PMV DS/DM Series UltraSwitch™
Switch box
Features

DS/DM Series Ultraswitch™

Description

The DS/DM Series UltraSwich™ from Flowserve PMV provides cost efficient, accurate and reliable position signaling for hazardous locations. The sturdy enclosure is offered in aluminum or corrosion resistant stainless steel and is provided with multiple switch options. An external indicator is available.

The DS/DM 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 three 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

Switches available in a wide range of options
(See Technical Data page - switch options)

Easily accessed pre-wired terminal strip
Minimum two open terminals are provided

ATEX Ex d IIC T4
IECEx Ex d IIC T4
cCSA Class I, Division 1, Groups B,C,D, T4
CSAus Class I, Division 1, Groups A,B,C,D, T4

Tool-free Quick-Set™ cams

SIL 2

Housing of aluminum or corrosion resistant stainless steel

Temperature range
-55 °C to +85 °C
-67 °F to +180 °F

Conduit entries
(2x) 3/4” NPT or
(2x) M25x1.5mm
(third entry optional)

Optional 4-20mA feedback signal
Typical applications / industries suitable for the DS/DM-Series UltraSwitch™ are:

- Chemical
- Oil & Gas
- Pharmaceutical
- Offshore

Hazardous locations approvals and communication

Explosion proof:  
Approvals for:
ATEX Ex d IIC T4  
IECEx Ex d IIC T4  
cCSA Class I, Division 1, Groups B,C,D, T4  
CSAus Class I, Division 1, Groups A,B,C,D, T4

AS-Interface (AS-i)

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

Mounting options and visual indication

NAMUR mounting

Standard NAMUR EN15714 mounting kits are available for standard NAMUR shafts. Available for 80x30 and 130x30 actuator top patterns with an actuator shaft height of 20, 30 or 50 mm. For linear applications the optional “L” shaft can be ordered. Visual indicator also shown.

<table>
<thead>
<tr>
<th>Mounting kit NAMUR p/n</th>
<th>23648</th>
<th>23649</th>
<th>23650</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Bolt pattern length (mm)</td>
<td>80</td>
<td>80</td>
<td>130</td>
</tr>
<tr>
<td>B = Bracket height (mm)</td>
<td>45</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>C = Height (mm)</td>
<td>145</td>
<td>155</td>
<td>155</td>
</tr>
</tbody>
</table>
Aluminum or Stainless Steel housing

**Powder Epoxy painted Aluminum housing**

Base always black. Covers in black (standard), white or optional cover color on request

**Corrosion free Stainless Steel housing**

Unpainted stainless steel DIN 1.4408
## Switch Options

<table>
<thead>
<tr>
<th>Code</th>
<th>Switch Option</th>
<th>Manufacturer</th>
<th>Load Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>SPDT Mechanical</td>
<td>Honeywell MicroSwitch</td>
<td>15A @ 125/250 VAC; 0.5A @ 125 VDC; 0.25A @ 250VDC; 5A @ 120VAC</td>
</tr>
<tr>
<td>MG</td>
<td>SPDT Gold Mechanical</td>
<td>Honeywell MicroSwitch</td>
<td>1A @ 125 VAC; 50 mA @ 24 VDC</td>
</tr>
<tr>
<td>MC</td>
<td>SPDT Mechanical</td>
<td>Honeywell MicroSwitch</td>
<td>Mechanical switch 250°F</td>
</tr>
<tr>
<td>F3</td>
<td>IF5250</td>
<td>IFM</td>
<td>10-36VDC NC PNP, 150mA, 3-wire NC</td>
</tr>
<tr>
<td>F5</td>
<td>IF6001</td>
<td>IFM</td>
<td>18-32VDC, NO PNP, 150mA @ 50°C</td>
</tr>
<tr>
<td>F6</td>
<td>IF6034</td>
<td>IFM</td>
<td>10-36VDC, NO PNP, 150mA, Stainless Steel</td>
</tr>
<tr>
<td>F7</td>
<td>IN0074</td>
<td>IFM</td>
<td>20-250 AC/DC NO, 350mA/100mA</td>
</tr>
<tr>
<td>F8</td>
<td>IN0081</td>
<td>IFM</td>
<td>20-250 AC/DC NO, 350mA/100mA w/LED</td>
</tr>
<tr>
<td>P5</td>
<td>SPDT Proximity</td>
<td>Hamlin</td>
<td>0.25A @ 120 VAC; 0.25A @ 28 VDC (3 W Max.)</td>
</tr>
<tr>
<td>PE</td>
<td>SPDT Sable Proximity</td>
<td>Flowserve</td>
<td>1A @ 120 VAC, 1A @ 24 VDC</td>
</tr>
<tr>
<td>PF</td>
<td>SPDT Phazer Proximity</td>
<td>Flowserve</td>
<td>3A @ 120 VAC, 2A @ 24 VDC</td>
</tr>
<tr>
<td>PT</td>
<td>SPST BRS Proximity</td>
<td>Flowserve</td>
<td>3A @ 120 VAC; 0.5 @ 24 VDC</td>
</tr>
<tr>
<td>N3</td>
<td>Slotted NAMUR</td>
<td>PF SJ3.5-S1N</td>
<td>NAMUR NO 2-wire Safety function</td>
</tr>
<tr>
<td>N8</td>
<td>Solid State Proximity</td>
<td>PF NJ2 V3 N</td>
<td>NAMUR NC Sensor; 8 VDC</td>
</tr>
<tr>
<td>N9</td>
<td>Solid State Proximity</td>
<td>PF NBB3-V3-Z4</td>
<td>NPN Sourcing; 100 mA max. Current; 5-60 VDC</td>
</tr>
<tr>
<td>NP</td>
<td>Solid State Proximity</td>
<td>PF SJ3.5-N</td>
<td>NAMUR Sensor Output; 5-25 VDC Supply</td>
</tr>
<tr>
<td>NQ</td>
<td>Solid State Proximity</td>
<td>PF NJ4-12GM40-E1</td>
<td>NAMUR NC Sensor; 8 VDC</td>
</tr>
<tr>
<td>NR</td>
<td>Solid State Proximity</td>
<td>PF NJ4-12GM40-E2</td>
<td>NPN Sourcing; 200 mA max. Current; 10-60 VDC</td>
</tr>
<tr>
<td>NS</td>
<td>Solid State Proximity</td>
<td>PF NJ4-12GM40-E3</td>
<td>NPN Sourcing; 200 mA max. Current; 10-60 VDC</td>
</tr>
<tr>
<td>NT</td>
<td>Solid State Proximity</td>
<td>PF NJ4-12GM40-E2</td>
<td>NPN Sourcing; 200 mA max. Current; 10-60 VDC</td>
</tr>
<tr>
<td>NW</td>
<td>Solid State Proximity</td>
<td>PF SJ3.5-SN</td>
<td>NAMUR NC Sensor; 8 VDC</td>
</tr>
</tbody>
</table>

More switch options available

## Data/Materials

### Data

- **Ingress protection**: IEC 529 IP 66, Nema Type 4X
- **Weight**
  - Aluminum housing: 1.8kg / 4 lbs
  - Stainless Steel housing: 3.5kg / 7.75 lbs

### Material

- **Housings & Covers**: Powder epoxy painted Aluminum or Stainless Steel
- **Shaft**: Stainless Steel
- **Cams/Splines**: Nylon
- **Terminal Block**: Nylon
- **Internal Brackets**: Nylon, Aluminum or Stainless Steel
- **All External Fasteners**: Stainless Steel
- **All Internal Fasteners**: Stainless Steel
- **Indicator**: Polyurethane
- **Label**: Polyester or Stainless Steel

### Certificate

- **ATEX**: II 2GD Ex d IIC T4 Gb
- **IECEx**: Ex d IIC T4 Gb
- **cCSA Class I, Division 1, Groups B,C,D, T4**
- **CSAus Class I, Division 1, Groups A,B,C,D, T4**
**DS/DM-Series Ultraswitch™ Switch box Nomenclature**

**A = Product & Connections (cable entry)**
- DS  Explosion proof / Flame proof switch box with 3/4" NPT cable entries
- DM  Explosion proof / Flame proof switch box with M25x1,5 cable entries

**B = Number of open cable entries**
- 2  2 x open cable entries (standard)
- 3  3 x open cable entries (option)

**C = Housing material /Surface treatment**
- B  Aluminum housing, polyester powdercoating, Black base & cover
- W  Aluminum housing, polyester powdercoating, Black base & White cover
- C  Aluminum housing, polyester powdercoating, Black base & Optional cover color
- S  Stainless Steel housing

**D = Shaft**
- D  Double 'D' Shaft 1/4"
- N  Namur VDI/VDE 3845 Shaft (rotary actuators)
- T  For NAF Turnex actuators
- L  D style including nut for linear applications

**E = Indicator option**
- 0  No indicator
- 1  Indicator

**F = Qty of switches**
- 0  0 Switches
- 2  2 Switches
- 4  4 Switches

**G = Switch options - see page with switch options**

**H = Certificate**
- 14 General Purpose
- 18 cCSA Class I, Division 1, Groups B,C,D; Class II, Division 1, Groups E, F, G; Class III T4
- 18 CSAus Class I, Division 1, Groups A,B,C,D; Class II, Division 1, Groups E, F, G; Class III T4
- 19 ATEX II 2GD, Ex d IIC T4 Gb, Ex tb IIIC
- 25 IECEx Ex d IIC T4 Gb, Ex tb IIIC

**I = Product approval marking**
- 0  Self-adhesive marking label, Polyester
- M  Stainless steel marking plate

**J = Analog Output**
- 0  None
- 4  4-20mA transmitter (G= none, M1 or MG only)

**K = Terminal Options**
- 2  2 Extra open terminals (Standard)
- 4  4 Extra open terminals (Optional, not possible for all switch options)
- 6  6 Extra open terminals (Optional, not possible for all switch options)
- 8  8 Extra open terminals (Optional, not possible for all switch options)
- H  Heavy Duty Terminal Block, 8 contact points.

**L = Options/ Elastomers**
- 0  Nitrile O-rings
- V  Viton O-rings

**M = Brand**
- P  PMV

<table>
<thead>
<tr>
<th>Ordering code example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>DS</td>
</tr>
</tbody>
</table>
Dimensions DS/DM (mm/Inch)

3/4"-14 NPT OR M25x1.5 (1-3x)

Clearance=145 (5.701)

5/16"-18 UNC(4X)

M6(4X)

Ø 125 (4.213)

35.4 (1.394)

57.2 (2.252)

93 (3.740)

149 (5.866)

137.5 (5.413)

15.908

Ø56 (2.203)

35.4 (1.394)

57.2 (2.252)

137.5 (5.413)
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