



#### **Actuator Operating Direction**



## **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

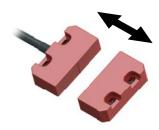
#### **SMC Series Only**

- 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 SMC-F

SPC, SMC, and SMC-F Non-Contact Coded Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Rating
Pigtail Versions					
SPC-111005	\$102.00		2m	2 NC, 1 NO	0.2A
SPC-111006	\$112.00	Plastic	5m		
SPC-111007	\$127.00		10m		
SMC-139005	\$184.00	Stainless steel	2m		
SMC-139006	\$194.00		5m		
SMC-139007	\$211.00		10m		
SMC-F-137006	\$194.00		5m		
Quick Disconnect Versions (M12 8-pin)					
SPC-111008	\$134.00	Plastic	250mm	2 NC, 1 NO	0.2A
SMC-139008	\$218.00	Stainless steel	250mm	Z INO, I INO	

Female Quick Disconnect Lead					
Part Number Price Description Ex		Exit Type/Cable Length			
<u>140101</u>	\$60.00	Famala OD Load	M12 Female 5m, 8-pin		
<u>140102</u>	\$91.00	Female QD Lead	M12 Female 10m, 8-pin		

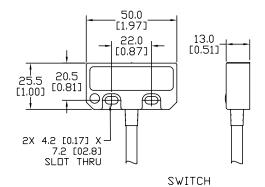


### **Dimensions**

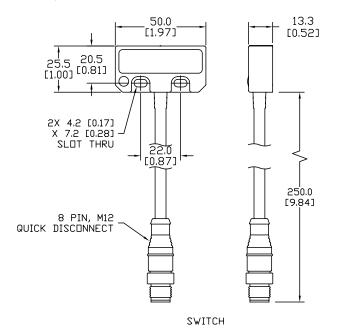
mm [in]

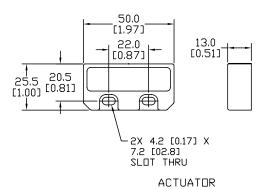
**SPC Series** 

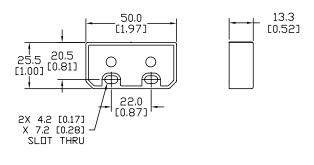
#### **Pigtail**



#### **Quick Disconnect**







ACTUATOR

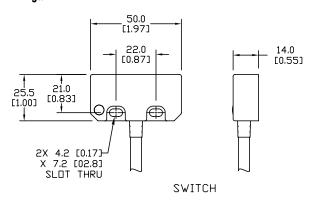
See our website: www.AutomationDirect.com for complete Engineering drawings.

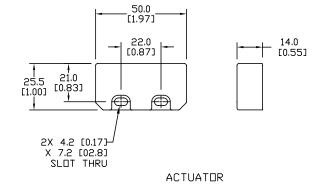
### **Dimensions**

mm [in]

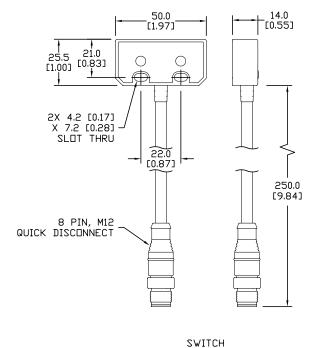
**SMC Series** 

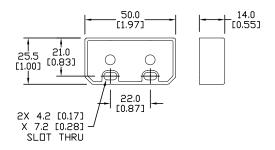






#### **Quick Disconnect**





**ACTUATOR** 

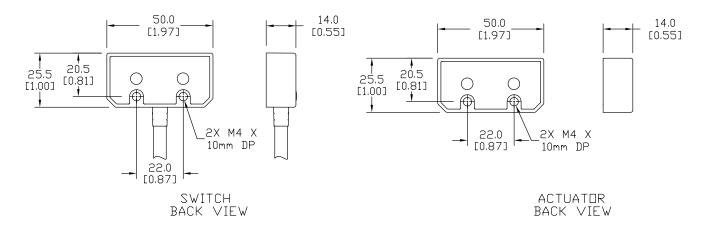
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### **Dimensions**

mm [in]

**SMC-F Series** 

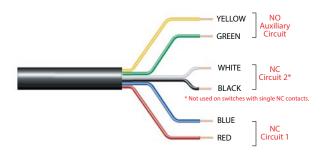
**Pigtail** 



## IDEM Non-Contact Safety Switches Electrical Connections and Dimensions

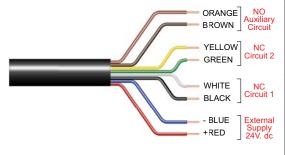
### **Electrical Connections**

#### **Magnetic Switches**



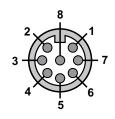
Magnetic Switches - Electrical Connections			
Quick Disconnect Connector Pin Out	Lead Color	Type of Circuit (Actuator Present)	
4	Yellow	Auxiliary (NO)	
6	Green	Auxiliary (NO)	
7	Black	NC2	
1	White	NC2	
2	Red	NC1	
3	Blue	NC1	

#### **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**

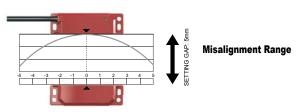


Pin View from Switch M12 Male

# **IDEM Non-Contact Safety Switches Specifications**

	Non-contact Safety Swi	tches Specifications		
	Non-Contact Magnetic Switches	Non-Contact Coded Magnetic Switches	Non-Contact RFID Coded Switches	
Safety Classification and Reliability Data		Non-contact coucu magnetic owneres	Non-Comact III ID Coucu Gwitches	
Switching Reliability (B10d)	3.3 x 10 <sup>6</sup> operations at 100mA load	No machanical parts implemented	No mechanical parts implemented	
			No mechanical parts implemented	
ISO 13849-1	Up to Category 4			
ISO 13849-1	Up to PLe depending upon system architecture			
EN 62061	Up to SIL3 depending upon system architecture			
Safety Data - Annual Usage	2.2 40.10	8 cycles per hour / 24 hours per day / 365 days	4 77 40 10	
PFHd	2.8 x 10 <sup>-10</sup>	2.6 x 10 <sup>-10</sup>	4.77 x 10 <sup>-10</sup>	
Proof Test Interval (Life)	1-2	20 years	1	
MTTFd	470 years	866 years	1100 years	
Agency Approvals		CE, cULus		
Electrical and General Specifications				
	MPR: Voltage free: 250VAC, 0.5 A max.		24VDC, 0.2 A max (optocoupler)	
	LPR, LMR, SPR, SMR, SMR-F: Voltage free: 250VAC, 1.0 A max.	24VDC, 0.2 A max (optocoupler)		
Contact Ratings: Safety Contact NC	CPR, CMR, CMR-F, WPR: Voltage free: 250VAC, 2.0 A max.			
	BPR, BMR: 240VAC, 24VAC/DC, 1.0 A max.			
Contact Ratings: Monitoring (Auxilary) Contact NO	Voltage free: 24VDC, 0.2 A max.	24VDC, 0.2A max.	24VDC, 0.2A max.	
Contact NO			NA	
	MPR: Fuse externally 0.4 A (F)			
	LPR, LMR, SPR, SMR, SMR-F, CMR, CMR-F: Fuse externally 0.8 A (F)	NA		
Recommended Fuses (NC Circuits)	CPR, WPR: Fuse externally 1.6 A (F)	NA		
	BPR, BMR:			
	Fuse externally 0.5 A (F)			
Contact Release Time	<2ms	NA	NA	
Initial Contact Resistance	<0.5 Ω	NA	NA	
Minimum Switched Current		10 DC, 1mA		
Dielectic Withstand	250VAC			
Insulation Resistance		100 Megohms		
Recommended Setting Gap		5mm [0.20 in]		
NC Switching Distance	Sao (assured ON) 8mm [0.31 in] close; Sar (assured OFF) 20mm [0.79 in] open			
NC Switching Operation	For all switches the NC circuits are closed when the guard is closed and the actuator is present.			
NO Switching Operation	Opens before NC circuits close			
Tolerance to Misalignment	5mm [0.20 in] in any direction from 5mm [0.20 in] setting gap (See Misalignment Range drawing on this page)			
Switching Frequency	1.0 Hz Max.			
Approach Speed	200mm [7.87 in] per minute to 1000mm [39.37] per second		cond	
Body Material - Polyester	CPR, LPR, MPR, SPR, WPR, BPR	CPC, LPC, MPC, SPC, WPC	LPF, SPF, BPF	
Body Material - 316 Stainless Steel	CMR, CMR-F, LMR, SMR, SMR-F, BMR	CMC, CMC-F, LMC, SMC, SMC-F	LMF, BMF	
	Polyester: -25° to +80°C (-13° to +176° F)			
Operating Temperature Range	316 Stainless Steel: -25° to +105° C [-13° to +221° F]	316 Stainless Steel: -25° to +105° C [-13° to +221° F]	-25° to +80° C [-13° to +176° F]	
Storage Temperature (Low)		-55° to -40° C [-67° to -40° F]	1	
Enclosure Protection	IP67, IP69K (QC versions are IP67 due to connector)		or)	
Shock Resistance	IEC 68-2-27 11ms 30g		,	
Vibration Resistance	IEC 68-2-6 10-55 Hz 1mm [0.04 in]			
Cable Type	PVC, 6.5 mm outside diameter max.	PVC, 6.5 mm outside diameter max.	PVC, 6mm [0.24 in] outer diameter max.	
Mounting Bolts (recommended)		2 x M4; Tightening torque: 1.0 N•m [0.74 lb•ft]	1	
Note: Alugue mount ente non forreus meterials	1	,g		

Note: Always mount onto non-ferrous materials.



# **Safety Products**



Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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