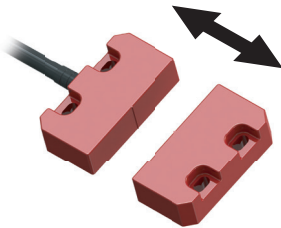


# IDEM SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches



**Actuator Operating Direction**



**SPC, SMC  
SMC-F**

## SPC Series Plastic Housing

## SMC Series Stainless Steel Housing

## SMC-F Series Stainless Steel Housing Rear Mount

- 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
- Available with 2m, 5m, or 10m cable or 250mm pigtail with quick-disconnect 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.**

SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
<b>Pigtail Versions</b>					
SPC-111005	\$72.00	Plastic	2m	2 NC, 1 NO	0.2A
SPC-111006	\$82.00		5m		
SPC-111007	\$95.00		10m		
SMC-139005	\$123.00	Stainless steel	2m		
SMC-139006	\$135.00		5m		
SMC-139007	\$148.00		10m		
SMC-F-137006	\$135.00		5m		
<b>Quick Disconnect Versions (M12 8-pin)</b>					
SPC-111008	\$102.00	Plastic	250mm	2 NC, 1 NO	0.2A
SMC-139008	\$155.00	Stainless steel	250mm		

Female Quick Disconnect Lead			
Part Number	Price	Description	Exit Type/Cable Length
140101	\$30.00	Female QD Lead	M12 Female 5m, 8-pin
140102	\$37.50		M12 Female 10m, 8-pin



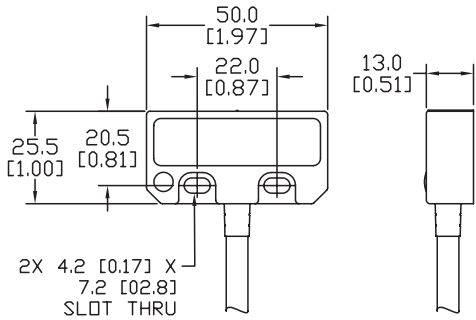
# IDEM SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches

## Dimensions

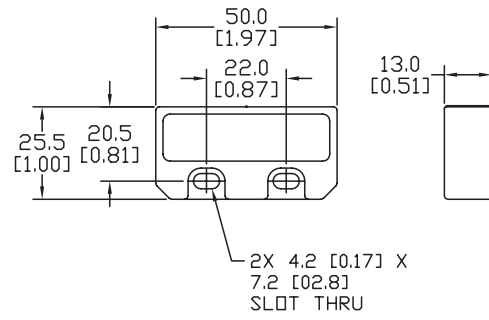
mm [inch]

### SPC Series

#### Pigtail

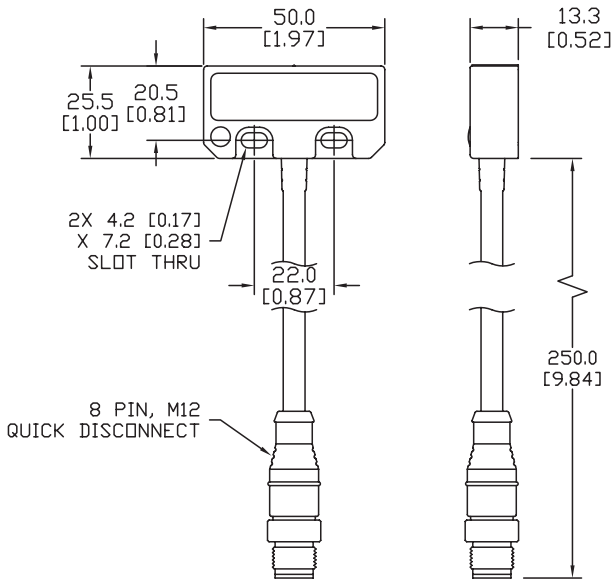


SWITCH

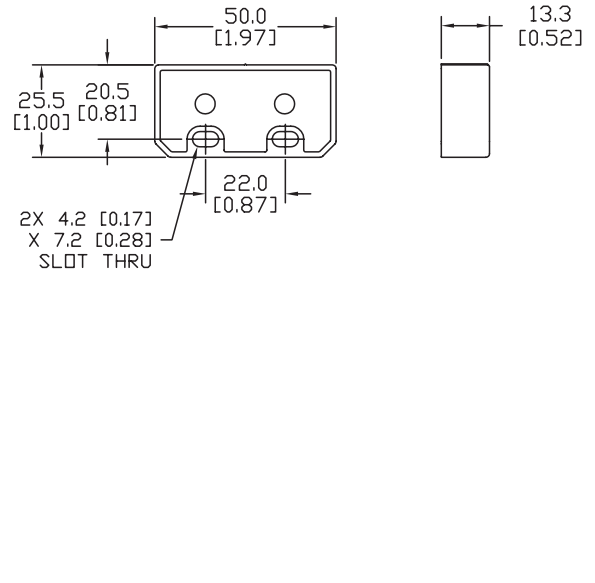


ACTUATOR

#### Quick Disconnect



SWITCH



ACTUATOR

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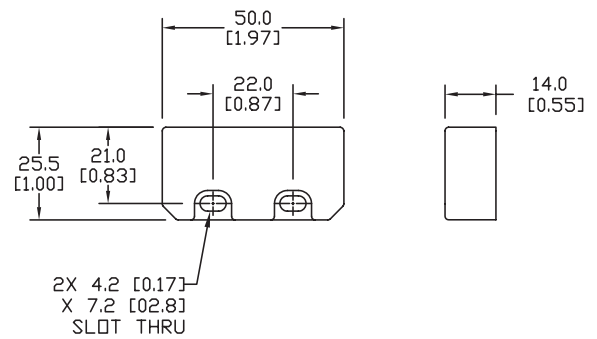
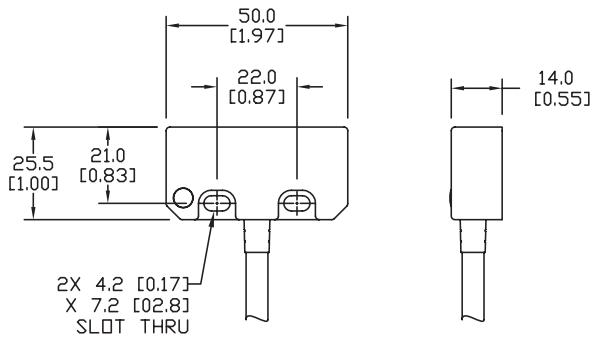
# IDEM SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches

## Dimensions

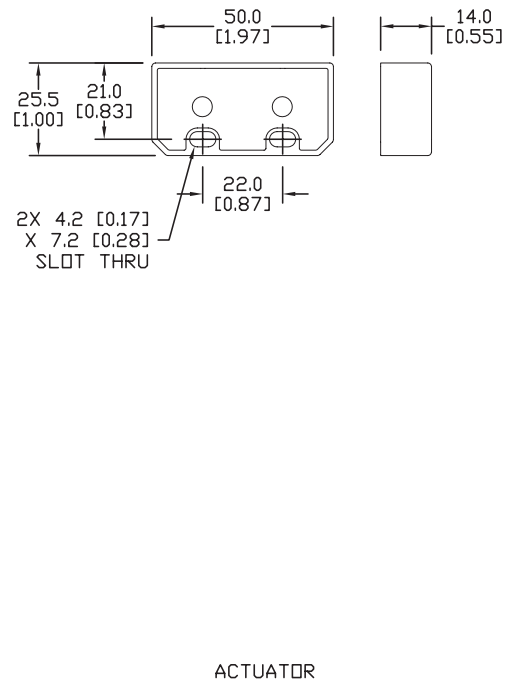
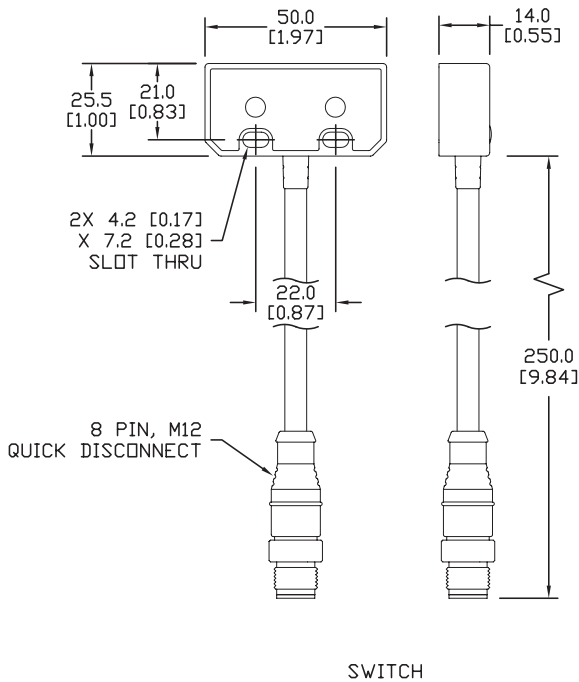
mm [inch]

### SMC Series

#### Pigtail



#### Quick Disconnect



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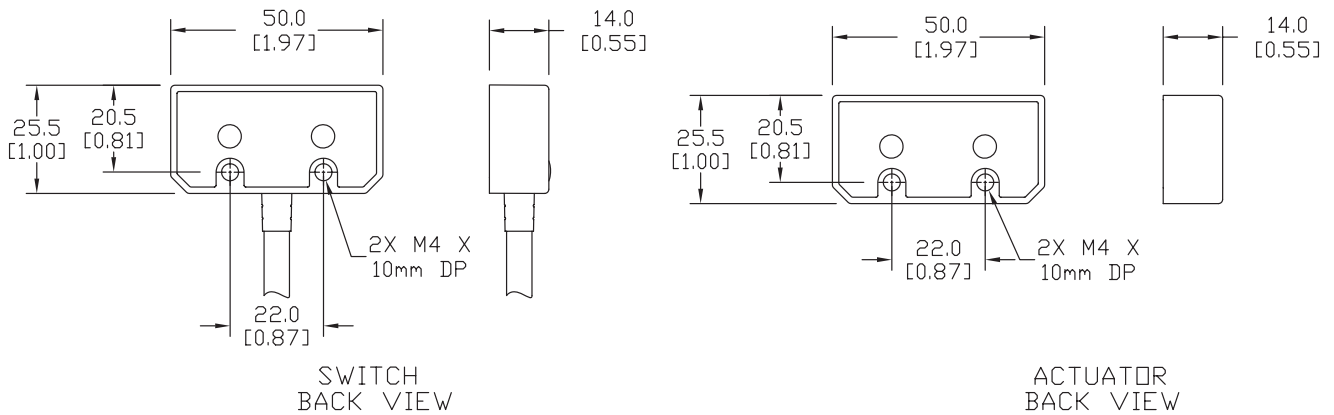
# IDEM SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches

## Dimensions

mm [inch]

### SMC-F Series

#### Pigtail

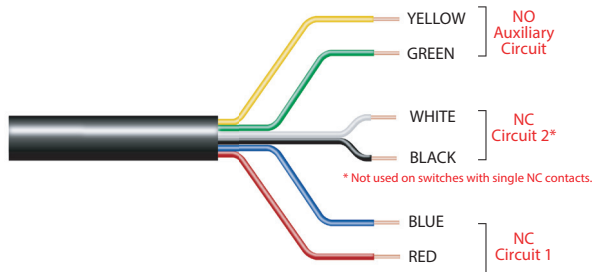


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# IDEM Non-Contact Safety Switches Electrical Connections and Dimensions

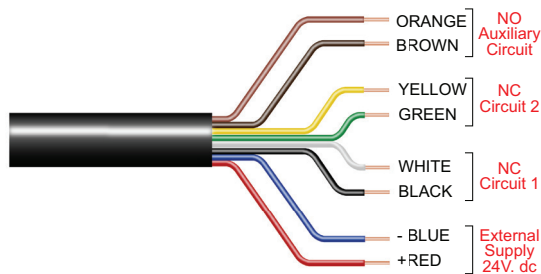
## Electrical Connections

### Magnetic Switches



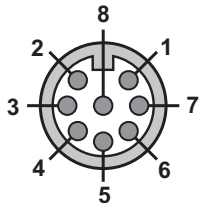
Magnetic Switches - Electrical Connections		
Quick Disconnect Connector Pin Out	Lead Color	Type of Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

### Coded Magnetic and RFID Switches



Coded Magnetic Switches - Electrical Connections			
Quick Disconnect Connector Pin Out	Lead Color	Type of Circuit (Actuator Present)	Output Types (Solid State)
8	Orange	Auxiliary (NO)	200 mA max. 24 VDC
5	Brown	Auxiliary (NO)	
4	Yellow	NC2 +	200 mA max. 24 VDC (Optocoupler)
6	Green	NC2 -	
7	Black	NC1 +	200 mA max. 24 VDC (Optocoupler)
1	White	NC1 -	
2	Red	Supply +24 VDC	Supply 24 VDC +10% / -15%
3	Blue	Supply 0VDC	

### Connection Colors



Pin View from Switch  
M12 Male

# IDEM Non-Contact Safety Switches Specifications

Non-contact Safety Switches Specifications			
	Non-Contact Magnetic Switches	Non-Contact Coded Magnetic Switches	Non-Contact RFID Coded Switches
<b>Safety Classification and Reliability Data</b>			
<b>Switching Reliability (B10d)</b>	3.3 x 10 <sup>6</sup> operations at 100 mA load		No mechanical parts implemented
<b>ISO 13849-1</b>	Up to category 4 with safety relay		
<b>ISO 13849-1</b>	Up to PLe depending upon system architecture		
<b>EN 62061</b>	Up to SIL3 depending upon system architecture		
<b>Safety Data - Annual Usage</b>	8 cycles per hour / 24 hours per day / 365 days		
<b>PFHd</b>	2.8 x 10 <sup>-10</sup>	2.6 x 10 <sup>-10</sup>	4.77 x 10 <sup>-10</sup>
<b>Proof Test Interval (Life)</b>	20 Years		
<b>MTTFd</b>	866 Years		1100 years
<b>Agency Approvals</b>	CE, cULus		
<b>Electrical and General Specifications</b>			
<b>Contact Ratings: Safety Contact NC</b>	MPR: Voltage free: 250 VAC, 0.5 A Max. LPR, LMR, SPR, SMR, SMR-F: Voltage free: 250 VAC, 1.0A Max.	24 VDC, 0.2A Max. (Optocoupler)	
	CPR, CMR, CMR-F, WPR: Voltage free: 250 VAC, 2.0A Max.		
<b>Contact Ratings: Monitoring (Auxiliary) Contact NO</b>	Voltage free: 24 VDC, 0.2A Max.	24 VDC, 0.2A Max.	
<b>Recommended Fuses (NC Circuits)</b>	MPR: Fuse externally 0.4A (F)	NA	
	LPR, LMR, SPR, SMR, SMR-F, CMR, CMR-F: Fuse externally 0.8A (F)		
	CPR, WPR: Fuse externally 1.6A (F)		
<b>Contact Release Time</b>	<2ms	NA	
<b>Initial Contact Resistance</b>	<500 milliohm	NA	
<b>Minimum Switched Current</b>	10 VDC, 1mA		
<b>Dielectric Withstand</b>	250 VAC		
<b>Insulation Resistance</b>	100 Megohms		
<b>Recommended Setting Gap</b>	5mm		
<b>NC Switching Distance</b>	Sao (assured ON) 8mm close; Sar (assured OFF) 20 mm open		
<b>NO Switching Operation</b>	Opens before NC circuits close		
<b>Tolerance to Misalignment</b>	5mm in any direction from 5mm setting gap (See Misalignment Range drawing on this page)		
<b>Switching Frequency</b>	1.0 Hz Max.		
<b>Approach Speed</b>	200 mm per minute to 1000 mm per second		
<b>Body Material - Polyester</b>	CPR, LPR, MPR, SPR, WPR	CPC, LPC, MPC, SPC, WPC	LPF, SPF
<b>Body Material - 316 Stainless Steel</b>	CMR, CMR-F, LMR, SMR, SMR-F	CMC, CMC-F, LMC, SMC, SMC-F	NA
<b>Temperature Range</b>	Polyester: -25° to +80°C (-13° to +176° F)		
	316 Stainless Steel: -25° to +105° C (-13° to +221° F)		NA
<b>Enclosure Protection</b>	IP67, IP69K		
<b>Shock Resistance</b>	IEC 68-2-27 11 ms 30g		
<b>Vibration Resistance</b>	IEC 68-2-6 10-55 Hz 1mm		
<b>Cable Type</b>	PVC, 6.5 mm outside diameter max.		PVC, 6mm outer diameter max.
<b>Mounting Bolts (recommended)</b>	2 x M4; Tightening torque: 1.0 Nm		

Note: Always mount onto non-Ferrous materials.

