1-800-633-0405 IDEM CPR, CMR, and CMR-F Heavy Duty **Non-Contact Magnetic Safety Switches**





Actuator Operating Direction

CPR Series Plastic Housing

CMR Series Stainless Steel Housing

CMR-F Series Stainless Steel Housing Rear Mount

- Slim 20mm wide housing can be fitted into narrow channels
- · Can be high-pressure hosed at high temperature - IP69K rated
- Wide 12 mm sensing, high tolerance to misalignment
- High switching capability up to 2A
- Will operate with most safety relays
- · Codes are not unique and can be used with other models of the same series
- Available with 2m, 5m, or 10m cable or 250mm pigtail with quick-disconnect cable

CMR Series, CMR-F Only

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

CMR-F Only

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

See Dimensions later in this section.



CPR, CMR, and CMR-F Non-Contact Magnetic Safety Switches					
Part Number	Price	Body Material	Cable Length	Circuits	Contact Type / Rating
		l	Pigtail Version	·	
CPR-113013	\$122.00		2m		
<u>CPR-113014</u>	\$131.00	Plastic	5m		Here data (20
CPR-113015	\$147.00		10m		
CMR-138030	\$189.00		5m	1 NC, 1 NO	Heavy duty / 2A
<u>CMR-138031</u>	\$205.00	Stainless steel	10m		
CMR-F-135030	\$189.00		5m		
		Quick Disco	nnect Version (M12 8-pin)		
CPR-113008	\$175.00	Plastic	250mm	1 NO 1 NO	Heavy duty / 2A
CMR-138024	\$234.00	Stainless steel	250mm	1 NC, 1 NO	

Female Quick Disconnect Lead				
Part Number	Price	Description	Exit Type/Cable Length	
<u>140101</u>	\$59.00		M12 Female 5m, 8-pin	
<u>140102</u>	\$88.00	Female QD Lead	M12 Female 10m, 8-pin	



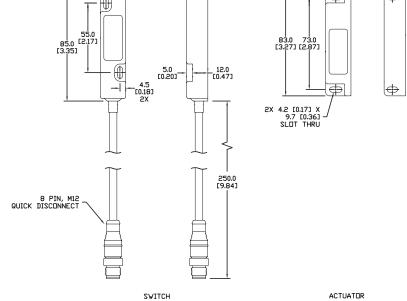
IDEM CPR, CMR, and CMR-F Heavy Duty Non-Contact Magnetic Safety Switches

Dimensions

mm [in]

CPR Series

....... Pigtail 17.0 [0.67] 20.0 [0.79] 17.0 [0.67] 20.0 8.0 [0.31] 6.5 [0.26] 11.0 2X 5.0 [0.43] [0.20] 5.0 [0.20] 5.0 [0.20] 7.5 [0.30] \oplus Ð Ð 83.0 [3,27] 55.0 [2.17] 73.0 [2.87] 73.0 [2.87] 85.0 [3.35] 4.2 [0.17] X-9.7 [0.38] SLOT THRU 2X 4.2 [0.17] X-9.2 [0.36] SLDT THRU 2X 2X 4.2 [0.17] X-8.2 [0.32] SLDT THRU SWITCH ACTUATOR **Quick Disconnect** 2X 4.2 [0.17] X 9.7 [0.36] SLOT THRU 20.0 [0.79] 20.0 [0.79] 8.0 [0.31] 5.0 7.5 [0.30] [0.20] $\overline{\oplus}$ \oplus 0



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

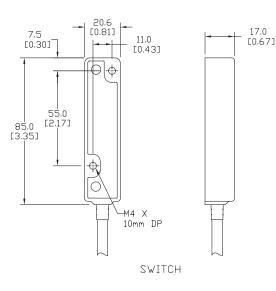
IDEM CPR, CMR, and CMR-F Heavy Duty Non-Contact Magnetic Safety Switches

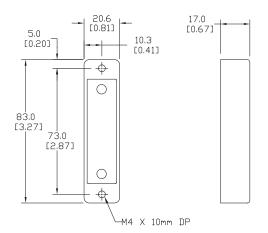
Dimensions

mm [in]

CMR-F Series

Pigtail





ACTUATOR

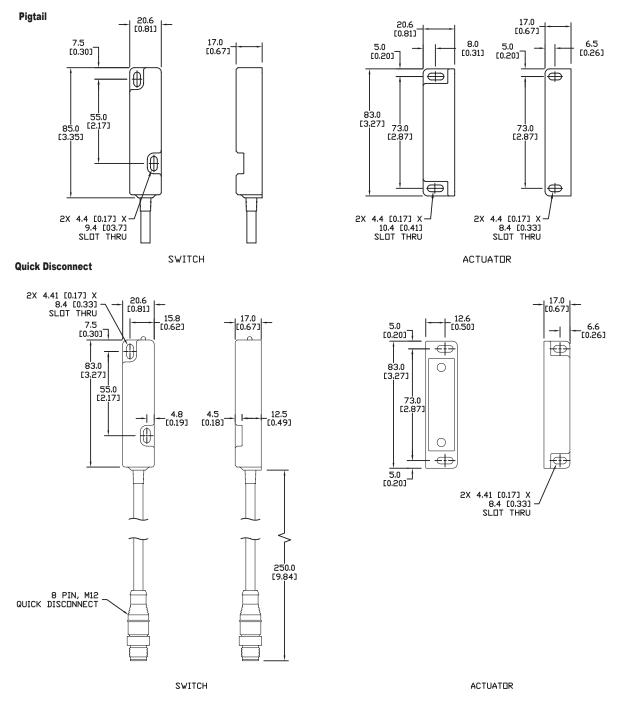
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1-800-633-0405 IDEM CPR, CMR, and CMR-F Heavy Duty **Non-Contact Magnetic Safety Switches**

Dimensions

mm [in]

CMR Series

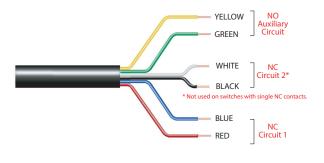


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IDEM Non-Contact Safety Switches Electrical Connections and Dimensions

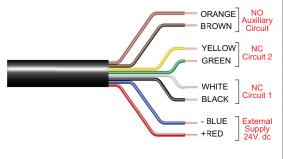
Electrical Connections

Magnetic Switches



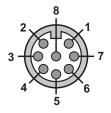
Magnetic Switches - Electrical Connections				
Quick Disconnect Connector Pin Out	Lead Color	Type of Circuit (Actuator Present)		
4	Yellow	Auxiliary (NO)		
6	Green	Auxiliary (NO)		
7	Black	NC2		
1	White	NC2		
2	Red	NC1		
3	Blue	NC1		

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

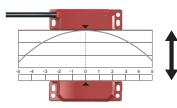


Pin View from Switch M12 Male

1-800-633-0405 **IDEM Non-Contact Safety Switches Specifications**

		tches Specifications		
	Non-Contact Magnetic Switches	Non-Contact Coded Magnetic Switches	Non-Contact RFID Coded Switche	
Safety Classification and Reliability Data			1	
Switching Reliability (B10d)	3.3 x 10 ⁶ operations at 100mA load	No mechanical parts implemented	No mechanical parts implemented	
SO 13849-1	Up to Category 4			
SO 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	2.8 x 10 ⁻¹⁰	2.6 x 10 ⁻¹⁰	4.77 x 10 ⁻¹⁰	
Proof Test Interval (Life)		20 years	,	
MTTFd	470 years	866 years	1100 years	
Agency Approvals		CE, cULus		
Electrical and General Specifications				
	MPR: Voltage free: 250VAC, 0.5 A max.			
	LPR, LMR, SPR, SMR, SMR-F: Voltage free: 250VAC, 1.0 A max.	24VDC, 0.2 A max (optocoupler)	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.	
Recommended Fuses (NC Circuits)	MPR: Fuse externally 0.4 A (F) LPR, LMR, SPR, SMR, SMR-F, CMR, CMR-F: Fuse externally 0.8 A (F) CPR, WPR: Fuse externally 1.6 A (F)	NA	NA	
	BPR, BMR: Fuse externally 0.5 A (F)			
Contact Release Time	<2ms	NA	NA	
nitial Contact Resistance	<0.5 Ω	NA	NA	
Minimum Switched Current		10 DC, 1mA		
Dielectic Withstand		250VAC		
nsulation Resistance		100 Megohms		
Recommended Setting Gap		5mm [0.20 in]		
NC Switching Distance	Sao (assured C		31 in] close; Sar (assured OFF) 20mm [0.79 in] open	
NC Switching Operation		circuits are closed when the guard is closed and		
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 Misalignmei	nt Range drawing on this page)	
Switching Frequency	1.0 Hz Max.			
Approach Speed	200n	nm [7.87 in] per minute to 1000mm [39.37] per se	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]		
Enclosure Protection	IP	67, IP69K (QC versions are IP67 due to connect	or)	
Shock Resistance		IEC 68-2-27 11ms 30g		
/ibration 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.	
			inux.	

Note: Always mount onto non-ferrous materials.



Misalignment Range

TING GAP:

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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