

IDEM MPC Non-Contact Coded Magnetic Safety Switches

MPC Series Plastic Housing



MPC-114105

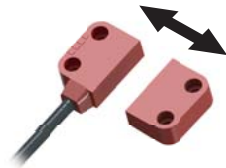
- Coded magnetic actuation
- Compact yet robust fitting suitable for all small guard applications
- Hygienic screw cap covers ensure suitability for food processing washdown
- Cost effective interlock solution
- Can be mounted unobtrusively in channels or behind doors - left or right cable exit
- High specification polyester housing with backplate
- LED indication
- Can be high-pressure hosed at high temperature - IP69K rated
- Sensing distance up to 10 mm
- Switching capability up to 0.2A
- Will operate with most safety relays
- Available with 2m, 5m, or 10 m cable

See Dimensions later in this section.



MPC-114113

Actuator Operating Direction



MPC

MPC Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length / Exit Type	Circuits	Contact Rating
MPC-114105	<--->	Plastic	2m / Right	2 N.C., 1 N.O.	0.2A
MPC-114106	<--->		5m / Right		
MPC-114107	<--->		10 m / Right		
MPC-114113	<--->		2m / Left		
MPC-114114	<--->		5m / Left		
MPC-114115	<--->		10 m / Left		

IDEM LPC and LMC Duty Non-Contact Coded Magnetic Safety Switches



LPC-110005

LPC Series Plastic Housing



LMC-133005

LMC Series Stainless Steel Housing

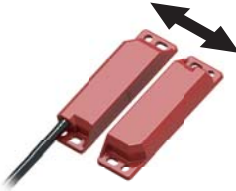
- Coded magnetic actuation
- Narrow housing can be fitted into narrow channels
- Can be high-pressure hosed at high temperature - IP69K rated
- LED indication
- Wide 14 mm sensing distance, high tolerance to misalignment
- Long life switching capability - up to 0.2A
- Will operate with most safety relays
- Available with 2m, 5m, or 10 m cable

LMC Only

- Specifically designed for food processing applications
- Suitable for CIP SIP cleaning - Food Splash Zones per EHEDG guidelines
- 316 Stainless steel mirror polished finish

See Dimensions later in this section.

Actuator Operating Direction



LPC, LMC

LPC and LMC Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
LPC-110005	<-->	Plastic	2m	2 N.C., 1 N.O.	0.2A
LPC-110006	<-->		5m		
LPC-110007	<-->		10 m		
LMC-133005	<-->	Stainless steel	2m		
LMR-133006	<-->		5m		
LMR-133007	<-->		10 m		

IDEM SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches



SPC-111005

SPC Series Plastic Housing

SMC Series Stainless Steel Housing

SMC-F Series Stainless Steel Housing Rear Mount



SMC-139005

- Coded magnetic actuation
- Universal housing suitable for most general applications
- Can be high-pressure hosed at high temperature - IP69K rated
- LED indication
- Wide 14 mm sensing distance, high tolerance to misalignment
- Long life switching capability - up to 0.2A
- Will operate with most safety relays
- SPC and SMC series available with 2m, 5m, or 10 m cable

SMC Series Only

- Specifically designed for food processing applications
- Suitable for CIP SIP cleaning - Food Splash Zones per EHEDG guidelines
- 316 Stainless steel mirror polished finish

SMC-F Only

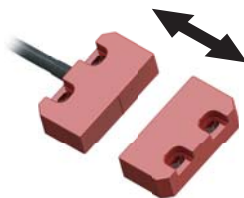
- Same as SMC series, but with no-food-trap housing - rear mounting holes
- 5m cable only

See Dimensions later in this section.



SMC-F-137006

Actuator Operating Direction



**SPC, SMC
SMC-F**

SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
SPC-111005	<--->	Plastic	2m	2 N.C., 1 N.O.	0.2A
SPC-111006	<--->		5m		
SPC-111007	<--->		10 m		
SMC-139005	<--->	Stainless steel	2m		
SMC-139006	<--->		5m		
SMC-139007	<--->		10 m		
SMC-F-137006	<--->		5m		

IDEM CPC, CMC, and CMC-F Non-Contact Coded Magnetic Safety Switches



CPC-115005

CPC Series Plastic Housing

CMC Series Stainless Steel Housing

CMC-F Series Stainless Steel Housing Rear Mount



CMC-138005

- Coded magnetic actuation
- Universal housing suitable for most general applications
- Can be high-pressure hosed at high temperature - IP69K rated
- LED indication
- Wide 14 mm sensing distance, high tolerance to misalignment
- Long life switching capability - up to 0.2A
- Will operate with most safety relays
- CPC and CMC series available with 2m, 5m, or 10 m cable

CMC Series Only

- Specifically designed for food processing applications
- Suitable for CIP/SIP cleaning - Food Splash Zones per EHEDG guidelines
- 316 Stainless steel mirror polished finish

CMC-F Only

- Same as CMC series, but with no-food-trap housing - rear mounting holes
- 5m cable only

See Dimensions later in this section.



CMC-F-135006

Actuator Operating Direction



**CPC, CMC
CMC-F**

CPC, CMC, and CMC-F Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
CPC-115005	<-->	Plastic	2m	2 N.C., 1 N.O.	0.2A
CPC-115006	<-->		5m		
CPC-115007	<-->		10 m		
CMC-138005	<-->	Stainless steel	2m		
CMC-138006	<-->		5m		
CMC-F-135006	<-->		5m		

IDEM WPC Non-Contact Coded Magnetic Safety Switches

WPC Series Plastic Housing



- Coded magnetic actuation
- Slim fitting suitable for all industry applications
- LED indication
- Can be high-pressure hosed at high temperature - IP69K rated
- Wide 14 mm sensing, high tolerance to misalignment
- Switching capability up to 0.2A
- Will operate with most safety relays
- Available with 2m or 5m cable

See Dimensions later in this section.

Actuator Operating Direction



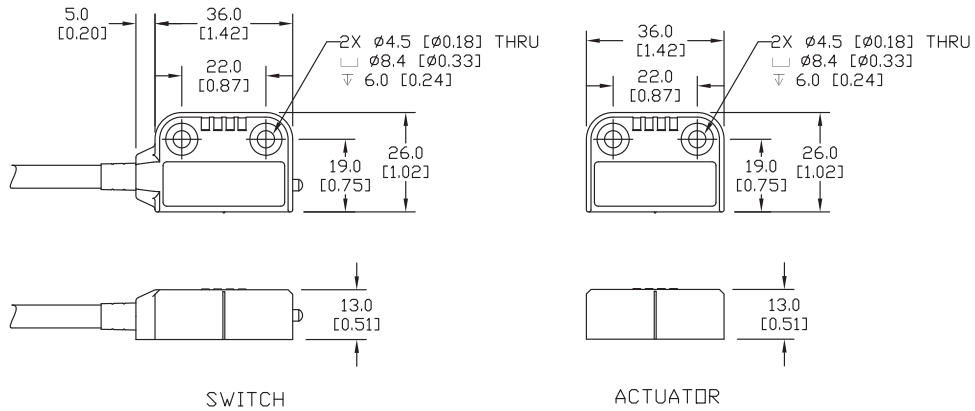
WPC

WPC Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
WPC-112017	<--->	Plastic	2m	2 N.C., 1 N.O.	0.2A
WPC-112018	<--->		5m		

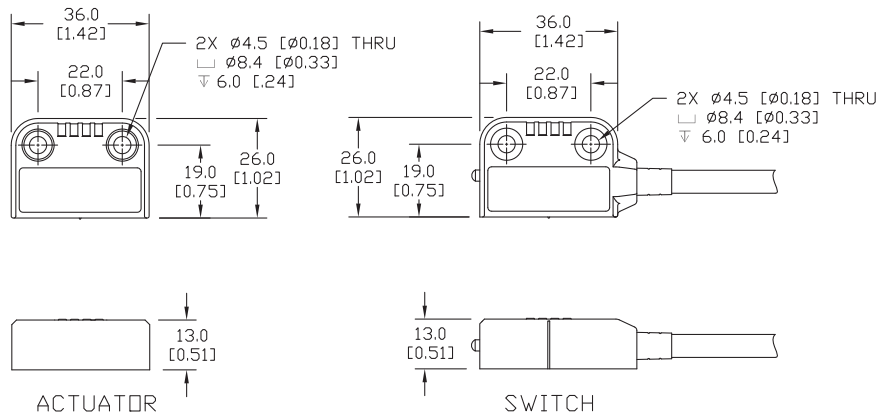
IDEM Non-Contact Safety Switches Dimensions

MPC Series

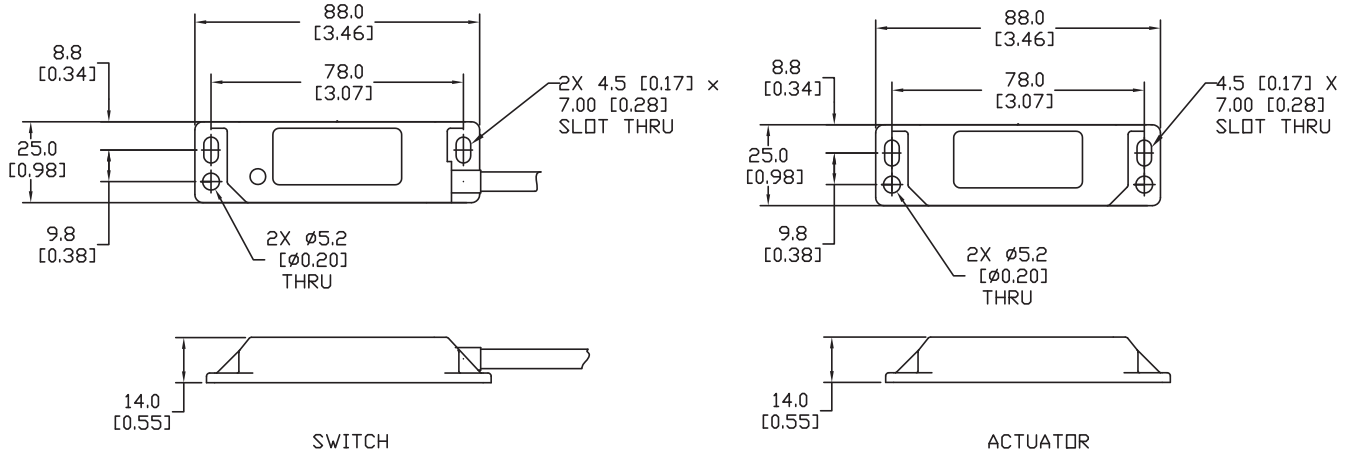
Left Cable Exit



Right Cable Exit

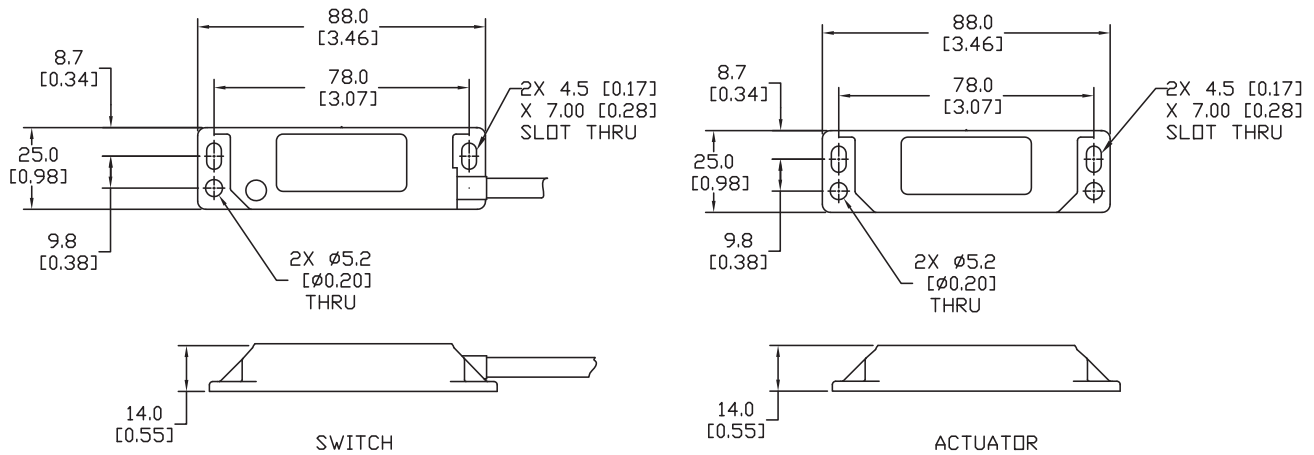


LPC Series

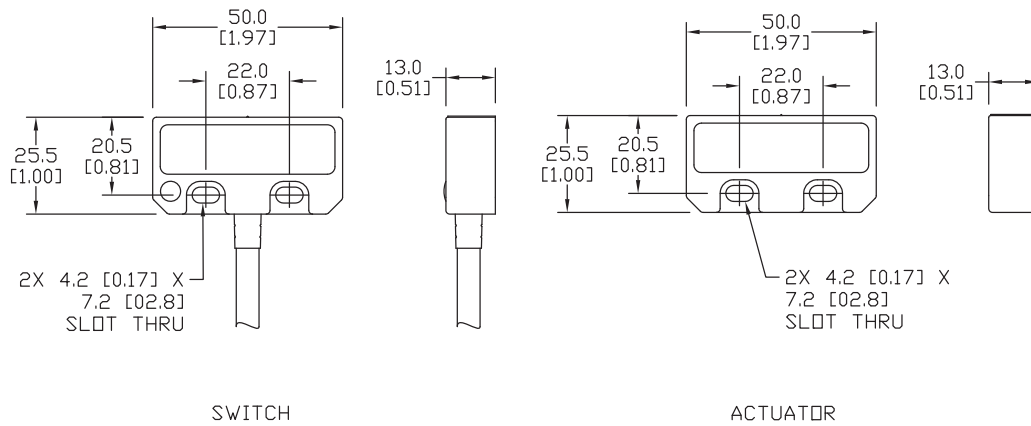


IDEM Non-Contact Safety Switches Dimensions

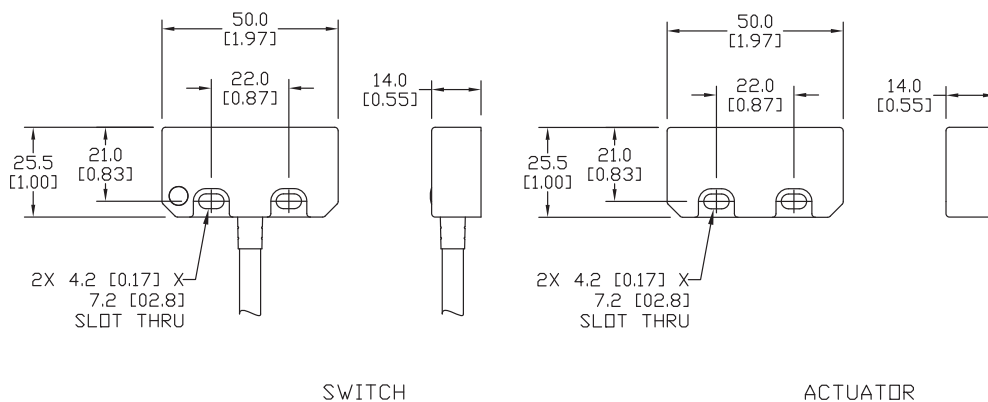
LMC Series



SPC Series

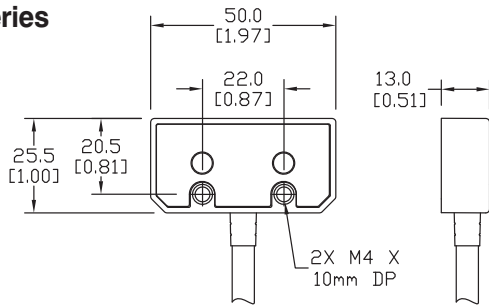


SMC Series

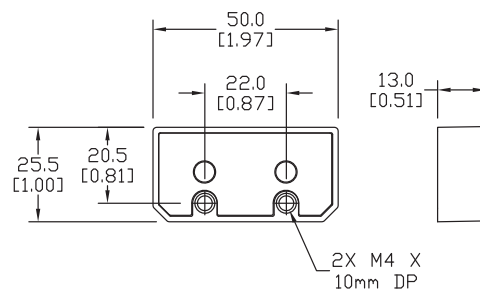


IDEM Non-Contact Safety Switches Dimensions

SMC-F Series

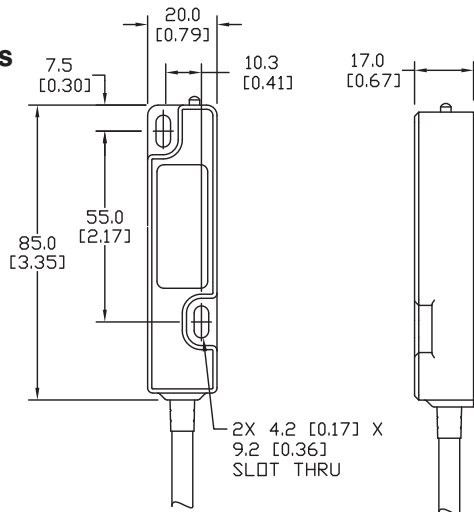


SWITCH
BACK VIEW

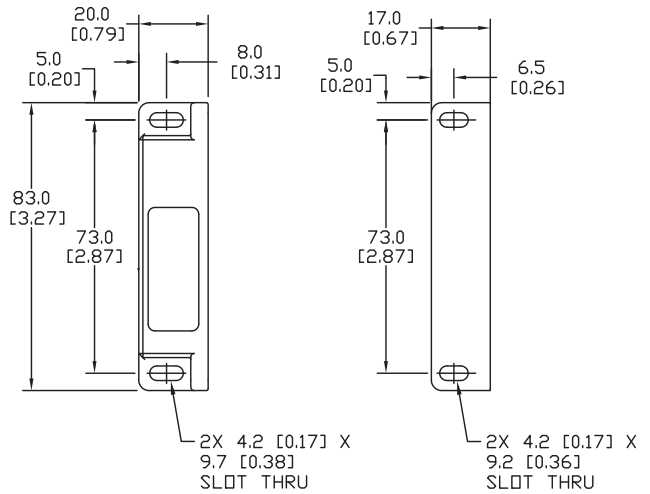


ACTUATOR
BACK VIEW

CPC Series

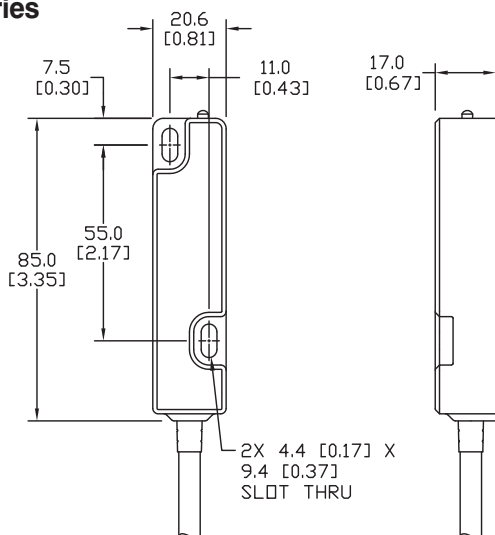


SWITCH

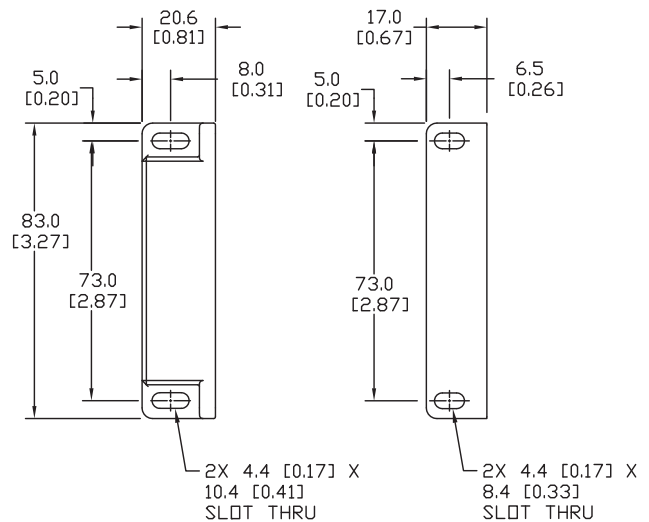


ACTUATOR

CMC Series



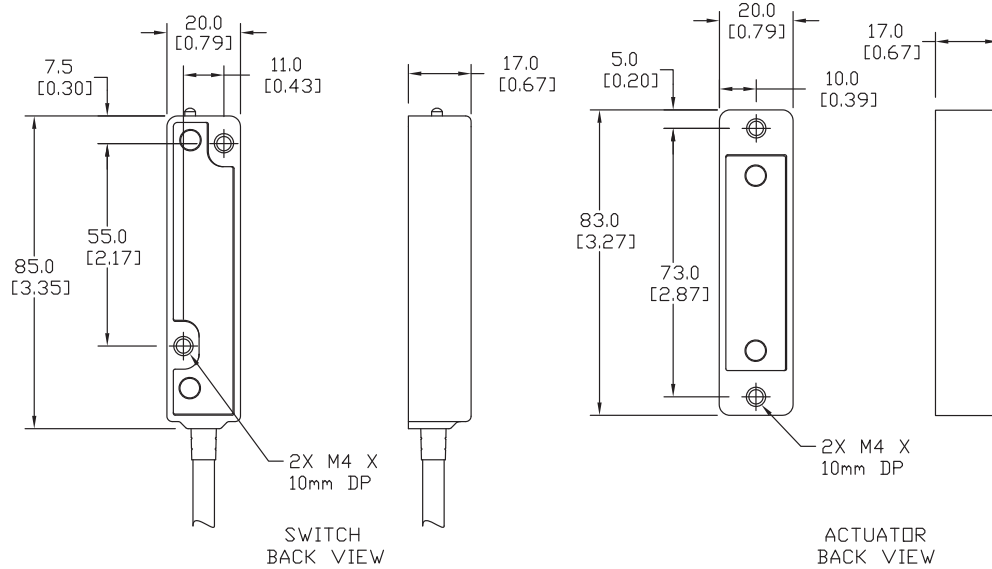
SWITCH



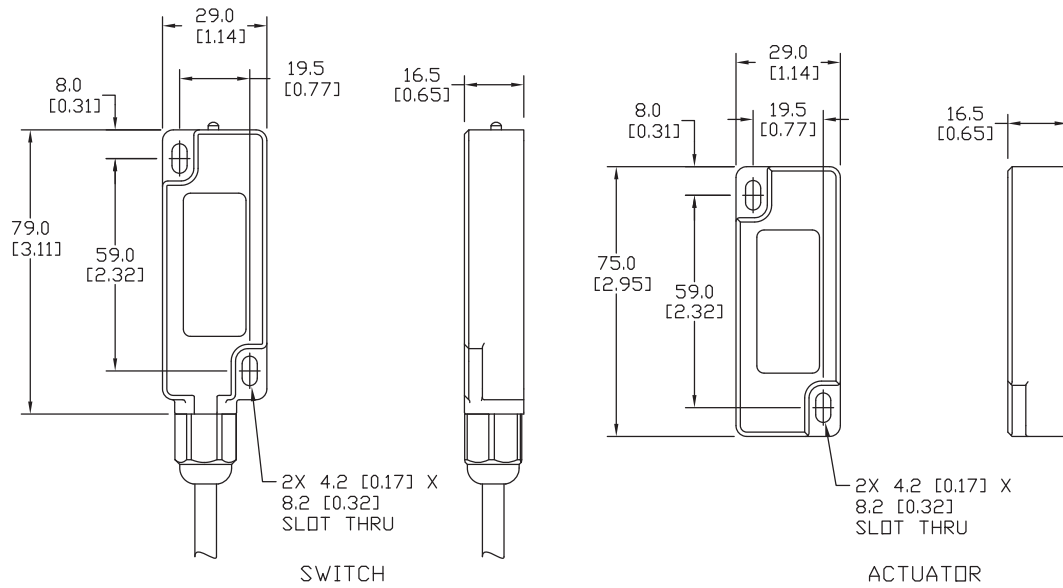
ACTUATOR

IDEM Non-Contact Safety Switches Dimensions

CMC-F Series



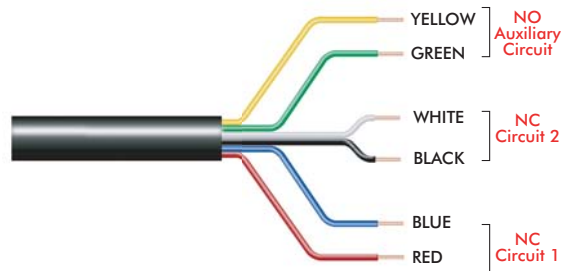
WPC Series



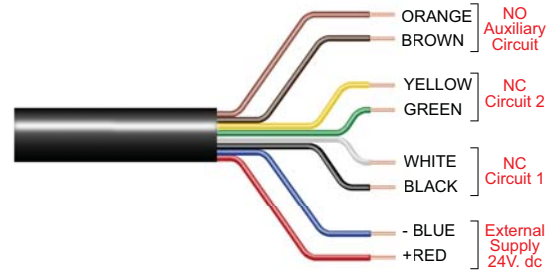
IDEM Non-Contact Safety Switches Electrical Connections and Dimensions

Electrical Connections

Magnetic Switches



Coded Switches



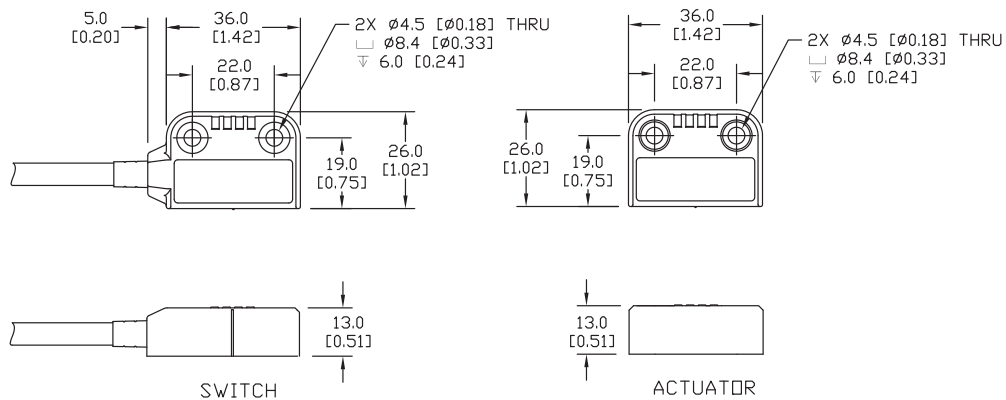
Lead Color	Type of Circuit (Actuator Present)
Yellow	NO
Green	NO
Black	NC2
White	NC2
Red	NC1
Blue	NC1

Lead Color	Type of Circuit (Actuator Present)	Output Types (Solid State)
Orange	Auxiliary (NO)	200 mA max. 24 VDC
Brown	Auxiliary (NO)	
Yellow	NC2 +	200 mA max. 24 VDC (Optocoupler)
Green	NC2 -	
Black	NC1 +	200 mA max. 24 VDC (Optocoupler)
White	NC1 -	
Red	Supply +24 VDC	Supply 24 VDC +10% / -15%
Blue	Supply 0VDC	

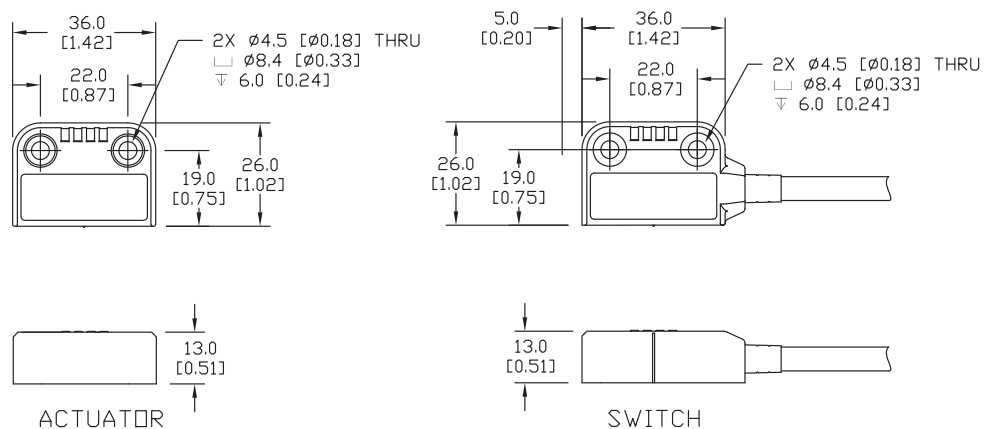
Dimensions

MPR Series

Left Cable Exit



Right Cable Exit



IDEM Non-Contact Safety Switches Selector Guide

Magnetic Safety Switches



Specification	MPR Series Light Duty	LPR and LMR Series Medium Duty	SPR, SMR, and SMR-F Series Medium Duty
Body Material	Plastic	Plastic, Stainless steel	Plastic, Stainless steel
Contact Configuration & Rating	2 N.C. and 1 N.O. contacts; 0.5A	2 N.C. and 1 N.O. contacts; 1A	2 N.C. and 1 N.O. contacts; 1A



Specification	CPR, CMR, and CMR-F Series Heavy Duty	WPR Series Heavy Duty
Body Material	Plastic, Stainless steel	Plastic
Contact Configuration & Rating	1 N.C. and 1 N.O. contacts; 2A	2 N.C. and 1 N.O. contacts; 2A

Coded Magnetic Safety Switches



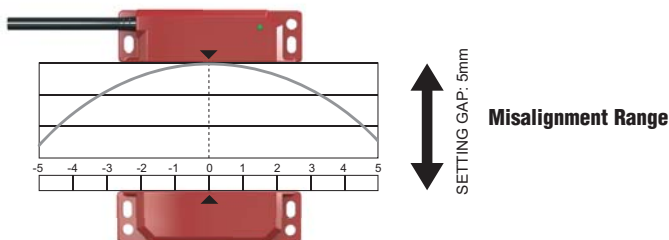
Specification	MPC Series	LPC and LMC Series	SPC, SMC, and SMC-F Series
Body Material	Plastic	Plastic, Stainless steel	Plastic, Stainless steel
Contact Configuration & Rating	2 N.C. and 1 N.O. contacts; 0.2A	2 N.C. and 1 N.O. contacts; 0.2A	2 N.C. and 1 N.O. contacts; 0.2A



Specification	CPC, CMC, and CMC-F Series	WPC Series
Body Material	Plastic, Stainless steel	Plastic
Contact Configuration & Rating	2 N.C. and 1 N.O. contacts; 0.2A	2 N.C. and 1 N.O. contacts; 0.2A

IDEM Non-Contact Safety Switches Specifications

Specifications		
	Non-Contact Magnetic Switches	Non-Contact Coded Magnetic Switches
Safety Classification and Reliability Data		
Switching Reliability (B10d)	3.3 x 10 ⁶ operations at 100 mA load	
EN 954-1	Up to category 4 with safety relay	
ISO 13849-1	Up to PLe depending upon system architecture	
EN 62061	Up to SIL3 depending upon system architecture	
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days	
PFHd	2.52 x 10 ⁻⁸	
Proof Test Interval (Life)	47 Years	
MTTFd	470 Years	
Agency Approvals	CE, cULus, RoHS	
Electrical and General Specifications		
Contact Ratings: Safety Contact NC	MPR: Voltage free: 250 VAC, 0.5 A Max.	24 VDC, 0.2 A Max. (Optocoupler)
	LPR, LMR, SPR, SMR, SMR-F: Voltage free: 250 VAC, 1.0 A Max.	
	CPR, CMR, CMR-F, WPR: Voltage free: 250 VAC, 2.0 A Max.	
Monitoring (Auxiliary) Contact NO	Voltage free: 24 VDC, 0.2 A Max.	24 VDC, 0.2 A Max.
Fuses (NC Circuits)	MPR: Fuse externally 0.4 A (F) LPR, LMR, SPR, SMR, SMR-F, CPR, CMR, CMR-F: Fuse externally 0.8 A (F) WPR: Fuse externally 1.6 A (F)	NA
Contact Release Time	<2ms	NA
Initial Contact Resistance	<500 milliohm	NA
Minimum Switched Current	10 VDC, 1mA	
Dielectric Withstand	250 VAC	
Insulation Resistance	100 Megohms	
Recommended Setting Gap	5mm	
NC Switching Distance	Sao (assured ON) 10 mm close; Sar (assured OFF) 20 mm open	
N.O. Switching Operation	Opens before NC circuits close	
Tolerance to Misalignment	5mm in any direction from 5mm setting gap (See Misalignment Range drawing on this page)	
Switching Frequency	1.0 Hz Max.	
Approach Speed	200 mm per minute to 1000 mm per second	
Body Material - Polyester	CPR, LPR, MPR, SPR, WPR	CPC, LPC, MPC, SPC, WPC
Body Material - 316 Stainless Steel	CMR, CMR-F, LMR, SMR, SMR-F	CMC, CMC-F, LMC, SMC, SMC-F
Temperature Range	Polyester: -25° to +80°C (-13° to +176° F)	
	316 Stainless Steel: -25° to +105° C (-13° to +221° F)	
Enclosure Protection	IP67, IP69K	
Shock Resistance	IEC 68-2-27 11 ms 30g	
Vibration Resistance	IEC 68-2-6 10-55Hz 1mm	
Cable Type	PVC, 6.5 mm outside diameter max.	
Mounting Bolts (recommended)	2 x M4; Tightening torque: 1.0 Nm	



IDEM Non-Contact Safety Switches Overview



Plastic Housing



Stainless Steel Housing

Non-Contact Safety Switches

Non-contact safety switches are interlocking devices that are designed to protect both people and machines. They are preferred in certain applications where no physical contact (under normal conditions) takes place between the switch and actuator, such as:

- Where a high level of protection from tampering is required.
- Where reduced wear from frequent mechanical contact is desired.

- Where poor guard alignment exists. Their operating principle enables greater tolerances, making them ideal for applications where precise guidance of guards is difficult.
- Where there is exposure to contamination or where there are strict hygiene standards (for example, in the food industry). The devices are easy to clean, making them ideal for these environments.
- Where a long service life is required. The switches are mechanically non-wearing, insensitive to shock and vibration, and resistant to moisture and extreme temperatures.

Two Styles Available: Non-Contact Magnetic and Non-Contact Coded Magnetic

Both style switches provide a wide (>10mm) sensing distance and a high tolerance to misalignment after sensing. Both styles are available with plastic and stainless steel housings. Up to ten magnetic or four coded switches can be connected in series to one of our Dold safety relays.

Non-Contact Magnetic Safety Switches

These are simple magnetic reed switches and are designed to conform to IEC 60947-5-3 and be used as directed by EN1088, EN ISO12100 and EN 60204-1.



Non-Contact Coded Magnetic Safety Switches

Coded non-contact safety switches use coded magnets to close the circuits, thereby offering even more protection. The safety switch and actuator work together in such a way that the enable condition from the safety device is only triggered if the actuating element is within the switch's response range and the code on the actuator matches that of the switch.

All coded non-contact safety switches are designed to conform to IEC 60947-5-3 and be used as directed by EN1088, EN ISO12100 and EN 60204-1.

When used in combination with a dual channel safety relay, non-contact coded switches can be used to provide protection up to Category 4 and Ple to ISO13849-1.

