sensing. They can operate from 4 directions even in extreme environments of temperature and moisture. They have volt free high power switching capability and can be used independently to switch low risk applications or connect to a safety relay to provide higher safety levels. When used in combination with most dual channel safety monitoring relays they can be used to provide up to PLe/Category 4 to ISO13849-1.

CMR and CPR Series magnetic non-contact safety switches are designed to interlock hinged, sliding or removable guard doors. CMR Series stainless steel safety switches have been designed for applications in the food processing, pharmaceutical, packaging and petrochemical industries. CPR Series switches have been developed for applications in general factory automation, packaging and some food processing industries.

They are specifically advantageous when:

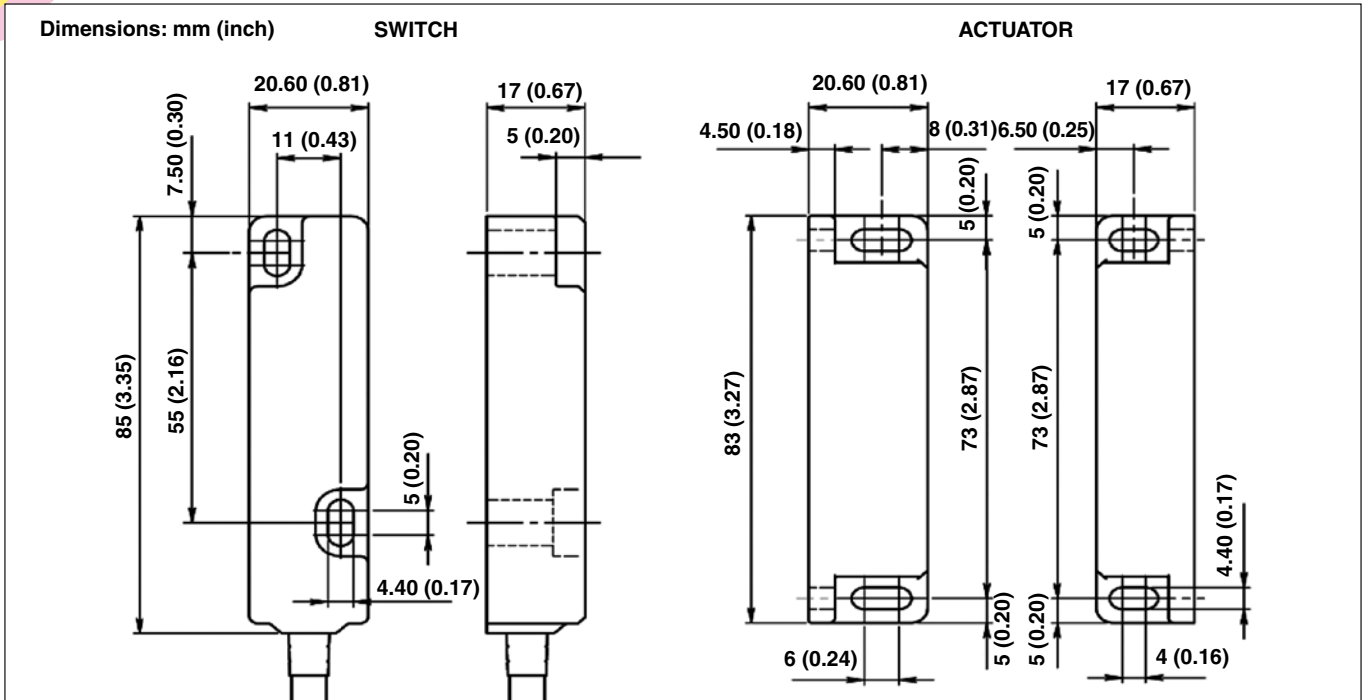
- Poor guard alignment exists and a wide tolerance to misalignment is required
- High levels of hygiene is a requirement, e.g. high pressure chemical or water hosing in the food industry environment
- Environments where high switching capacity is a requirement

Specifications

Standards: ISO14119, EN60947-5-1, EN60204-1, ISO13849-1, EN62061, UL508

Safety Classification and Reliability Data:

- Mechanical Reliability B10d:** 3.3 x 10⁶ operations at 100 mA load
- ISO13849-1:** Up to PLe Category 4 depending upon system architecture
- EN62061:** Up to SIL3 depending upon system architecture
- Safety Data—Annual Usage:** 8 cycles per hour/25 hours per day/365 days



PFHd: 2.52×10^{-8}
Proof Test Interval (Life): 47 years
MTTFd: 470 years
Safety Channel 1 NC: Voltage free, 250 Vac 1.0 A max rating
Safety Channel 2 NC: Voltage free, 250 Vac 1.0 A max rating
Safety Channel 3 NO: Voltage free, 24 Vdc 0.2 A max rating
Fuse: Internal 1.0 A (F); External 0.8 A (F) (User)
Contact Release Time: <2 ms
Initial Contact Resistance: <500 mΩ
Minimum Switched Current: 10 Vdc, 1 mA
Dielectric: Withstand 250 Vac
Insulation Resistance: 100 MΩ
Recommended Setting Gap: 5 mm (0.2")
Switching Distance: Sao 10 mm (0.4") close
(Target to Target): Sar 20 mm (0.8") open
Tolerance to Misalignment: 5 mm (0.2") in any direction from 5 mm (0.2") setting gap
Switching Frequency: 1.0 Hz maximum

Approach Speed: 200 mm/min to 1000 mm/sec

Body Material:

CMR Series: 316 SS mirror polished finish to Ra4

CPR Series: UL approved polyester

Operating Temperature:

CMR Series (CIP SIP Cleaning): -25 to 105°C (-13 to 221°F)

CPR Series: -25 to 80°C (-13 to 176°F)

Enclosure Protection: NEMA PW12 (IP69K), NEMA 6 (IP67)

Shock Resistance: IEC68-2-27; 11 ms, 30 g

Vibration Resistance: IEC68-2-6; 10 to 55 Hz, 1 mm

Cable Type: PVC 6 core, 6 mm (0.24") OD; conductors, 0.25 mm²

Mounting Bolts: 2 x M4; tightening torque, 1.0 Nm

Mounting Position: Any

Dimensions: See dimensional drawing above

Weight (of Switch, Actuator and Cable):

CMR Series: 510 g (1.12 lb) with 5 m (16.4') cable; 760 g (1.68 lb) with 10 m (32.8') cable

CPR Series: 330 g (0.73 lb) with 5 m (16.4') cable; 580 g (1.28 lb) with 10 m (32.8') cable

To Order

Model No.	Description	Circuits	Cable Length
CMR-138022	Stainless steel magnetic non-contact safety switch with compact slim fitting housing	2 NC (safety) 1 NO (auxiliary)	5 m (16.4')
CMR-138023	Stainless steel magnetic non-contact safety switch with compact slim fitting housing	2 NC (safety) 1 NO (auxiliary)	10 m (32.8')
CPR-113006	Magnetic non-contact safety switch with compact slim fitting housing	2 NC (safety) 1 NO (auxiliary)	5 m (16.4')
CPR-113007	Magnetic non-contact safety switch with compact slim fitting housing	2 NC (safety) 1 NO (auxiliary)	10 m (32.8')

All switches include actuator.

Ordering Example: CPR-113006 magnetic non-contact safety switch with compact slim fitting housing, 2 NC (safety) and 1 NO (auxiliary) circuits and 5 m (16.4') cable.