



PMV WS/WM Series UltraSwitch™



Experience In Motion



Compact
Reliable
Great Value



WS/WM Series UltraSwitch™

Description

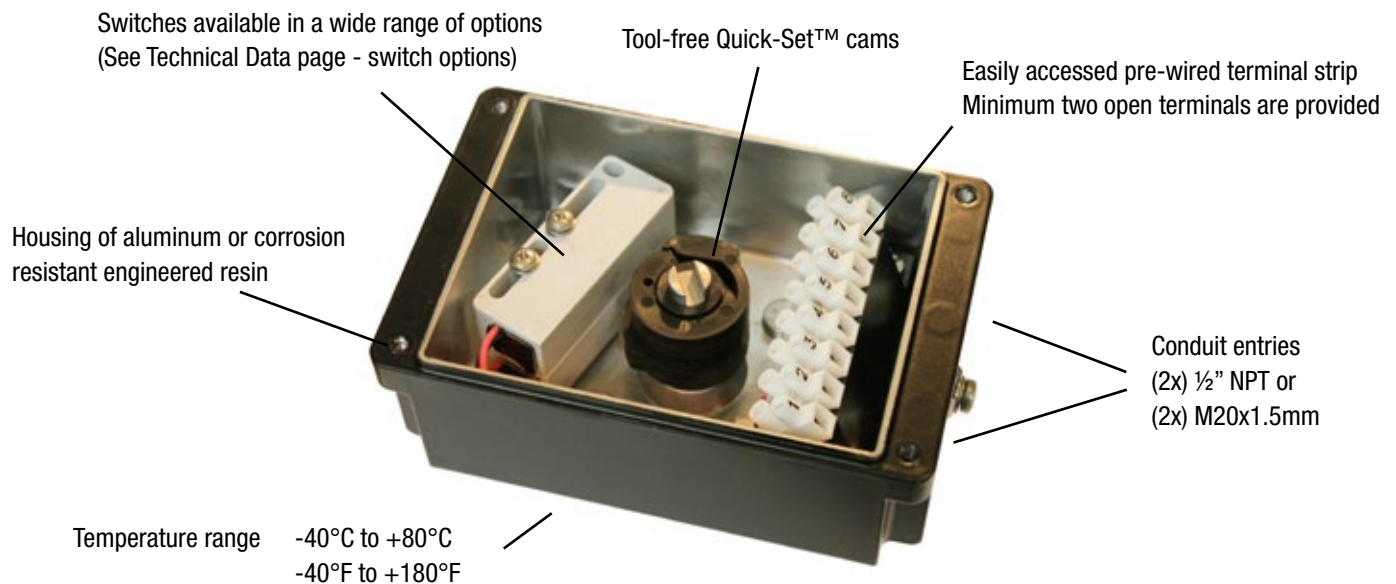
The WS/WM Series UltraSwitch™ provides cost efficient, accurate and reliable position signaling. The compact enclosure is offered in aluminum or corrosion resistant engineered resin and is provided with multiple switch options. A variety of covers and indicators are available in aluminum and resin.

The range covers domed and flat indicators as well as covers without indicator for a lower profile.

The WS/WM 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, up to four conduit entries and pre-wired switches to enable easy installation. It is designed to meet IP66/67 and NEMA Type 4X standards and is offered both for Intrinsically Safe and Non-Incendive hazardous locations.

Features and Benefits



Hazardous Locations Approvals



Typical applications / industries suitable for the WS/WM-Series UltraSwitch™ are:

- Chemical & Petrochemical
- Food & Beverage
- Municipal & Wastewater
- Pharmaceutical
- Power

Hazardous locations approvals and communication

Intrinsically safe:

Approvals for ATEX and cCSAus hazardous locations, Intrinsically Safe and Non-Incendive.



AS-Interface (AS-i)

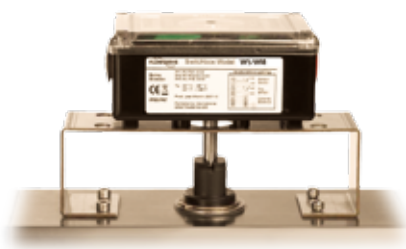
The WS/WM-series can be equipped with optional AS-i communication capabilities. This technology offers a very simple, flexible and cost efficient network system.



Mounting options

NAMUR or optional low profile mounting

Standard NAMUR EN15714 mounting kits are available for standard NAMUR shafts. In applications where space is limited, the optional "S" shaft reduces the height 15% providing a significantly lower mounting profile. Available for 80x30 and 130x30 actuator top patterns with an actuator shaft height of 20, 30 or 50mm.



NAMUR actuator mounting kit



Low profile mounting kit KL01 & KL02

Cover and Indicator Options



Aluminum or engineered resin housing with multiple cover options



Aluminum or Resin cover
Dome indicator



Aluminum or Resin cover
Blank without indicator



Aluminum or Resin cover
Flat indicator



Polycarbonate transparent cover
Dome indicator



Polycarbonate transparent cover
Flat indicator

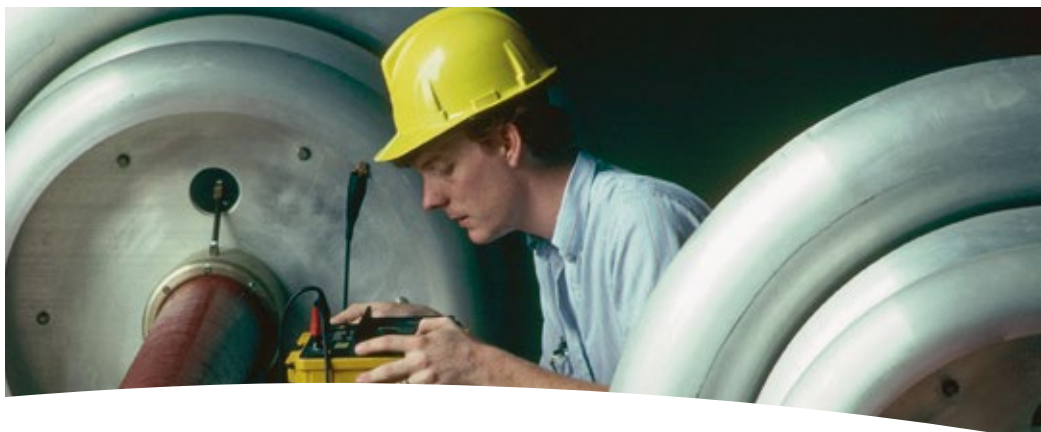


Aluminum housing



Resin housing

Technical Data



Switch Options

| Code | Cert. | Switch Option | Manufacturer | Load Capacity |
|------|---------|-----------------------|-----------------------|--|
| M1 | A | SPDT Mechanical | Honeywell MicroSwitch | 15A @ 125/250 VAC; 0,5A @ 125 VDC; 0,25A @ 250VDC; 5A @ 120VAC |
| MG | A, B | SPDT Gold Mechanical | Honeywell MicroSwitch | 1A @ 125 VAC; 50 mA @ 24 VDC |
| F1 | | IN5129 | IFM | 10-36VDC |
| F3 | | IF5250 | IFM | 10-36VDC NC PNP, 150mA, 3-wire NC |
| F5 | | IF6001 | IFM | 18-32VDC, NO PNP, 150mA@50 C |
| F6 | | IF6034 | IFM | 10-36VDC, NO PNP, 150mA, Stainless Steel |
| F7 | | IN0074 | IFM | 20-250 AC/DC NO, 350mA/100mA |
| F8 | | IN0081 | IFM | 20-250 AC/DC NO, 350mA/100mA w/LED |
| FJ | | IN5263 | IFM | IN-2002-FRKG/PH RT |
| P4 | A, B, C | SPST Proximity | Aleph | 0.35A @ 140 VAC; 0.25A @ 200VDC (50 W Max.) |
| P5 | A, B, C | SPDT Proximity | Hamlin | 0.25A @ 120 VAC; 0.25A @ 28 VDC (3 W Max.) |
| PE | A, B, C | SPDT Sabre Proximity | Flowserve | 1A @ 120 VAC; 2A @ 24 VDC |
| PP | C | SPDT Phazer Proximity | Flowserve | 3A @ 120 VAC; 2A @ 24 VDC |
| PT | A, B, C | SPST BRS Proximity | Flowserve | 3A @ 120 VAC; 0.5 @ 24 VDC |
| N8 | A | Solid State Proximity | PF NJ2 V3 N | NAMUR NC Sensor; 8 VDC |
| NP | A | Solid State Proximity | PF SJ3.5-N | NAMUR Sensor Output; 5-25 VDC Supply |
| NQ | A | Solid State Proximity | PF NJ4-12GK-N | NAMUR NC Sensor; 8 VDC |
| NR | | Solid State Proximity | PF NJ4-12GM40-E1 | PNP Sinking; 200 mA max. Current; 10-60 VDC |
| NS | | Solid State Proximity | PF NJ4-12GM40-E2 | NPN Sourcing; 200 mA max. Current; 10-60 VDC |
| NT | | Solid State Proximity | PF NJ4-12GK40-E2 | NPN Sourcing; 200 mA max. Current; 10-60 VDC |
| N9 | | Solid State Proximity | PF NBB3-V3-Z4 | NPN Sourcing; 100 mA max. Current; 5-60 VDC |
| NW | A | Solid State Proximity | PF SJ3.5-SN | NAMUR NC Sensor; 8 VDC |

More switch options available

Data/Materials

| Data | |
|--------------------|--------------------------------|
| Ingress protection | IEC 529 IP 66/67, NEMA Type 4X |
| Weight maximum | 0.7kg / 1.55 lbs |

| Part | Material |
|-------------------------|---|
| Housings | Powder epoxy painted Aluminum or PA6/PA66 engineered resin, 25 – 30% fiberglass filled |
| Covers | Powder epoxy painted Aluminum or PA6/PA66 engineered resin, 25 – 30% fiberglass filled or Transparent Polycarbonate |
| Shaft | Stainless Steel SS EN 2346 / AISI 303 |
| Cams/Splines | Nylon |
| Terminal Block | Nylon |
| Internal Brackets | Nylon, Aluminum or Stainless Steel |
| All External Fasteners | Stainless Steel |
| All Internal Fasteners | Stainless Steel |
| All Molded in Fasteners | Anodized Aluminum |
| Indicators | Polycarbonate or PA66 |
| Label | Polyester |
| Plug | Nylon |

| Code | Certificate |
|------|--|
| A | ATEX II 1GD Ex ia IIC T4/T5/T6 ATEX II 1GD Ex ia IIB T4/T5/T6 |
| B | cCSAus IS |
| C | cCSAus NI |

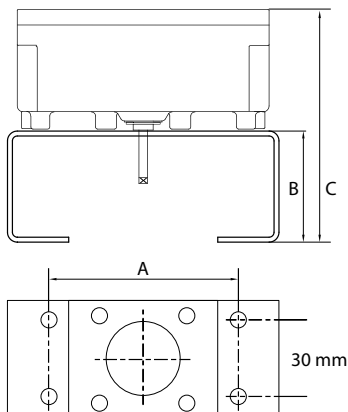
WS/WM-Series Ultraswitch™ Switchbox Nomenclature

| | |
|------------|---|
| A = | Brand sticker |
| P | PMV |
| B = | Shaft type |
| N | Namur shaft, EN 15714 |
| S | Short shaft, low profile style |
| T | For NAF Turnex |
| D | Double "D" 1/4 Inch Flats |
| C = | Body style |
| WS | General Purpose/I.S. Enclosure / 1/2" NPT Conduit entries |
| WM | General Purpose/I.S. Enclosure / M20x1.5mm Conduit entries |
| D = | Number of conduit entries |
| 2 | 2 conduit entries |
| 4 | 4 conduit entries (2 according to "C" + entries opposite side with different type of threading) |
| E = | Body material |
| A | Aluminum |
| R | Engineered resin |
| F = | Cover material |
| A | Aluminum |
| R | Engineered resin (J=14 only) |
| P | Polycarbonate Cover (clear) |
| G = | Indicator |
| 1 | No indicator |
| 2 | Flat Indicator |
| H | Black / Yellow UltraDome™ (Black Close/Yellow Open) |
| U | UltraDome™ (Red Close/Green Open) |
| H = | Number of switch elements |
| 0 | No switches (empty housing) |
| 1 | 1 Switch |
| 2 | 2 Switches |
| I = | Switch type - See section with switch options |
| J = | Certificate |
| 14 | General Purpose |
| 15 | ATEX Ex ia |
| 28 | cCSAus Ni |
| 29 | cCSAus IS |

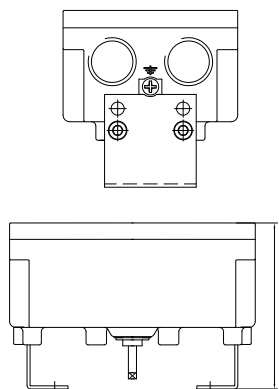
| Ordering code example | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|--|
| A | B | C | C | D | E | F | G | H | I | I | J | J | |
| P | N | W | S | 2 | A | R | U | 2 | P | P | 2 | 8 | |

A = brand, NAMUR shaft, 1/2" NPT Housing with 2 conduits, Aluminum body, Resin cover, standard UltraDome™, 2 proximity switches "PP", cCSAus certificate (2 open terminals)

Mounting kits



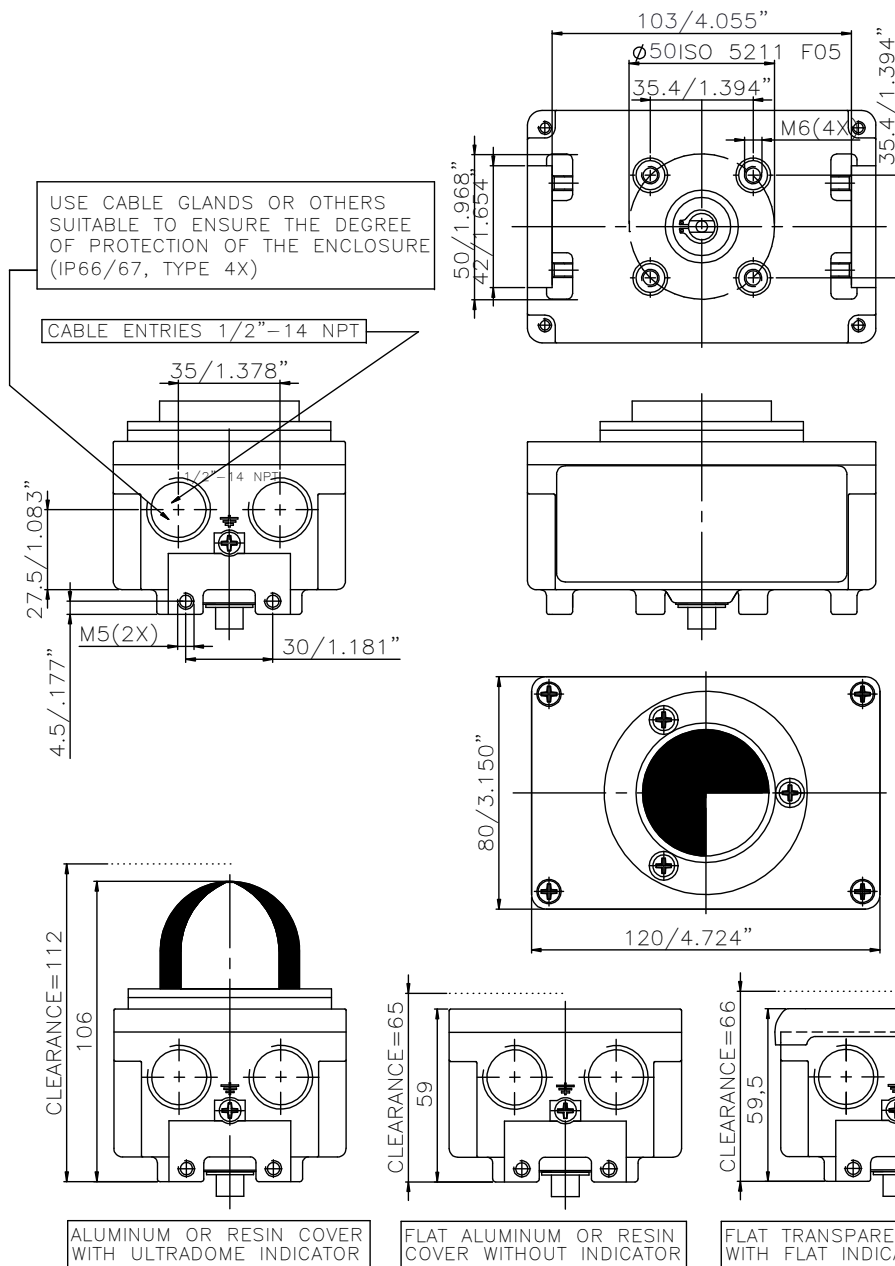
| Mounting kit NAMUR p/n | A = Bolt pattern length (mm) | B = Bracket height (mm) | C = Height (mm) |
|------------------------|------------------------------|-------------------------|-----------------|
| 23648 | 80 | 45 | 105 |
| 23649 | 80 | 55 | 115 |
| 23650 | 130 | 55 | 115 |



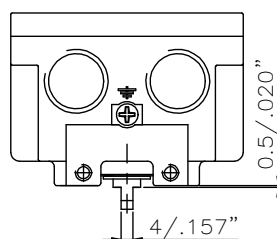
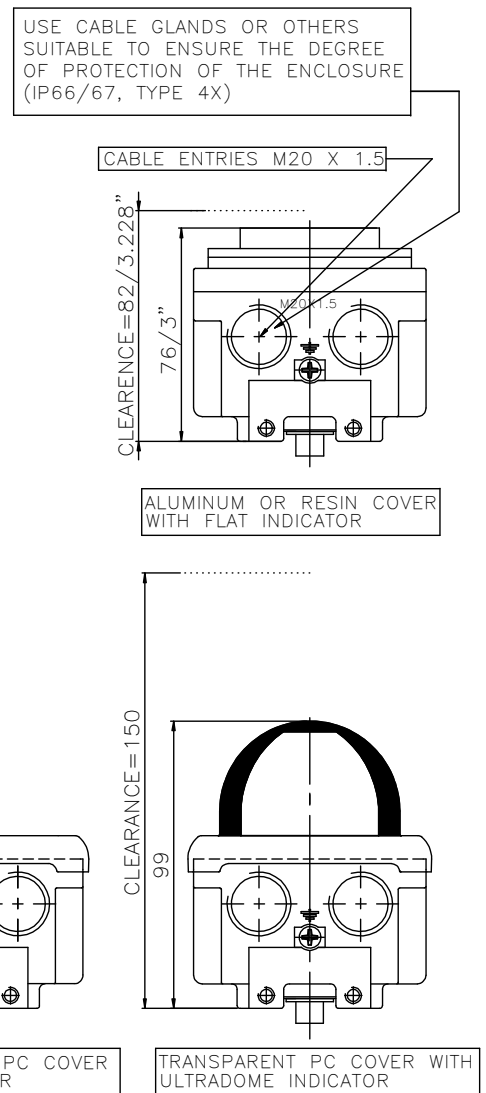
| Mounting kit p/n | Actuator shaft height (mm) | Bolt pattern 80/30 (mm) | Bolt pattern 130/30 (mm) | C = Height (mm) |
|------------------|----------------------------|-------------------------|--------------------------|-----------------|
| KL01 | 20/30 | yes | yes | 80/90 |
| KL02 | 50 | yes | yes | 110 |

Dimensions WS/WM (mm/Inch)

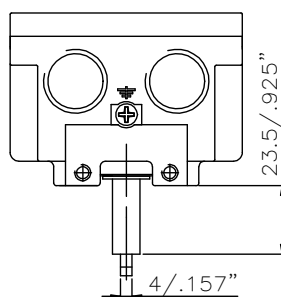
WS body enclosure



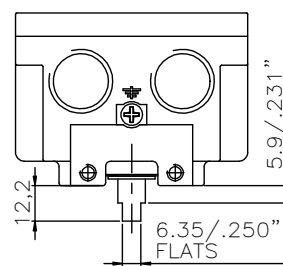
WM body enclosure



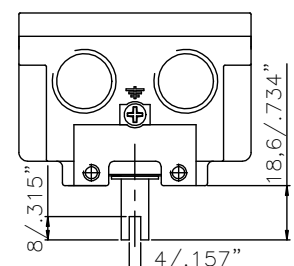
LOW PROFILE SHAFT



NAMUR SHAFT EN15714



DOUBLE "D" SHAFT



TURNEX SHAFT FOR NAF



FCD PMENBR0019-01 February 2014

To find your local Flowserve representative:

For more information about Flowserve Corporation,
visit flowserve.com

Hazardous Locations

ATEX II 1 GD Ex ia IIC T4/T5/T6
ATEX II 1 GD Ex ia IIB T4/T5/T6
cCSAus Cl. I, Div. 1 Grp. A,B,C,D; Cl. II Div. 1 Grp. F,G; Cl. III
cCSAus Cl. I, Div. 2, Grp. A,B,C,D; Cl. II, Div. 2, Grp. F,G; Cl. III

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