

Mobrey M-Switch

Float operated liquid level switch

Data sheet
IP116

M - Switch

- Small in-tank dimensions
- Simple liquid level alarm
- Traditional high reliability switching
- European Directive compliance
- ATEX Flameproof models EExd

Features

- Tough industrial build quality
- 316 St. Steel construction
- Flanged or threaded mounting

Description

Manufactured in 316 stainless steel throughout, the M-Switch is available for side mounting with either a flange or 2" thread. Comprising a small float on the wet side and a body containing a high current micro-switch on the dry side, the Mobrey M-Switch will reliably detect liquid level to give a voltage free contact operation for alarm signalling or as part of a pump control system.

Operation

One permanent magnet forms part of a float assembly which rises and falls with changing liquid level. A second permanent magnet is positioned within the switch so that the adjacent poles of the two magnets repel each other through the non-magnetic wall of the switch body. A change of liquid level which moves the float through its permissible travel will cause the float magnet to move and repel the switch magnet to give snap-action operation of the micro-switch contacts.

Typical Applications

- Low level alarms in lubricating oils & fuel oils
- Pump control duty in header tanks
- High and low alarms in condensate tanks
- Level and pump control in storage tanks

Installation

The M-Switch is designed for side mounting either direct into a vessel or in an external chamber. Choose a position where the effects of turbulence caused by agitators or inlets are minimised. The switch should be positioned so that the float may move freely over its full travel and not foul the sides, bottom or top of the tank. A flange or threaded boss is recommended for pressurised applications, designed such that the float is free to move over its full travel. Refer to Installation leaflet for full details.

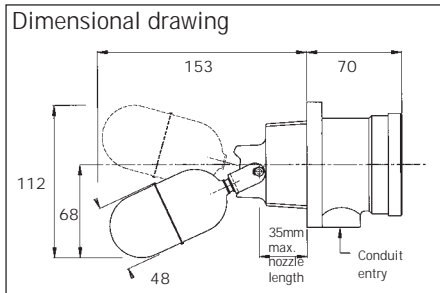
Technical Specification

| | |
|--------------------------------------|-------------------------------|
| Operating pressure | See table overleaf |
| Operating temp. Ambient temp. | 0°C to +130°C 0°C to +60°C |
| Minimum S. G. Differential | 0.75 25mm |
| Length into tank | 153mm |
| Float diameter | 48mm |
| Max. float swing | 112mm |
| Switching function | SPCO |
| Wetside material | 316 St. Steel |
| Body material | 316 St. Steel |
| End cover matl. | 316 St. Steel |
| Gasket: | |
| A flange | Non-Asbestos |
| D flange | Ethylene Prop. |
| Conduit entry | |
| A,D flange | M20 |
| BSPT thread | M20 |
| NPT thread | ½" NPT |



ATEX



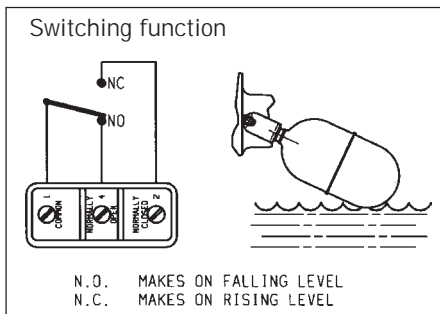


Dimensional drawing

| | A | B | C | D* |
|----------|----|----|----|----|
| Mobrey A | 92 | 14 | 92 | 66 |
| Mobrey D | 92 | 9 | 83 | 50 |

*Mounting hole Dia. D to be +/-1mm

Approvals
 Marine: Germanischer Lloyd
 ATEX: 11 1/2G EExd IIC T6
 0 to 50°C



Weatherproof models

| Code | Description | | |
|------|---|---------------|----------|
| SM | Mobrey M-Switch, 316 St. Steel construction | | |
| Code | Mounting arrangement | Max. pressure | |
| | | 20°C | 130°C |
| A | Mobrey "A" Flange | 19 bar | 15.4 bar |
| D | Mobrey "D" Flange | 3 bar | 3 bar |
| B | 2" BSPT Threaded | 19 bar | 15.4 bar |
| N | 2" NPT Threaded | 19 bar | 15.4 bar |
| Code | Enclosure | | |
| 1 | Weatherproof IP66 / IP67 | | |

SM A 1 Typical model number

Flameproof models

| Code | Description | | |
|------|--|---------------|--------|
| SM | Mobrey M-Switch, 316 St. Steel construction | | |
| Code | Mounting arrangement | Max. pressure | |
| | | 20°C | 130°C |
| A | Mobrey "A" Flange | 25.0 bar | 19 bar |
| B | 2" BSPT Threaded | 49.6 bar | 44 bar |
| N | 2" NPT Threaded | 49.6 bar | 44 bar |
| Code | Enclosure | | |
| 2 | Flameproof ATEX 11 1/2G EExd IIC T6 (IP66/ IP67) | | |

SM B 2 Typical model number

| Rating | AC | DC (Res.) | DC (Ind.) |
|----------------|-----|-----------|-----------|
| Max. voltage V | 250 | 250 | 250 |
| Max. current A | 15 | 0.25 | 15mA |

The microswitch contacts are gold plated and are suitable for use in low power circuits.

Note :- Switching high power circuits will permanently damage the gold plating. Not suitable for the direct starting of large motors

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