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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Price</th>
<th>Body Material</th>
<th>Cable Length</th>
<th>Circuits</th>
<th>Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPC-115005</td>
<td>$110.00</td>
<td>Plastic</td>
<td>2m</td>
<td>2 NC, 1 NO</td>
<td>0.2A</td>
</tr>
<tr>
<td>CPC-115006</td>
<td>$119.00</td>
<td>Plastic</td>
<td>5m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPC-115007</td>
<td>$135.00</td>
<td>Plastic</td>
<td>10m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMC-138005</td>
<td>$189.00</td>
<td>Stainless steel</td>
<td>2m</td>
<td>2 NC, 1 NO</td>
<td>0.2A</td>
</tr>
<tr>
<td>CMC-138006</td>
<td>$198.00</td>
<td>Stainless steel</td>
<td>5m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMC-F-135006</td>
<td>$198.00</td>
<td>Stainless steel</td>
<td>5m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quick Disconnect Versions (M12 8-pin)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Price</th>
<th>Body Material</th>
<th>Exit Type/Cable Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPC-115008</td>
<td>$141.00</td>
<td>Plastic</td>
<td>M12 Female 250mm, 8-pin</td>
</tr>
<tr>
<td>CMC-138008</td>
<td>$221.00</td>
<td>Stainless steel</td>
<td>M12 Female 250mm, 8-pin</td>
</tr>
</tbody>
</table>

Female Quick Disconnect Lead

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Price</th>
<th>Description</th>
<th>Exit Type/Cable Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>140101</td>
<td>$59.00</td>
<td>Female QD Lead</td>
<td>M12 Female 5m, 8-pin</td>
</tr>
<tr>
<td>140102</td>
<td>$88.00</td>
<td></td>
<td>M12 Female 10m, 8-pin</td>
</tr>
</tbody>
</table>

For the latest prices, please check AutomationDirect.com.

1-800-633-0405

See Dimensions later in this section.
IDEM CPC, CMC, and CMC-F
Non-Contact Coded Magnetic Safety Switches

Dimensions

**mm [in]**

**CPC Series**

Pigtail

Quick Disconnect

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

Dimensions

mm [in]

CMC Series

See our website: www.AutomationDirect.com for complete Engineering drawings.
IDEM CPC, CMC, and CMC-F
Non-Contact Coded Magnetic Safety Switches

Dimensions

mm [in]

CMC-F Series

Pigtail

See our website: www.AutomationDirect.com for complete Engineering drawings.
IDEM Non-Contact Safety Switches
Electrical Connections and Dimensions

**Electrical Connections**

### Magnetic Switches

<table>
<thead>
<tr>
<th>Quick Disconnect Connector Pin Out</th>
<th>Lead Color</th>
<th>Type of Circuit (Actuator Present)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Yellow</td>
<td>Auxiliary (NO)</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>Auxiliary (NO)</td>
</tr>
<tr>
<td>7</td>
<td>Black</td>
<td>NC2</td>
</tr>
<tr>
<td>1</td>
<td>White</td>
<td>NC2</td>
</tr>
<tr>
<td>2</td>
<td>Red</td>
<td>NC1</td>
</tr>
<tr>
<td>3</td>
<td>Blue</td>
<td>NC1</td>
</tr>
</tbody>
</table>

*Not used on switches with single NC contacts.*

### Coded Magnetic and RFID Switches

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

**Connection Colors**

- ORANGE
- BROWN
- YELLOW
- GREEN
- WHITE
- BLACK
- BLUE
- RED

Pin View from Switch M12 Male

For the latest prices, please check AutomationDirect.com.
# IDEM Non-Contact Safety Switches Specifications

<table>
<thead>
<tr>
<th>Safety Classification and Reliability Data</th>
<th>Non-Contact Magnetic Switches</th>
<th>Non-Contact Coded Magnetic Switches</th>
<th>Non-Contact RFID Coded Switches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Switching Reliability (B10d)</strong></td>
<td>3.3 x 10^6 operations at 100mA load</td>
<td>No mechanical parts implemented</td>
<td>No mechanical parts implemented</td>
</tr>
<tr>
<td>ISO 13849-1</td>
<td>Up to Category 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO 13849-1</td>
<td>Up to PLe depending upon system architecture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN 62061</td>
<td>Up to SIL3 depending upon system architecture</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety Data - Annual Usage</strong></td>
<td>8 cycles per hour / 24 hours per day / 365 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PFHd</strong></td>
<td>2.8 x 10^{-10}</td>
<td>2.6 x 10^{-10}</td>
<td>4.77 x 10^{-10}</td>
</tr>
<tr>
<td><strong>Proof Test Interval (Life)</strong></td>
<td>20 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MTTFd</strong></td>
<td>470 years</td>
<td>866 years</td>
<td>1100 years</td>
</tr>
</tbody>
</table>

## Agency Approvals
- CE, cULus

## Electrical and General Specifications

### Contact Ratings: Safety Contact NC
- MPR: Voltage free: 250VAC, 0.5 A max.
- LPR, LMR, SPR, SMR, SMR-F: Voltage free: 250VAC, 1.0 A max.
- CPR, CMR, CMR-F, WPR: Voltage free: 250VAC, 2.0 A max.
- BPR, BMR: 240VAC, 24VAC/DC, 1.0 A max.

### Contact Ratings: Monitoring (Auxiliary) Contact NO
- Voltage free: 24VDC, 0.2 A 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)
- BPR, BMR: Fuse externally 0.5 A (F)

### Contact Release Time
- <2ms

### Initial Contact Resistance
- <0.5 Ω

### Minimum Switched Current
- 10 DC, 1mA

### Dielectric Withstand
- 250VAC

### Insulation Resistance
- 100 Megohms

### Recommended Setting Gap
- 5 mm [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
- 5 mm [0.20 in] in any direction from 5 mm [0.20 in] setting gap (See Misalignment Range drawing on this page)

### Switching Frequency
- 1.0 Hz Max.

### Approach Speed
- 200 mm [7.87 in] per minute to 1000 mm [39.37] per second

### Body Material - Polyester
- CPC, LPC, MPC, SPC, WPC

### Body Material - 316 Stainless Steel
- CMR, CMR-F, LMR, SMR, SMR-F, BMR

### 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
- IP67

### 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.

### Mounting Bolts (recommended)
- 2 x M4; Tightening torque: 1.0 N•m [0.74 lb•ft]

Note: Always mount onto non-ferrous materials.

[Diagram of Misalignment Range]
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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