



***Worcester WS/WM Series UltraSwitch™***  
Switch box



***Experience In Motion***

**Compact  
Reliable  
Great Value**



**WS/WM Series UltraSwitch™**

**Description**

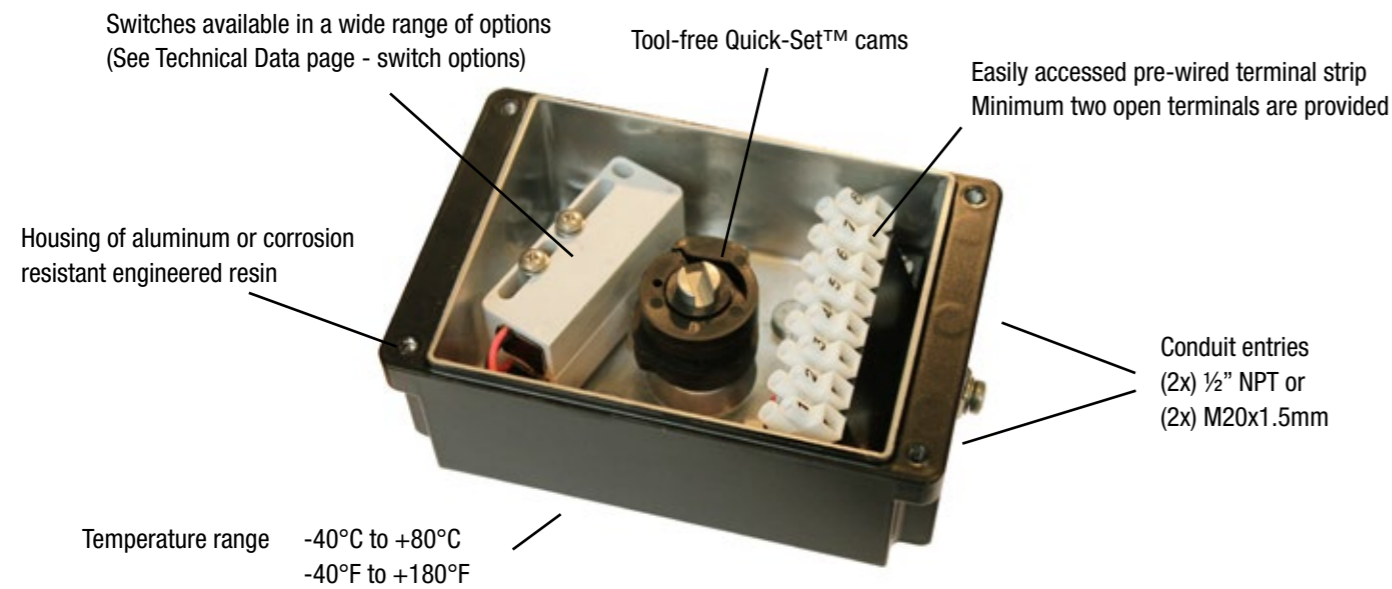
The WS/WM Series UltraSwitch™ provides cost efficient, accurate and reliable position signaling. The compact enclosure is offered in aluminum or corrosion resistant engineered resin and is provided with multiple switch options. A variety of covers and indicators are available in aluminum and resin.

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)**

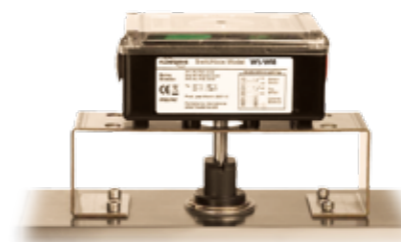
The WS/WM-series can be equipped with optional AS-i communication capabilities. This technology offers a very simple, flexible and cost efficient network system.



**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



## Technical Data



### 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  
(Cover materials: Aluminum and Polycarbonate)



Resin housing  
(Cover materials: Resin and Polycarbonate)

### Switch Options

Code	Cert.	Switch Option	Manufacturer	Load Capacity
M1		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; 1A @ 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

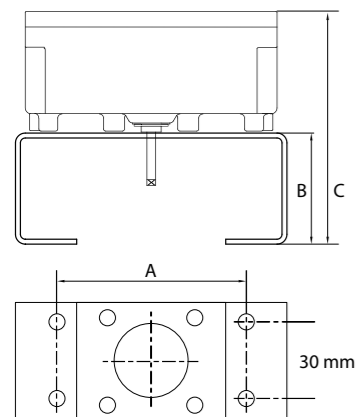
### WS/WM-Series Ultraswitch™ Switchbox Nomenclature

- A = Brand sticker**  
W Worcester Controls
- 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

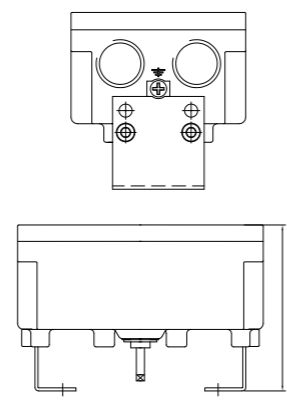
Ordering code example												
A	B	C	C	D	E	F	G	H	I	I	J	J
W	N	W	S	2	A	R	U	2	P	P	2	8

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



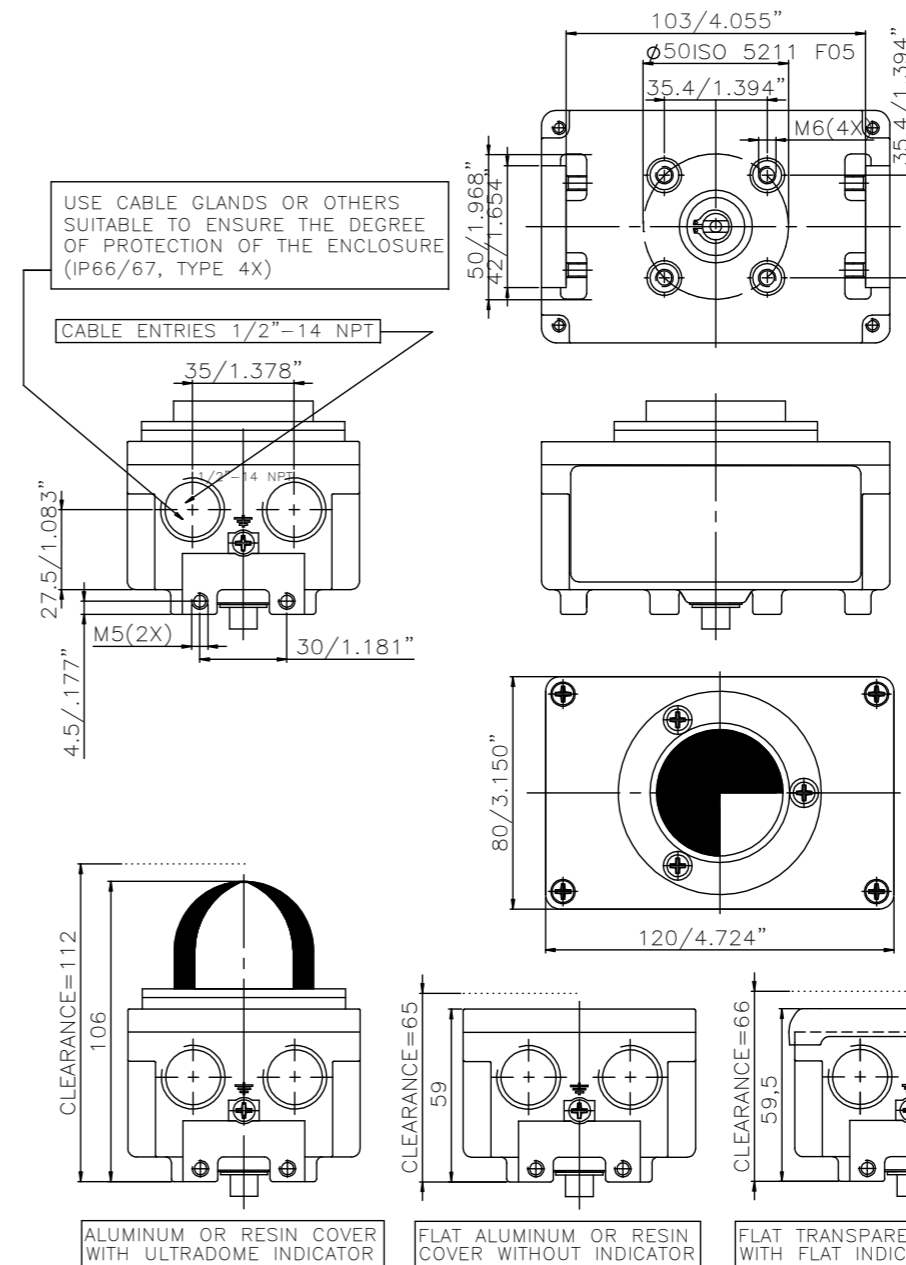
Mounting kit NAMUR p/n	A = Bolt pattern length (mm)	B = Bracket height (mm)	C = Height (mm)
23648	80	45	105
23649	80	55	115
23650	130	55	115



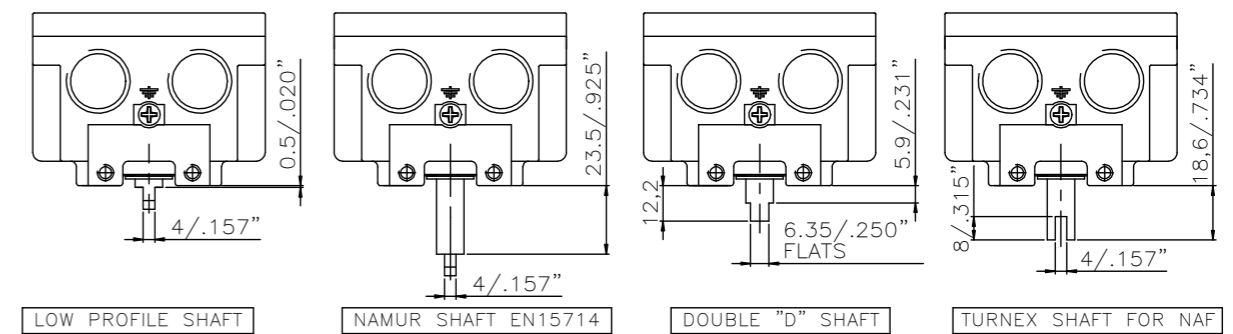
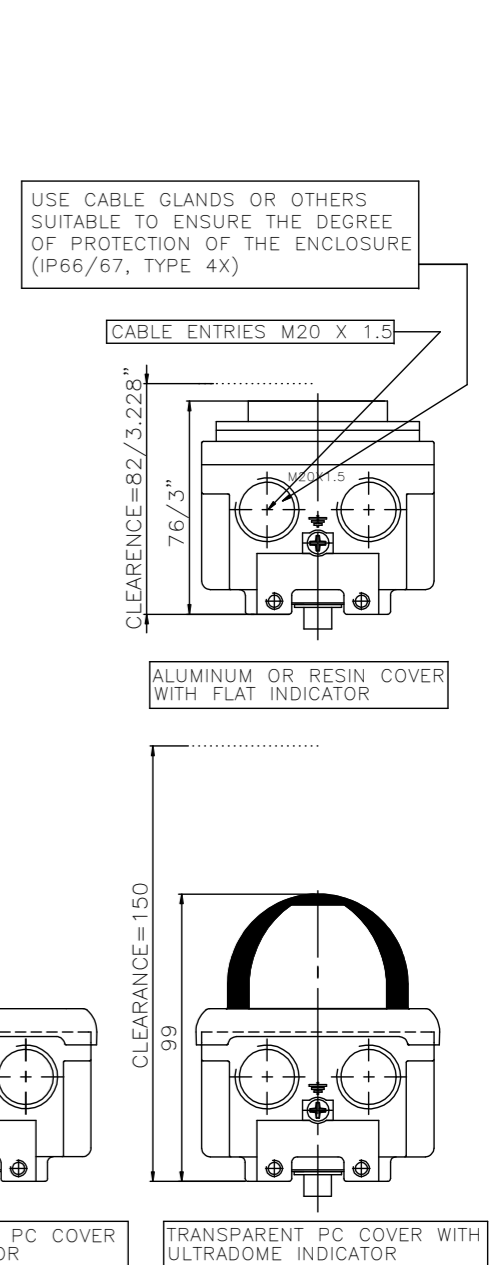
Mounting kit p/n	Actuator shaft height (mm)	Bolt pattern 80/30 (mm)	Bolt pattern 130/30 (mm)	C = Height (mm)
KL01	20/30	yes	yes	80/90
KL02	50	yes	yes	110

### Dimensions WS/WM (mm/Inch)

#### WS body enclosure



#### WM body enclosure





FCD WCENBR0135-02 February 2015

**To find your local Flowserve representative:**

For more information about Flowserve Corporation, visit [flowserve.com](http://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

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can (and often does) provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation and Maintenance (I & M) instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

©2015 Flowserve Corporation, Irving, Texas, USA. Flowserve and PMV are registered trademarks of Flowserve Corporation.

**Flowserve Corporation**

Flow Control Division  
1978 Foreman Drive  
Cookeville, Tennessee 38501 USA  
Phone: +931 432 4021  
Fax: +931 432 5518

**Flowserve Flow Control (UK) Ltd.**

44 Victoria Way, Burgess Hill  
West Sussex, RH15 9NF  
UNITED KINGDOM  
Tel: +44 (0) 1444 884846  
E-mail: [pmvuksales@flowserve.com](mailto:pmvuksales@flowserve.com)

**Flowserve Flow Control Benelux**

Rechtzaad 17  
4703 RC Roosendaal  
THE NETHERLANDS  
Tel: +31 (0) 30 6771946  
Fax: +27 (0) 30 6772471  
E-mail: [fcbinfo@flowserve.com](mailto:fcbinfo@flowserve.com)

**Flowserve Flow Control GmbH**

Rudolf-Plank Strasse 2  
D-76275 Ettlingen  
GERMANY  
Tel: +49 (0) 7243 103 0  
Fax: +49 (0) 7243 103 222  
E-mail: [argus@flowserve.com](mailto:argus@flowserve.com)

**Flowserve Spa**

Via Prealpi, 30  
20032 Cormano (Milano)  
ITALY  
Tel: +39 (0) 2 663 251  
Fax: +39 (0) 2 615 18 63  
E-mail: [infoitaly@flowserve.com](mailto:infoitaly@flowserve.com)

**Flowserve Ahaus GmbH**

von-Braun-Str. 19a  
48683 Ahaus  
Phone: +49 2561 686-119  
Fax: +49 2561 686-109

**Flowserve Corporation**

No. 35, Baiyu Road  
Suzhou Industrial Park  
Suzhou 215021, Jiangsu Province,  
PRC  
Phone: +86-512-6288-1688  
Fax: +86-512-6288-8737

**Flowserve Australia Pty Ltd**

Flow Control Division  
14 Dalmore Drive  
Scoresby, Victoria 3179  
Australia  
Phone: +61 3 9759 3300  
Fax: +61 3 9759 3301

**Flowserve Pte Ltd**

No. 12 Tuas Avenue 20  
Singapore 638824  
Phone: +65 6879 8900  
Fax: +65 6862 4940

**Flowserve do Brasil Ltda**

Rua Tocantins, 128 - Bairro Nova Gerti  
São Caetano do Sul,  
São Paulo 09580-130 Brazil  
Phone: +5511 4231 6300  
Fax: +5511 4231 6329 - 423

[flowserve.com](http://flowserve.com)