

Mobrey Squitch 2

Ultrasonic Liquid Level Switch



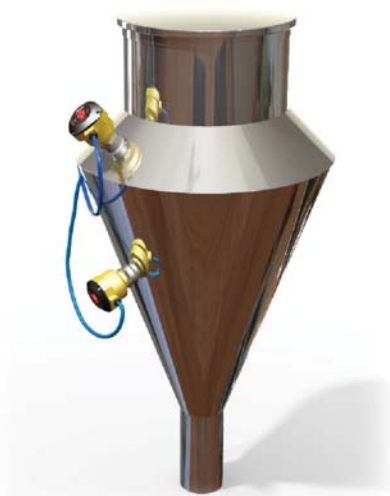
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- A compact, self-contained, ultrasonic gap sensor, designed for switching in clean, non-aerated liquids
- BSPT and NPT threaded mounting options
- Can be interfaced directly to a PLC using a simple instrument cable
- Simple two-wire installation
- LED indicator for health status
- 316 Stainless steel wetted parts

Mobrey Squitch 2 Level Switch Overview



Threaded Squitch 2



High and Low Level Alarm Application Using Two Threaded Squitches

See “Specifications” on page -4 for technical details.

Overview

The Mobrey Squitch 2 is a compact, self-contained ultrasonic sensor with a 240 Vac/Vdc switching capability. This switching electronics requires only two electrical connections and can use a simple instrument cable.

When connected in series with the load (contactor, starter, relay, etc.), the Squitch 2 acts as a simple switch that is operated by a liquid presence. It may also be interfaced directly to a Programmable Logic Controller (PLC). For this purpose, a dedicated PLC terminal is provided within the housing. The Squitch 2 sensor is for use in non-hazardous areas only. There are a variety of threaded options available, and installation can be in any position on the vessel.

Operation

When a liquid fills the sensor gap, an ultrasonic signal is transmitted across the gap and the presence of liquid is signalled. When the sensor gap is filled with air, there is no signal transmitted and a “dry” state is signalled.

Easy On-site Set-up

A selector switch sets the Squitch 2 to energise in either wet or dry conditions.

When the Squitch 2 is 'off', less than 4.5 mA is drawn through the load and a red LED (viewed through a cover lens) flashes approximately once per second.

When the Squitch 2 is 'on', the full load current of 0.5 A (maximum) flows and the red LED is lit constantly.

In this way, there is always an indication that the ultrasonic gap sensor is 'alive and well'.

A typical Application is point level detection in a wide variety of industries including vegetable oil refineries, confectionery, breweries, food machinery, and pharmaceutical plant.

Note

The Mobrey Squitch 2 is not designed to be used in aerated liquids such as carbonated drinks or in liquids with high concentrations of suspended solids such as liquid chocolate. For these applications, vibrating fork technology is recommended – visit the Mobrey brand pages at www.emersonprocess.com for more information.

Features and Benefits

- 316 stainless steel wetted parts
- LED status indicator
- May be interfaced directly to a Programmable Logic Controller (PLC), or mounted in pipes for low cost installation
- Low cost, easy to maintain, and no moving parts
- Simple to install Low level fail-safe

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Ordering Information



Squitch 2 Level Switch

- A compact, self-contained ultrasonic sensor with direct load switching capability
- 1-in. BSPT and NPT threaded mounting options

Additional Information

Specifications: [page 4](#)

Dimensions: [page 5](#)

Table 1. Squitch 2 Sensor Ordering Information

★The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

| Model | Product Description |
|--|---|
| 8 | Mobrey Squitch 2 ultrasonic liquid level switch |
| Mounting | |
| 30 | 1-in. BSPT Thread (R 1 in.) |
| 34 | 1-in. BSPP Thread (G 1 in.) |
| 35 | 1-in. NPT Thread |
| Wetside Material | |
| SD | 316L Stainless steel (1.4044) |
| Housing | |
| S | Yellow glass-filled nylon housing |
| Use | |
| 0 | Non-hazardous (safe) area use only |
| Output | |
| 0 | Direct load switching (24 to 240 Vac/Vdc) |
| Wetside Finished | |
| 0 | Electro polished |
| Materials Certificates | |
| 0 | Typical (on request only) |
| Fork Length | |
| 0 | Standard Length |
| Typical Model Number: 8 30 SD S 0 0 0 0 | |

Specifications

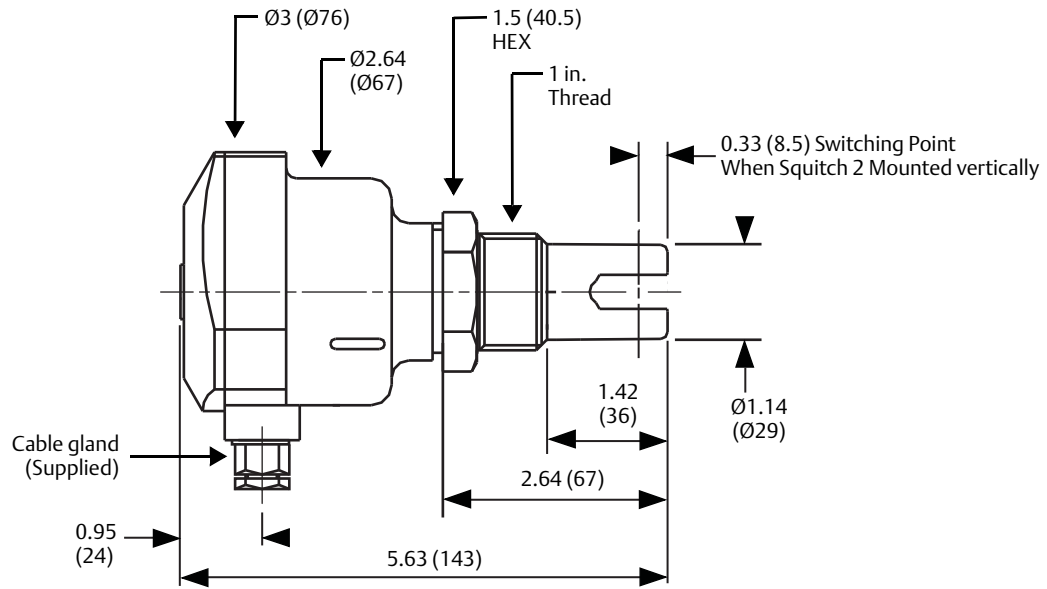
Table 2. Specification for the Mobrey Squitch 2

| Construction | |
|-------------------------------------|---|
| Wetside material | 316L Stainless steel (1.4044) |
| Dryside material | Glass-filled nylon, housing yellow, black housing cover |
| Operating conditions | |
| Process temperature | -40 to 125 °C |
| Ambient temperature | -40 to 50 °C |
| Process pressure | 0.25 to 20 bar g |
| Liquid density (SG) | 0.6 to 2.0 |
| Liquid viscosity | 0.2 to 10000 cPs |
| Switching point (H ₂ O) | 8.5 mm from tip (<i>when installed vertically</i>) or edge (<i>when installed horizontally</i>) |
| Hysteresis (H ₂ O) | ± 1 mm nominal |
| Switching delay | 1 second dry-to-wet/wet-to-dry |
| Maximum altitude | 2000 metres |
| Maximum humidity | 100% R.H. |
| Protection class | IP66/67 |
| Electrical | |
| Switching mode | User selectable (Dry = on or Wet = on) |
| Protection | Reverse polarity protected. Missing load / short circuit protection |
| Terminal connection (wire diameter) | Maximum 2.5 mm ² (Note national regulations) |
| Cable gland | Supplied with M16, cable diameter 5 to 8 mm |
| Earthing | Squitch 2 should always be earthed to a protective earthing system |
| Safety EMC | |
| E.M.C. Directive | EN61326 (Emissions) for Class B Equipment. |
| | EN61326 (Immunity) for continuous un-monitored operation in industrial locations |
| L.V. Directive | EN61010-1 |
| | Pollution degree 2, Category II (264V max) |
| | Pollution degree 2, Category III (150V max) |
| Mechanical | |
| Dimensions | See "Dimensional Drawings" on page -5 |
| Weight | 0.43 kg (0.95 lb) |

Dimensional Drawings

Mobrey SQUITCH 2 Dimensions

Note: Dimensions are in inches (mm) unless otherwise stated.



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