



MICRO SWITCH™  
Weather-Sealed,  
Explosion-Proof Switches  
**CX Series**



# MICRO SWITCH™ CX Series

## Weather-Sealed, Explosion-Proof Switches

MICRO SWITCH™ CX switches are built especially for outdoor use in hazardous atmospheres. These enclosures are constructed to withstand the pressure of an internal explosion. Flame paths cool the exploded gases to a point less than the lowest safe operating temperature of the surrounding gas.

MICRO SWITCH™ 80CX Series switches have rugged bronze housings that are designed to be resistant to salt water and other corrosive environments. They comply with the NEMA 4X requirement for protection against corrosion, in addition to NEMA enclosure standards met by other CX switches.

The product's o-ring seals make the enclosure rain tight, but are outside of required flame paths so explosion proof requirements are maintained. Unless special ordered, all basic switches operate on clockwise and counterclockwise rotation. The actuating mechanism can be field adjusted for CW or CCW operation only. No tools are required.

### ***What makes our switches better?***

- Building block design allows for digital switching outputs, or 4 mA to 20 mA analog output, or digital switching outputs with a 4 mA to 20 mA analog output
- Weather sealed to NEMA and IP ratings
- UL, CSA, ATEX, IEC Ex, INMETRO certified for hazardous (explosive) environments
- Designed with the end user in mind, these switches help to create user-friendly interfaces with broad application possibilities to help meet the challenges of many different environments
- Available with gold contacts, low-temp seals, and bronze corrosion-resistant housing



COST OPTIMIZATION  
RELIABILITY • GLOBALLY ACCEPTED

## Features and Benefits

### WELL-SUITED FOR EXPLOSIVE ENVIRONMENTS

MICRO SWITCH™ CX Series switches are certified for applicable portions of **NEMA 7 and 9** for hazardous locations (explosive environments). Select CX switches are certified to ATEX, IEC Ex, and INMETRO specifications for global applications.

*Available with digital or analog outputs*

### WATERTIGHT AND DUST-TIGHT FOR OUTDOOR USE

Due to its engineering design and sealing (NEMA 1, 3, 4, 4X, 6, 6P, and 13), the MICRO SWITCH™ CX Series is rated for **rain, wind, snow, ice, and blowing dust environments**.

### CORROSION RESISTANT

Bronze housing material is available on 80CX Series catalog listings.

### 4 MA TO 20 MA ANALOG OUTPUT AVAILABLE

Allows for use in accurate positioning applications, such as those found on seaside grain and fuel-loading docks, oil and gas wells, refineries, chemical plants, and more.

### MEETS HAZARDOUS AREA REQUIREMENTS

UL Listed, file #E14274, Analog UL file #E68247, CSA Certified, file #LR57324, ATEX certificate KEMA 01ATEX2111 X, IEC Ex certificate IEC Ex TSA 06.003X, and INMETRO certificate TUV 14.0553.

### OPTIONAL HOUSING CHOICES

CX Series switches offer a **choice of rugged cast aluminum or bronze housings**. Both housings withstand harsh environments, and bronze is available for use in corrosive environments.

### UNIQUE DESIGN FEATURES

Featuring **field-adjustability**, the CX Series allows pretravel, overtravel, and actuating sequence to be field adjusted without tools (all basics can be adjusted individually). Rotary types convert in seconds to clockwise, counterclockwise, or both-way operation. These features **may help to reduce set up time** while allowing for quick and easy changes to switch operation.

# Potential Applications



## INDUSTRIAL

- Seaside grain and fuel loading docks that may require explosion proof and corrosion resistant switches
- Oil and gas wells, refineries, and fuel storage facilities that may require explosion proof and corrosion resistant switches
- Chemical plants with corrosive environments



**Table 1. Specifications**

| Characteristic              | Parameter                                                                                                                                                                                                                                                 |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Actuators                   | side rotary (choice of levers), side rotary (with flat shaft), plunger actuator                                                                                                                                                                           |
| Housing material            | aluminum with electrostatic epoxy coating or corrosion resistant bronze                                                                                                                                                                                   |
| Termination                 | 3/4 x 14 NPT, M25 x 1,5 mm conduit                                                                                                                                                                                                                        |
| Sealing                     | NEMA 1, 3, 4, 4X, 6, 6P, and 13; IP66                                                                                                                                                                                                                     |
| Hazardous area designations | NEMA 7: Class I, Div.1 & Div. 2, Groups B (14CX, 16CX, 24CX, 26CX, 36CX only), C, and D;<br>NEMA 9: Class II, Div.1 & Div. 2, Groups E, F, and G<br>ATEX/IEC Ex, INMETRO (Gas) II 2 G; Exd IIC T6<br>ATEX/IEC Ex, INMETRO (Dust) II 2 D; Exd tD A21 T85°C |
| Operating temperature       | -25 °C to 85 °C [-13 °F to 185 °F]                                                                                                                                                                                                                        |
| Agency approvals            | UL Listed, file #E14274, Analog UL file #E68247<br>CSA Certified, file #LR57324<br>ATEX certificate KEMA 01ATEX2111 X<br>IEC Ex certificate IEC Ex TSA 06.003X<br>INMETRO certificate TUV 14.0553                                                         |

**Table 2. Electrical Ratings (in amperes)**

| Rating Code | Switch Description                      | UL/CSA                                                                                    |
|-------------|-----------------------------------------|-------------------------------------------------------------------------------------------|
| A           | BZ basic switch, SPDT                   | 15 A 120/240/480 Vac; 1/8 HP, 120 Vac<br>1/4 HP, 240 Vac; 0.5 A, 125 Vdc; 0.25 A, 250 Vdc |
| B           | BA basic switch, SPDT                   | 20 A 120/240/480 Vac; 1 HP, 120 Vac; 2 HP, 240 Vac;<br>0.5 A, 125 Vdc; 0.25 A, 250 Vdc    |
| C           | DT basic switch, DPDT                   | 10 A 120/240/480 Vac, 0.3 A 125 Vdc; 0.15 A, 250 Vdc                                      |
| D           | HS basic switch (hermetic sealed), SPDT | 1 A, 125 Vac; 5 A, 28 Vdc                                                                 |
| F           | BZ basic switch (gold contacts) SPDT    | 1 A, 125 Vac                                                                              |

**Table 3. Analog Position Sensing Specifications**

| Specification            | Parameter                                        |
|--------------------------|--------------------------------------------------|
| Voltage compliance range | 12.5 Vdc to 40 Vdc                               |
| Replacement PC board     | 15PA261-CX                                       |
| Current signal output    | 4 mA to 20 mA                                    |
| Span                     | Adjustable from 15 ° to 90 ° of angular rotation |
| Null                     | 4 mA position may be set at any angular position |

# MICRO SWITCH™ Weather-Sealed, Explosion-Proof Switches

## PRODUCT NOMENCLATURE

|                                                                      | 1<br>↓<br>Housing Style &<br>Actuator Type                               | 1<br>↓<br>Circuitry                                                | CX<br>↓<br>Switch<br>Type | 2<br>↓<br>Switches                                       | ↓<br>Additional<br>Options                                     |
|----------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------|----------------------------------------------------------|----------------------------------------------------------------|
| Switch Type<br><b>CX</b> Series<br>Hazardous<br>Area<br>Limit Switch | <b>1</b> Short housing,<br>side rotary                                   | <b>1</b> 15 A, SPDT<br>basic switch/es                             | <b>CX</b> Momentary       | <b>0</b> 4 mA to 20 mA                                   | Non-threaded<br>thru holes                                     |
|                                                                      | <b>2</b> Standard housing,<br>side rotary                                | <b>2</b> 20 A, SPDT<br>basic switch/es                             | <b>CX1</b> Maintained     | <b>1</b> One switch                                      | <b>A</b> Side mounting,<br>5/16-18(8)                          |
|                                                                      | <b>3</b> Short housing,<br>plunger actuator                              | <b>4</b> 10 A, DPDT<br>basic switch/es                             |                           | <b>2</b> Two switches                                    | <b>B</b> Thru mounting,<br>3/8-24(4)                           |
|                                                                      | <b>4</b> Standard housing,<br>plunger actuator                           | <b>6</b> 1 A, SPDT,<br>hermetically sealed<br>basic switch/es      |                           | <b>3</b> Three switches                                  | <b>C</b> Low temperature                                       |
|                                                                      | <b>6</b> Short housing,<br>black epoxy                                   | <b>8</b> 4 mA to 20 mA output<br>for position sensing              |                           | <b>4</b> Four switches                                   | <b>E</b> ATEX/IEC Ex/<br>INMETRO certified<br>with cover clamp |
|                                                                      | <b>7</b> Stand. housing, bronze<br>material, 5/16-18<br>UNC-2B mtg holes | <b>172</b> 1 A, SPDT, gold-<br>plated contacts,<br>basic switch/es |                           | <b>5</b> Two switches,<br>one CW oper.,<br>one CCW oper. | <b>M</b> Metric,<br>M25 x 1.5 conduit                          |
|                                                                      | <b>8</b> Standard housing,<br>bronze material                            |                                                                    |                           |                                                          | <b>D01</b> Flat shaft                                          |
|                                                                      | <b>9</b> Switch assemblies<br>(replacement)                              |                                                                    |                           |                                                          | <b>00</b> Or other numbers,<br>various specials                |

Other special configurations may be available.  
For more information, contact your Honeywell representative.

# CX Series

**Table 4. Order Guide**

When factory assembled, all basic switches operate on a clockwise and counter clockwise rotation. The actuating mechanism can be field adjusted for CW or CCW operation only. No tools are required. For listings not shown, contact your Honeywell representative.

|                                                                                     | Cat. Listing <sup>1</sup> | Housing Material      | Cover Size | Switch Action <sup>2</sup> | Basic Switch Type, Quantity, Circuitry | Electrical Rating (Page 4) |  |
|-------------------------------------------------------------------------------------|---------------------------|-----------------------|------------|----------------------------|----------------------------------------|----------------------------|--|
|    | <b>11CX12</b>             | Epoxy-coated aluminum | Short      | Maintained                 | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>11CX12E</b>            | Epoxy-coated aluminum | Short      | Maintained                 | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>11CX2</b>              | Epoxy-coated aluminum | Short      | Momentary                  | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>11CX2E</b>             | Epoxy-coated aluminum | Short      | Momentary                  | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>1172CX2</b>            | Epoxy-coated aluminum | Short      | Momentary                  | BZ (2), SPDT each                      | F (1 A)                    |  |
|                                                                                     | <b>11CX5C</b>             | Epoxy-coated aluminum | Short      | Momentary                  | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>11CX212</b>            | Epoxy-coated aluminum | Short      | Maintained                 | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>12CX12</b>             | Epoxy-coated aluminum | Short      | Maintained                 | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX12-D01</b>         | Epoxy-coated aluminum | Short      | Maintained                 | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX15-D01</b>         | Epoxy-coated aluminum | Short      | Maintained                 | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX2</b>              | Epoxy-coated aluminum | Short      | Momentary                  | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX2A</b>             | Epoxy-coated aluminum | Short      | Momentary                  | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX2AE</b>            | Epoxy-coated aluminum | Short      | Momentary                  | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX5E</b>             | Epoxy-coated aluminum | Short      | Momentary                  | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>12CX200</b>            | Epoxy-coated aluminum | Short      | Maintained                 | BA (2), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>14CX1E</b>             | Epoxy-coated aluminum | Short      | Momentary                  | DT (1), DPDT                           | C (10 A)                   |  |
|                                                                                     | <b>16CX1</b>              | Epoxy-coated aluminum | Short      | Momentary                  | HS (1), SPDT                           | D (1 A)                    |  |
|                                                                                     | <b>16CX1E</b>             | Epoxy-coated aluminum | Short      | Momentary                  | HS (1), SPDT                           | D (1 A)                    |  |
|                                                                                     | <b>16CX2</b>              | Epoxy-coated aluminum | Short      | Momentary                  | HS (2), SPDT each                      | D (1 A)                    |  |
|                                                                                     | <b>16CX2C</b>             | Epoxy-coated aluminum | Short      | Momentary                  | HS (2), SPDT each                      | D (1 A)                    |  |
|                                                                                     | <b>16CX12</b>             | Epoxy-coated aluminum | Short      | Maintained                 | HS (2), SPDT each                      | D (1 A)                    |  |
|  | <b>18CX0</b>              | Epoxy-coated aluminum | Short      | Momentary                  | –                                      | –                          |  |
|                                                                                     | <b>18CX10</b>             | Epoxy-coated aluminum | Short      | Maintained                 | –                                      | –                          |  |
|                                                                                     | <b>21CX4</b>              | Epoxy-coated aluminum | Standard   | Momentary                  | BZ (4), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>21CX12F</b>            | Epoxy-coated aluminum | Standard   | Maintained                 | BZ (2), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>21CX14</b>             | Epoxy-coated aluminum | Standard   | Maintained                 | BZ (4), SPDT each                      | A (15 A)                   |  |
|                                                                                     | <b>22CX4</b>              | Epoxy-coated aluminum | Standard   | Momentary                  | BA (4), SPDT each                      | B (20 A)                   |  |
|                                                                                     | <b>24CX2</b>              | Epoxy-coated aluminum | Standard   | Momentary                  | DT (2), DPDT each                      | C (10 A)                   |  |
|                                                                                     | <b>26CX4</b>              | Epoxy-coated aluminum | Standard   | Momentary                  | HS (4) SPDT each                       | D (1 A)                    |  |
|                                                                                     | <b>26CX14</b>             | Epoxy-coated aluminum | Standard   | Maintained                 | HS (4) SPDT each                       | D (1 A)                    |  |
|                                                                                     | <b>26CX16</b>             | Epoxy-coated aluminum | Standard   | Maintained                 | HS (4) SPDT each                       | D (1 A)                    |  |
|  | <b>281CX12</b>            | Epoxy-coated aluminum | Standard   | Maintained                 | BZ (2) SPDT each                       | A (15 A)                   |  |
|                                                                                     | <b>281CX12E</b>           | Epoxy-coated aluminum | Standard   | Maintained                 | BZ (2) SPDT each                       | A (15 A)                   |  |
|                                                                                     | <b>74CX2</b>              | Bronze                | Standard   | Momentary                  | DT (2) DPDT each                       | D (10 A)                   |  |
|                                                                                     | <b>81CX2</b>              | Bronze                | Standard   | Momentary                  | BZ (2) SPDT each                       | A (15 A)                   |  |
|                                                                                     | <b>82CX2A</b>             | Bronze                | Standard   | Momentary                  | BA (2) SPDT each                       | B (20 A)                   |  |

<sup>1</sup> Basic switches operate nearly simultaneously in multiple switch devices

<sup>2</sup> Shafts of devices without spring return can be rotated through 360°

# MICRO SWITCH™ Weather-Sealed, Explosion-Proof Switches

|  | Operating Torque<br>Nm [In-lb] | Pretravel<br>max. | Differential<br>Travel max. | Overtravel<br>min. | Options                                                                | Comments                                                                          |
|--|--------------------------------|-------------------|-----------------------------|--------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | ATEX/IEC Ex/INMETRO certified                                          | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | ATEX/IEC Ex/INMETRO certified                                          | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | –                                                                      | Gold-plated switch contacts                                                       |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | Low temperature seals                                                  | 1 switch operates CW, 1 switch operates CCW                                       |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | Cam provides ~ 30° actuation in 360° rotation for each basic switch               |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | Flat shaft for direct coupling                                         | 1 switch operates CW, 1 switch operates CCW                                       |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | Flat shaft for direct coupling                                         | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | Threaded mounting holes, side (8)                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | Threaded mounting holes, side (8),<br>ATEX/IEC Ex/INMETRO certified    | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | ATEX/IEC Ex/INMETRO certified                                          | 1 switch operates CW, 1 switch operates CCW                                       |
|  | 0,5 Nm [4.42 in-lb]            | –                 | –                           | –                  | –                                                                      | Cam provides approximately 30° actuation in 360° rotation for each basic switch   |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 25°                         | 75°                | ATEX/IEC Ex/INMETRO certified                                          | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switch                                                      |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 20°                         | 75°                | ATEX/IEC Ex/INMETRO certified                                          | Hermetic sealed basic switch                                                      |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switches                                                    |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 20°                         | 75°                | Low temperature seals                                                  | Hermetic sealed basic switches                                                    |
|  | 0,5 Nm [4.42 in-lb]            | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switches                                                    |
|  | 0,5 Nm [4.42 in-lb]            | –                 | –                           | –                  | Analog position sensing                                                | 4 mA to 20 mA                                                                     |
|  | 0,5 Nm [4.42 in-lb]            | –                 | –                           | –                  | Analog position sensing                                                | 4 mA to 20 mA                                                                     |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | Two basic switches. 4 sets of cams & return springs                               |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 25°                         | 75°                | –                                                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switches                                                    |
|  | 0,5 Nm [4.42 in-lb]            | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switches                                                    |
|  | 0,5 Nm [4.42 in-lb]            | 30°               | 20°                         | 75°                | –                                                                      | Hermetic sealed basic switches, two switches operate CW, two switches operate CCW |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | Analog position sensing<br>(4 mA to 20 mA)                             | –                                                                                 |
|  | 0,5 Nm [4.42 in-lb]            | 15°               | 10°                         | 90°                | Analog position sensing (4 mA to 20 mA), ATEX/IEC Ex/INMETRO certified | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 30°               | 25°                         | 75°                | –                                                                      | Threaded mounting holes, side (8)                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | –                                                                      | –                                                                                 |
|  | 1,25 Nm [11.1 in-lb]           | 15°               | 10°                         | 90°                | Threaded mounting holes, side (8)                                      | –                                                                                 |

# CX Series

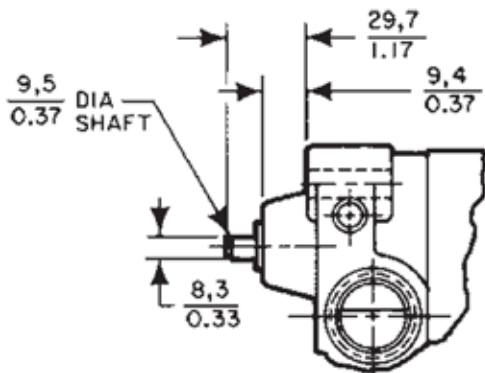
## ASSEMBLY MODIFICATIONS

### MODIFIED SHAFT ENABLES DIRECT COUPLING

CX switches are available with a 3/8 inch diameter by 3/4 inch long flatted shaft which conforms to standard NEMA motor shaft specifications. It accepts commercially available shaft couplers, permitting easy, direct coupling to most equipment actuators.

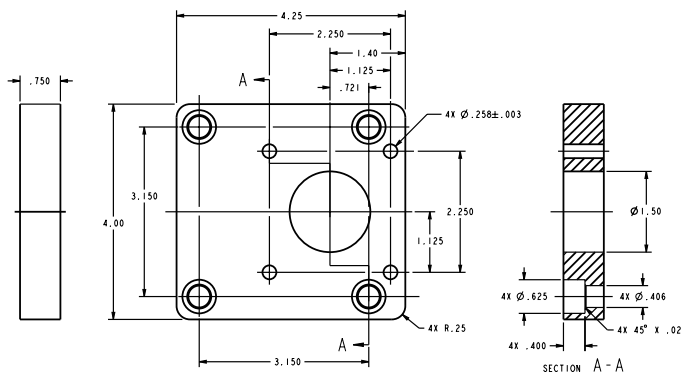
To specify a “direct-couple” CX switch: Add **DO1** to catalog listings shown in the order guides, i.e. 11CX12**DO1**.

### Flatted Shaft Version



### MOUNTING BRACKETS

15PA500-CX adapter bracket for mounting CX products to NAMUR footprint is available upon request.



### Mounting Holes

Add the letter **A** to listings with side mounting holes tapped 5/16-18(8). Example: 11CX2**A**

Add the letter **B** to listings with thru mounting holes tapped 3/8-24(4). Example: 11CX2**B**.

### CX Series Replacement Basic Switch Assemblies

These assemblies are factory-adjusted to the same operating characteristics as a new CX switch. They include components subject to mechanical or electrical wear: basic switches, cams, cam followers, and springs.

To order, change the first number in the complete switch catalog listing to **9** for **rotary switches**. For example:

Rotary switch 11CX2 Replacement = **9**1CX2

Note: Basic switch assemblies for rotary actuated switches, with or without spring return, will be the same.

For example: 11CX2 and 11CX12 use **9**1CX2.

### Low Temperature Switches

Add the letter **C** to listings for low temperature versions

For example: 21CX14**C** = -40 °F [-40 °C] Rotary

# MICRO SWITCH™ Weather-Sealed, Explosion-Proof Switches

**Table 6. Rotary Levers**

Levers for use with side-rotary-actuated switches are available in a wide choice of sizes and materials. The most common listings are shown below. Rollers may be on either side of the lever to best match the external actuating mechanism.

|                                                                                                             |  |                                                                                                                   |                                                                                     |                                                                                                              |                                                                                      |
|-------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                            |  |                                  |                                                                                     |                           |                                                                                      |
| <b>Fixed lever, nylon roller</b><br><b>LSZ51A</b> - front mount roller<br><b>LSZ51C</b> - back mount roller |  | <b>Short fixed lever, nylon roller</b><br><b>LSZ59A</b> - front mount roller<br><b>LSZ59C</b> - back mount roller |                                                                                     | <b>Offset lever, nylon roller</b><br><b>LSZ55A</b> - back mount roller<br><b>LSZ55C</b> - front mount roller |                                                                                      |
|                            |  |                                 |                                                                                     |                           |                                                                                      |
| <b>One-way lever, nylon roller</b><br><b>LSZ60A</b> - front mount roller                                    |  | <b>Yoke lever, nylon rollers</b><br><b>LSZ53A</b> - front/back mount rollers                                      |                                                                                     |                           |                                                                                      |
|                          |  |                                |  |                           |  |
| <b>Adj. lever, nylon roller</b><br><b>LSZ52A</b> - back mount roller<br><b>LSZ52C</b> - front mount roller  |  | <b>LSZ52J</b><br>adjustable lever,<br>nylon roller<br>25,4 mm [1 in]                                              | <b>LSZ52K</b><br>adjustable lever,<br>nylon roller<br>38,1 [1.5 in]                 | <b>LSZ54M</b><br>aluminum rod<br>140 mm [5.5 in]                                                             | <b>LSZ61</b><br>loop<br>152 mm [6 in]                                                |
|                         |  |                               |                                                                                     |                                                                                                              |                                                                                      |
| <b>LSZ67CA**</b><br>Plastic conveyor roller                                                                 |  | <b>LSZ68</b><br>rod w/ spring<br>305 mm [12 in]                                                                   |                                                                                     |                                                                                                              |                                                                                      |

\*\* May require orientation of switch and lever to enable gravity to help restore switch's free position.  
Non-sparking rollers and actuators must be used in hazardous areas.

# CX Series

Table 7. Rotary Levers Order Guide

|                                                                                     | Catalog Listing                                    | Material                     | Roller Dia. mm [in] | Roller Width mm [in] | Roller Mounting |
|-------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------|---------------------|----------------------|-----------------|
|    | <b>Fixed – 38,1 [1.5] inch radius</b>              |                              |                     |                      |                 |
|                                                                                     | LSZ51                                              | Rollerless                   | n/a                 | n/a                  | n/a             |
|                                                                                     | LSZ51A                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ51C                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back            |
|                                                                                     | LSZ51F                                             | Nylon                        | 25,4 [1.0]          | 12,7 [0.50]          | Front           |
|                                                                                     | LSZ51G                                             | Nylon                        | 38,1 [1.5]          | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ51J                                             | Nylon                        | 25,4 [1.0]          | 12,7 [0.50]          | Back            |
|                                                                                     | LSZ51M                                             | Nylon                        | 19 [0.75]           | 31,7 [1.25]          | Back            |
|                                                                                     | LSZ51P                                             | Nylon                        | 19 [0.75]           | 12,7 [0.50]          | Front           |
|                                                                                     | LSZ251A (sst)                                      | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ251C (sst)                                      | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back            |
|                                                                                     | LSZ251E (sst)                                      | Copper alloy                 | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ251F (sst)                                      | Copper alloy                 | 19 [0.75]           | 6,35 [0.25]          | Back            |
|    | <b>Adjustable – 38,1 [1.5] in to 3.5 in radius</b> |                              |                     |                      |                 |
|                                                                                     | LSZ52                                              | Rollerless                   | n/a                 | n/a                  | n/a             |
|                                                                                     | LSZ52A                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back            |
|                                                                                     | LSZ52C                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ52E                                             | Nylon                        | 19 [0.75]           | 33,0 [1.30]          | Front           |
|                                                                                     | LSZ52J                                             | Nylon                        | 25,4 [1.0]          | 12,7 [0.50]          | Front           |
|                                                                                     | LSZ52K                                             | Nylon                        | 38,1 [1.5]          | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ52M                                             | Nylon                        | 50,8 [2.0]          | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ52N                                             | Nylon                        | 19 [0.75]           | 12,7 [0.50]          | Front           |
|                                                                                     | LSZ252A (sst)                                      | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ252C (sst)                                      | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back            |
|                                                                                     | LSZ252E (sst)                                      | Copper alloy                 | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ252F (sst)                                      | Copper alloy                 | 19 [0.75]           | 6,35 [0.25]          | Back            |
|   | <b>Yoke – 38,1 [1.5] in radius</b>                 |                              |                     |                      |                 |
|                                                                                     | LSZ53A                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front/Back      |
|                                                                                     | LSZ53E                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back/Front      |
|                                                                                     | LSZ53M                                             | Nylon                        | 19 [0.75]           | 31,7 [1.25]          | Back/Front      |
|                                                                                     | LSZ53S                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back/Back       |
|  | <b>Rod</b>                                         |                              |                     |                      |                 |
|                                                                                     | LSZ54                                              | Hub only                     | n/a                 | n/a                  | n/a             |
|                                                                                     | LSZ54M                                             | Alum., 140 mm [5.5 in]       | Ø 3,2 [Ø 0.125]     | n/a                  | n/a             |
|                                                                                     | LSZ54N                                             | Stainless, 330 mm [13 in]    | Ø 3,2 [Ø 0.125]     | n/a                  | n/a             |
|                                                                                     | LSZ54P                                             | Plastic rod, 305 mm [12 in]  | Ø6,85 [Ø 0.27]      | n/a                  | n/a             |
|                                                                                     | LSZ54W                                             | Plastic rod, 183 mm [7.2 in] | Ø6,85 [Ø 0.27]      | n/a                  | n/a             |
|  | <b>Offset – 38,1 [1.5] in radius</b>               |                              |                     |                      |                 |
|                                                                                     | LSZ55                                              | Rollerless                   | n/a                 | n/a                  | n/a             |
|                                                                                     | LSZ55A                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Back            |
|                                                                                     | LSZ55C                                             | Nylon                        | 19 [0.75]           | 6,35 [0.25]          | Front           |
|                                                                                     | LSZ55E                                             | Nylon                        | 19 [0.75]           | 12,7 [0.50]          | Front           |
|                                                                                     | LSZ55K                                             | Nylon                        | 38,1 [1.5]          | 6,35 [0.25]          | Front           |

|                                                                                      | Catalog Listing                                    | Material                   | Roller Dia. mm [in]           | Roller Width mm [in] | Roller Mounting |
|--------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------|-------------------------------|----------------------|-----------------|
|     | <b>Short fixed – 1.3 in radius</b>                 |                            |                               |                      |                 |
|                                                                                      | LSZ59A                                             | Nylon                      | 19 [0.75]                     | 6,35 [0.25]          | Front           |
|                                                                                      | LSZ59C                                             | Nylon                      | 19 [0.75]                     | 6,35 [0.25]          | Back            |
|     | <b>One-way roller lever</b>                        |                            |                               |                      |                 |
|                                                                                      | LSZ60A                                             | Nylon                      | 19 [0.75]                     | 6,35 [0.25]          | Front           |
|     | <b>Flexible loop</b>                               |                            |                               |                      |                 |
|                                                                                      | LSZ61                                              | Ø 4,8 [Ø 0.19] Nylatron    | 152 mm [6 in] flexible loop   |                      |                 |
|                                                                                      | LSZ618                                             | Ø 4,8 [Ø 0.19] Nylatron    | 241 mm [9.5 in] flexible loop |                      |                 |
|                                                                                      | LSZ54                                              | Hub only                   | n/a                           | n/a                  | n/a             |
|    | <b>Spring rod</b>                                  |                            |                               |                      |                 |
|                                                                                      | LSZ68                                              | Delrin rod, 305 mm [12 in] | Ø 6,35 [0.25]                 | n/a                  | n/a             |
|                                                                                      | LSZ617                                             | Delrin rod, 406 mm [16 in] | Ø 6,35 [0.25]                 | n/a                  | n/a             |
|                                                                                      | LSZ686                                             | Delrin rod, 152 mm [6 in]  | Ø 6,35 [0.25]                 | n/a                  | n/a             |
|   | <b>Rubber roller levers</b>                        |                            |                               |                      |                 |
|                                                                                      | LSZ51Y 38,1 [1.5] radius (standard)                | Rubber                     | 50 [2.0]                      | 12,7 [0.5]           | front           |
|                                                                                      | LSZ55Y 38,1 [1.5] radius (offset)                  | Rubber                     | 50 [2.0]                      | 12,7 [0.5]           | front           |
|                                                                                      | LSZ52Y 38,1 to 89 [1.5 to 3.5] radius (adjustable) | Rubber                     | 50 [2.0]                      | 12,7 [0.5]           | front           |
|  | <b>Plastic roller levers</b>                       |                            |                               |                      |                 |
|                                                                                      | LSZ67AA (conveyor)*                                | Plastic                    | 38,1 [1.5]                    | 96,5 [3.8]           | n/a             |

\* May require orientation of switch and lever to enable gravity to help restore switch to free position.

# MICRO SWITCH™ Weather-Sealed, Explosion-Proof Switches

## DIMENSIONS mm[in]

Figure 1. MICRO SWITCH™ CX - side rotary standard housing

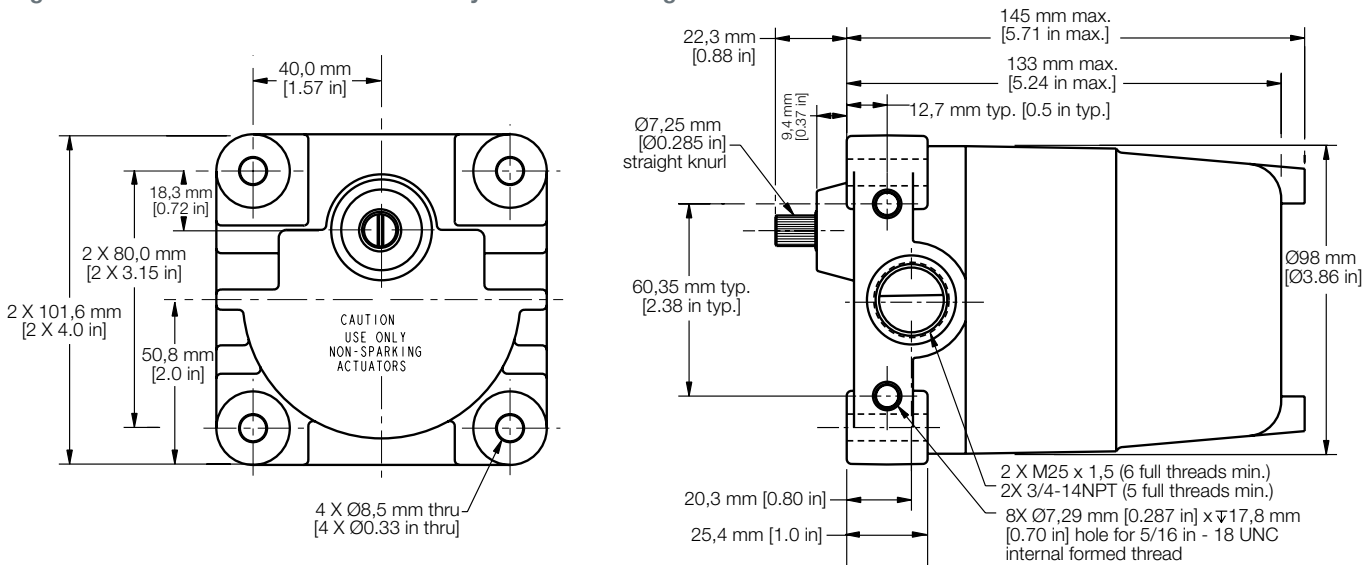


Figure 2. MICRO SWITCH™ CX - side rotary short housing

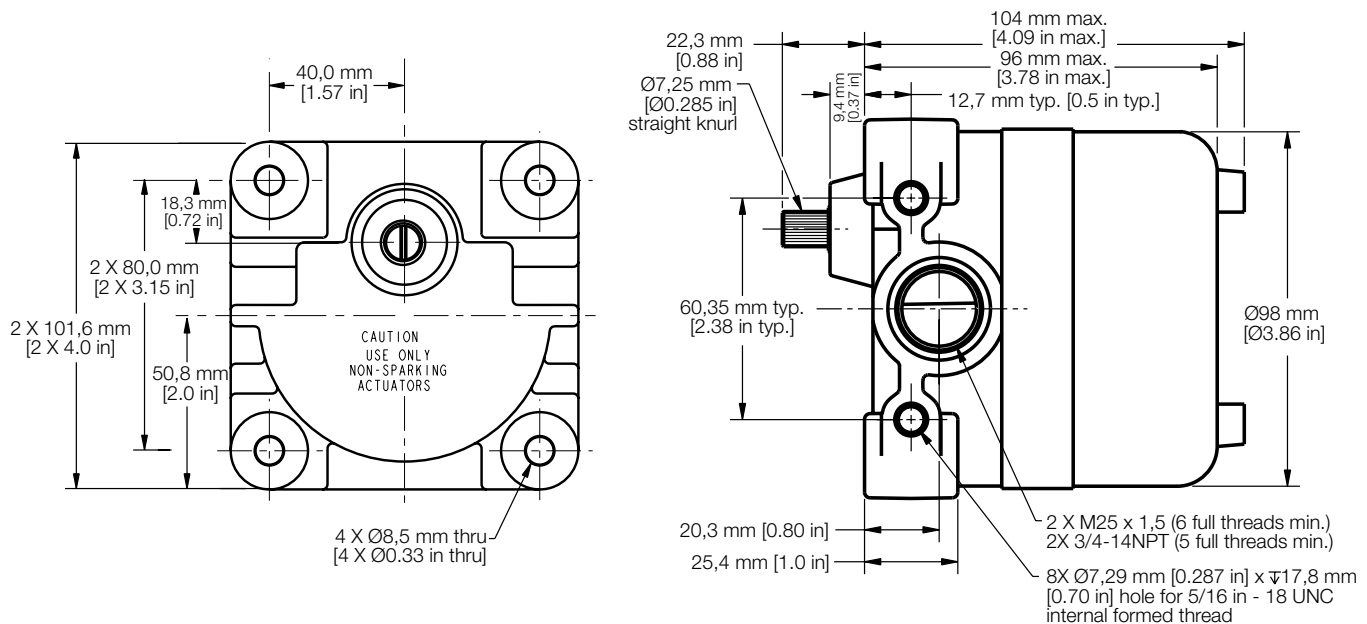
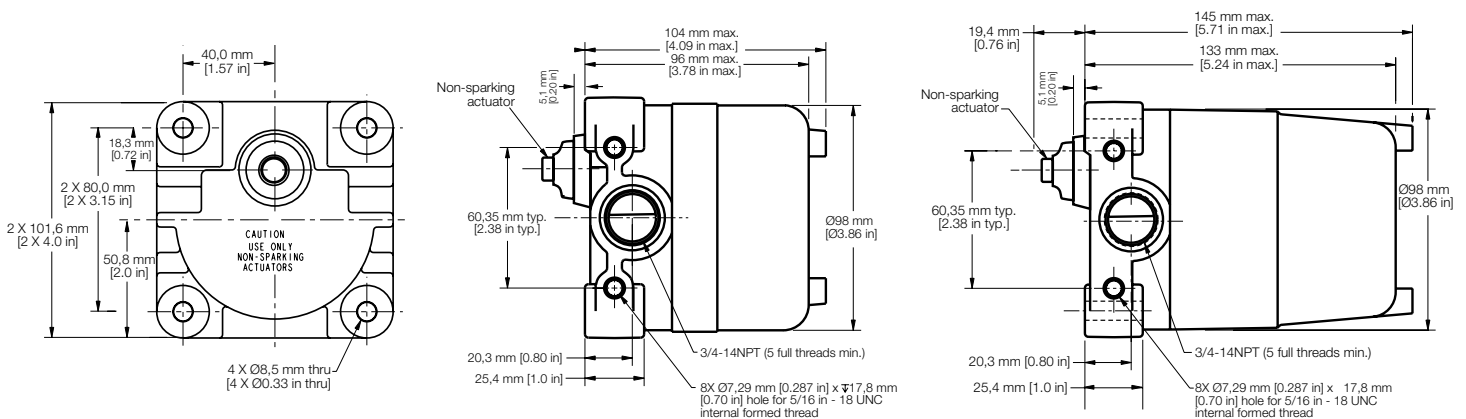


Figure 3. MICRO SWITCH™ CX - plunger standard and short housing



# CX Series

## ATEX COVER CLAMP ASSEMBLY FOR EUROPEAN COMPLIANCE

To specify a CX switch with ATEX, IEC Ex, or INMETRO certifications, add the letter "E" to the end of the catalog listing: 11CX2**E**.



## This Honeywell datasheet supports the following MICRO SWITCH™ CX Series Hazardous Location Switch Listings

|               |            |               |              |                |         |
|---------------|------------|---------------|--------------|----------------|---------|
| 1172CX12      | 12CX106    | 16CX12B-D01   | 21CX14-D01   | 281CX12E       | 81CX4   |
| 1172CX2       | 12CX12     | 16CX12C       | 21CX14E      | 281CX12HM      | 82CX2   |
| 11CX1         | 12CX12-D01 | 16CX1C        | 21CX16       | 281CX12HM-D01  | 82CX2A  |
| 11CX11B-D01   | 12CX15     | 16CX1E        | 21CX16E      | 281CX12HM-D01E | 84CX12  |
| 11CX12        | 12CX15-D01 | 16CX2         | 21CX4        | 281CX12HME     | 84CX2   |
| 11CX12C       | 12CX2      | 16CX200       | 21CX4C       | 281CX2         | 86CX2   |
| 11CX12-D01    | 12CX200    | 16CX2C        | 21CX4E       | 281CX2HM       | 9172CX4 |
| 11CX12E       | 12CX200E   | 16CX2E        | 21CX4HM      | 284CX106       | 91CX2   |
| 11CX12HM      | 12CX200ME  | 16CX5C        | 21CX6        | 284CX12        | 91CX4   |
| 11CX12HM-D01  | 12CX2A     | 18CX0         | 22CX4        | 284CX2         | 92CX2   |
| 11CX12HM-D01E | 12CX2AE    | 18CX0HM       | 24CX12       | 286CX2E        | 92CX200 |
| 11CX15-D01    | 12CX2E     | 18CX10        | 24CX12HM-D01 | 3172CX2        | 92CX5   |
| 11CX1B-D01    | 12CX5      | 18CX106       | 24CX2        | 31CX1          | 94CX2   |
| 11CX1C        | 12CX5A     | 18CX10E       | 24CX200      | 31CX1E         | 96CX1   |
| 11CX1E        | 12CX5A-2A  | 18CX10HM      | 24CX2A-2A    | 36CX1          |         |
| 11CX2         | 12CX5E     | 18CX10HM-D01  | 24CX2E       | 36CX1E         |         |
| 11CX212       | 14CX1      | 18CX10HM-D01E | 24CX5A       | 41CX4          |         |
| 11CX2B        | 14CX11     | 2172CX14C     | 26CX14       | 61CX11-D01     |         |
| 11CX2-D01E    | 14CX1E     | 21CX12        | 26CX16       | 61CX12-D01     |         |
| 11CX2E        | 15PA148-CX | 21CX12F       | 26CX4        | 64CX12-D01     |         |
| 11CX2HM       | 15PA261-CX | 21CX12F-D01   | 26CX4C       | 74CX2          |         |
| 11CX5C        | 15PA500-CX | 21CX13        | 27CX100      | 8172CX2        |         |
| 11CX5CE       | 16CX1      | 21CX14        | 27CX100E     | 81CX14         |         |
| 12CX1         | 16CX12     | 21CX14C       | 281CX12      | 81CX2          |         |

# MICRO SWITCH™ Weather-Sealed, Explosion-Proof Switches

## ADDITIONAL INFORMATION

The following associated literature is available on the Honeywell web site at [sensing.honeywell.com](http://sensing.honeywell.com):

- Product installation instructions
- Product range guide
- Product nomenclature tree
- MICRO SWITCH™ Hazardous Area Switches Brochure
- Product application-specific information
  - Limit and enclosed switch reference standards
  - Application Note: Sensors and switches for industrial manual process valves
  - Application Note: Sensors and switches in oil rig applications
  - Application Note: Sensors and switches in valve actuators and valve positioners
  - Application Note: Sensors and switches in valves and flow meters

### **WARNING**

#### **PERSONAL INJURY**

**DO NOT USE** these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARNING**

#### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

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