FLOWSERVE

# *PMV XCL Series UltraSwitch* ™

## Switch box


*Experience In Motion*

# Featuers


## XCL/XML-Series Ultraswitch™

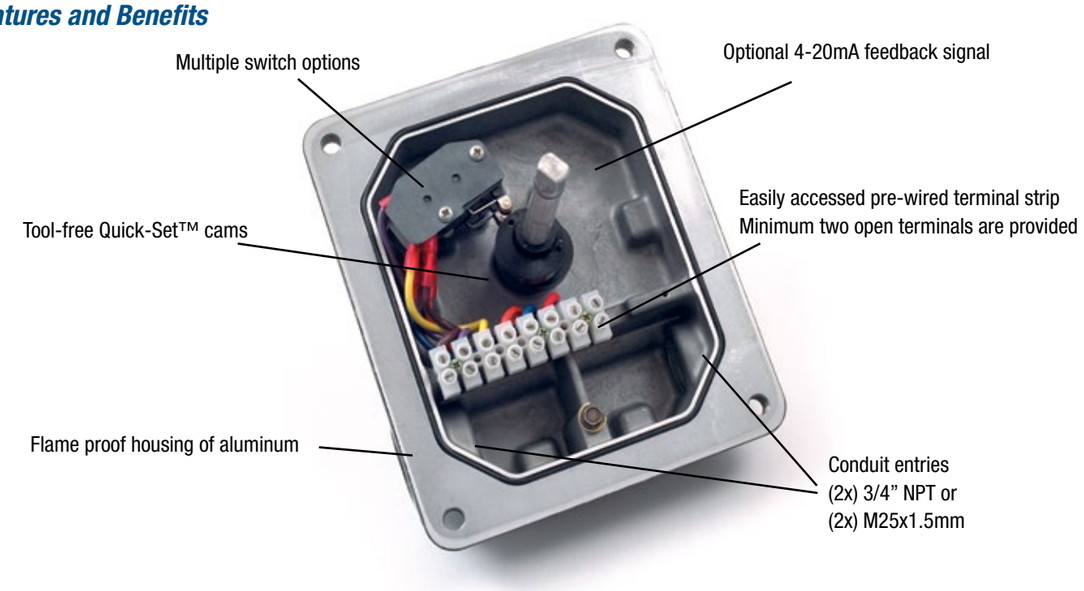
### Description

The XCL Series UltraSwich™ provides cost efficient, accurate and reliable position signaling for hazardous locations. The sturdy enclosure is offered in aluminum and is provided with multiple switch options. An external dome style indicator is available.

The XCL is designed to be directly and easily mounted onto actuators for both rotary and linear indication. It may also be used as a junction box for direct connection of solenoid valves. Minimum two open terminals are always provided.

Its compact housing has multiple mounting possibilities with two conduit entries and pre-wired switches to enable easy installation. It is designed to meet IP66 and NEMA Type 4X standards and is offered for general purpose/weather proof and for explosion proof hazardous locations.

### Features and Benefits




# Approvals
# Materials

### Hazardous locations approvals

The XCL Series UltraSwich™ has approvals to cover global needs.

All Switch Options
Flame-proof
ATEX(SIRA 06ATEX 3392X)
II 2 G Ex d IIB T5
II 2 D Ex tD A21 IP 65
T5 @ -20°C ≤ Tamb ≤ +55°C,
EN 60079-0:2004
EN 60079-1:2004
EN 61241-0:2006
EN 61241-1:2004

IECEx
Ex d IIB T5
Ex tD A21 IP 65
T5 @ -20°C ≤ Tamb ≤ +55°C,
IEC 60079-0:2004 (Ed.4)
IEC 60079-1:2003 (Ed.5)
IEC 61241-0:2004 (Ed.1)
IEC 61241-1:2004 (Ed.1)

InMetro
BR Ex d IIB T5
T5 @ -20°C ≤ Tamb ≤ +55°C

Mechanical Switch Options
Explosion-Proof (CSA)
Class I, Divisions 1, Groups C and D
Class II, Divisions 1, Groups E, F and G
Class II, Division 2, Groups F and G
Class III (CSA only)

FM U.S. Canada Intrinsically Safe Switch Options
Switch Type: MG, PE, PT, P4, N8, NQ, NP
Class I,II,II Division 1 Groups A, B, C, D, E, F, G T5
Proximity / Solid State Switch Options

Explosion-Proof (CSA)
Class I, Division 1, Groups C and D
Class I, Division 2 Groups A, B, C and D T3
Class II, Divisions 1, Groups E, F and G
Class II, Division 2, Groups F and G
Class III (CSA only)

NOTE: When using a sealed proximity switch (P4, P5, PP) in North American Division 2 applications, a sealing fitting is not required.

### Materials

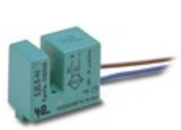
| |
|---|
| **Cam shaft:** AISI 304 |
| **Housing:** Aluminium, powder coated |
| **Screws, washers, springs, rings:** AISI 303 |
| **Dome Indicator:** Polycarbonate |
| **Label:** Polyester |

# Switches

# Analog Feedback & Communication

## Switch Options

| Switch Option | Manufacturer | Part Number | Load Capacity |
|---|---|---|---|
| M1 - SPDT Mechanical | Honeywell MicroSwitch | V7-1C13D8-201 | 15 A (1/2 HP) at 125 V AC/ 0,5 A at 125 V DC |
| MG - SPDT Gold Mechanical | Honeywell MicroSwitch | V7-1D11D8-201 | 1 A at 125 V AC/ 50 mA at 24 V DC |
| M3 - DPDT Mechanical | Cherry | E19-00A | 15 A (3/4 HP) at 125 V AC |
| MB - DPDT Mechanical | Licon | 22-104 | 10 A (1/2 HP) at 125 V AC |
| P4 - SPST Proximity | Aleph | PS-6132 | 0.35 A at 140 V AC / 1 A at 50 V DC (50 W Max.) |
| P5 - SPDT Proximity | Hamlin | 59135-030 | 0.25 A at 120 V AC / 0.25 A at 28 V DC (3 W Max.) |
| PE - SPDT Sabre Proximity | Flowserve | XA0199 | 1 A at 120 V AC / 1 A at 24 V DC (25 W Max.) |
| PP - SPDT Phazer Proximity | Flowserve | XA0155 | 3 A at 120 V AC / 2 A at 24 V DC (100 W Max.) |
| PT - SPST BRS Proximity | Flowserve | XA0157 | 3 A at 120 V AC / 0.5 A at 24 V DC |
| N8 - Solid State Proximity | Pepperl + Fuchs | NJ2-V3-N | NAMUR Sensor Output / 5–25 V DC Supply<br>Load Current <1 mA (w/Target) / > 3 mA w/out Target |
| NP- Solid State Proximity | Pepperl + Fuchs | SJ3.5-N | |
| NQ - Solid State Proximity | Pepperl + Fuchs | NJ4-12GK-N | |
| NR - Solid State Proximity | Pepperl + Fuchs | NJ4-12GM40-E1 | NPN Sinking / 200 mA max. Current / 10–60 V DC |
| NS - Solid State Proximity | Pepperl + Fuchs | NJ4-12GM40-E2 | PNP Sourcing / 200 mA max. Current / 10–60 V DC |
| NJ - Solid State Proximity1 | IFM Efector | IN0097 | 20-250V AC/DC NO 2-Wire |

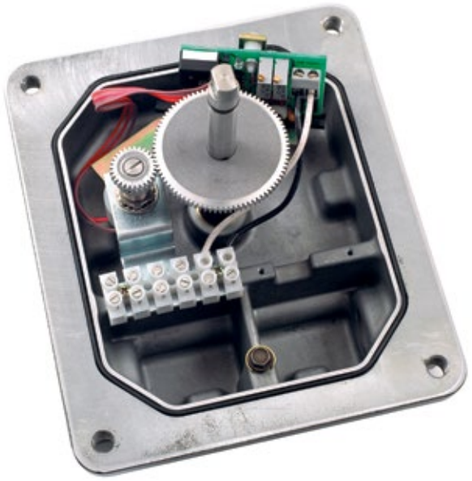


### Transmitter 4-20 mA

The XCL offers a 4-20mA feedback signal for true non-local position indication.

The built-in pcb and potentiometer uses proven and reliable technology, leaving you with a clear view of actual position.

A complementary equipment to the top mounted dome indicator.



### Communication through AS-Interface (AS-i)

XCL series can be equiped with optional AS-i communication capabilities. This technology offers a very simple, flexible and cost effective network system.

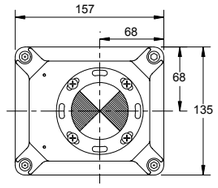
## XCL Series Coding

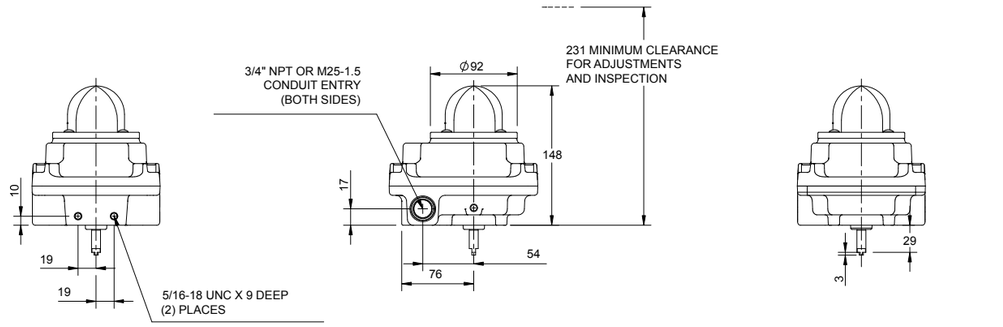
| | | |
|---|---|---|
| **Brand sticker** | P | PMV |
| **Shaft** | N | Namur VDI/VDE 3845 |
| **Connections (cable entry)** | XCL | 2 x 3/4 NPT |
| | XML | 2 x M25 x 1,5 |
| **Indicator option** | 1 | Flat cover without indicator |
| | U | Dome, Red/Green |
| **Qty of switches** | 0 | 0 switches |
| | 1 | 1 switch |
| | 2 | 2 switches |
| | 4 | 4 switches |
| **Switch options** | M1 | SPDT Mechanical switches 250VAC 10A |
| | MG | SPDT Mechanical switches gold plated |
| | M3 | DPDT Mechanical Cherry |
| | MB | DPDT Mechanical Licon |
| | P4 | SPST proximity |
| | P5 | SPDT proximity |
| | PE | Sabre SPDT proximity |
| | PP | Phazer II SPDT proximity |
| | PT | BRS SPST Phazer II proximity |
| | N8 | P+F NJ2 V3 N (Namur) |
| | NQ | P+F NJ4-12GK-N (Namur) |
| | NR | P+F 12GM40-E1 (3 wire NPN NO) |
| | NS | P+F 12GM40-E2 (3 wire PNP NO) |
| | NP | P+F SJ 3,5-N (Namur) |
| | NJ | IFM IN -2002-ABOA |
| | FZ | AS-i controller card 2,0 incl. 2 proximity switches |
| **Certificate** | 14 | General Purpose |
| | 18 | cCSAus Cl.I, Div1, Gr.CD / Cl.II, Div1, Gr.EFG, Cl.III. ATEX II 2G, Ex d IIB/Ex tD |
| | 19 | ATEX II 2 G EEx d IIB T4-T6, II 2 D Ex tD A21 IP65 |
| | 25 | IEC Ex approval Ex d IIB T4-T6, II 2 D Ex tD A21 IP65 |
| | 26 | Inmetro BR Ex d IIB T5 |
| | 27 | cCSAus IS class I, II, III Div1, Gr.ABCDEFG T5 |
| | 28 | cCSAus Cl.I, Div2, Gr. A,BC&D. |
| | 30 | Kosha Ex d IIB T5 |
| | M1 | Metal plate cCSAus Cl.I, Div2, Gr. A,BC&D. |
| | M2 | Metal plate cCSAus Cl.I, Div1, Gr.CD / Cl.II, Div1, Gr.EFG, Cl.III. |
| **Analog Output** | 0 | None |
| | T | 4-20 mA transmitter |
| **Wiring options** | 0 | None |
| **Minimun extra terminals** | 2 | 2 (standard) |
| | 4 | 4 (Optional) |
| | 6 | 6 (Optional, not possible for all switch options) |
| **Acessories** | 0 | None |
| | L | Cover bolts lubricated with grease |
| | P | 180’ Pot ( for analog options: A, B, C) |
| | V | Viton O-rings |
| **Housing/Surface treatment** | 0 | Black polyester powder coat |

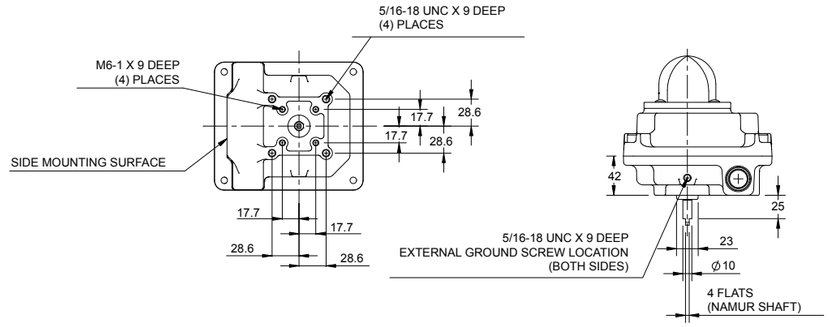

**Example**
NXCLU2M1-18-00200

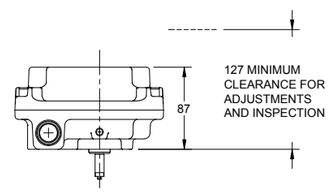
* Note: - SIL 3 Approved

## Dimensions (mm)



FCD PMENBR0010-05 09/20

**Hazardous Locations**

Flame proof / Explosion proof
Intrinsically safe
Non-Incendive



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