



## HORIZONTAL LIQUID LEVEL SENSORS

### LS Series

High- or low-level switching

N.O./N.C. SPST or SPDT outputs

Mounted on the side wall of a tank

Certified reed switch (UL component listed)

Choice of several non-reactive wetted materials

Many different configurations available

#### Features

- Voltage rating up to 250VAC
- Current rating up to 1.0 amp
- Compact design and low profile
- Optional cable lengths
- Includes mounting hardware

#### Applications

- Water and fuel storage tanks
- Full and/or empty detection
- Pump on/off controls
- Marine bilge and ballast tanks
- Flood detection and prevention
- Coolant level indication
- Livestock watering tanks
- Irrigation systems
- Water treatment plants
- Waste water tanks
- Chemical storage and processing

The LS series of point liquid level switches demonstrates a high degree of reliability due to the use of non-reactive wetted components and a unique reed switch designed specifically for level sensing applications. The sensor utilizes a moving float with an embedded magnet to activate a reed switch located in the sensor body. As the liquid level raises the float, it moves into close proximity to the reed switch and actuates it to give an open contact or closed contact switch indication.

The reliability of this sensor results from a very simple operating principle, a single moving part, media compatible wetted materials, and a unique reed switch design that has a UL recognized component certification.

The sensor mounts into the side wall of a liquid storage tank using either a 1/2" NPT or M16 x 2.0 threaded fitting. The M16 mount is available in either an internal or external configuration. The output is a simple N.O. or N.C. SPST, or SPDT reed switch that utilizes Ruthenium contact points for reliability. Changing from a N.O. output to a N.C. output is done by rotating the switch 180° in the mounting hole. This change can be done in the field. Electrical outputs are a single pair of wires with PVC insulation and optional lengths of 0.5 m or 2.0 m.

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## LIQUID LEVEL SWITCH

LS SERIES

### Absolute Maximum Ratings <sup>(1)</sup>

| Parameter                            | Min  | Max   | Units | Notes/Conditions       |
|--------------------------------------|------|-------|-------|------------------------|
| DC contact voltage (SPST)            |      | 100   | V     | Do not exceed 70W      |
| DC contact current (SPST)            |      | 1.0   | A     |                        |
| RMS contact voltage (SPST)           |      | 250   | V     |                        |
| RMS contact current (SPST)           |      | 1.0   | A     |                        |
| DC contact voltage (SPDT)            |      | 170   | V     | Do not exceed 5.0W     |
| DC contact current (N.O. SPDT)       |      | 0.4   | A     |                        |
| DC contact current (N.C. SPDT)       |      | 0.125 | A     |                        |
| RMS contact voltage (SPDT)           |      | 125   | V     |                        |
| RMS contact current (SPDT)           |      | 0.125 | A     |                        |
| Operating and storage temperature    | -30  | 110   | °C    |                        |
| Fitting pressure                     | -1.0 | 4.0   | Bar   | Internal tank pressure |
| Tank wall thickness (Internal mount) | 1.0  | 10    | mm    |                        |
| Tank wall thickness (External mount) | 1.0  | 4.0   | mm    |                        |

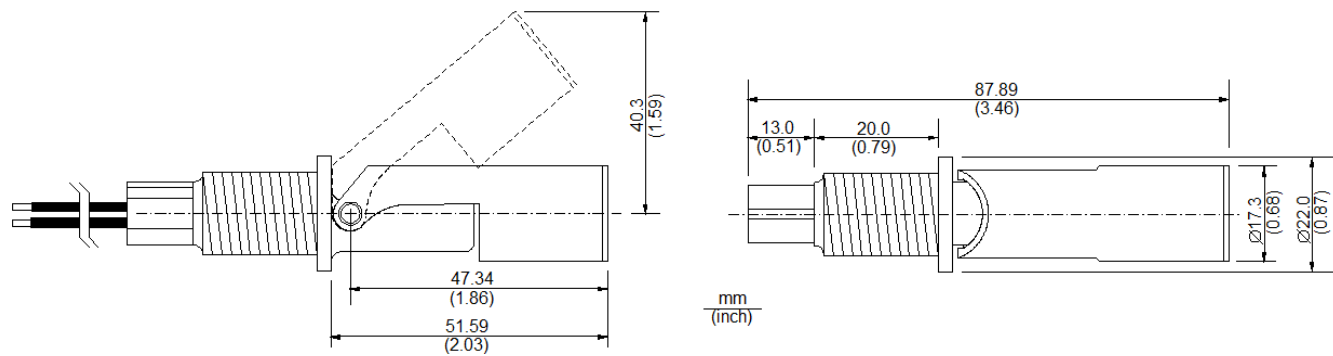
<sup>(1)</sup> Maximum limits the device will withstand without damage

### Product Specifications

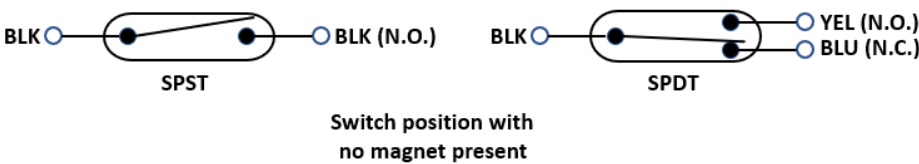
| Parameter                  | Details & Options                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting Orientation       | Side entry                                                                                                                                                                                           |
| Fitting                    | Internal or External                                                                                                                                                                                 |
| Switch Operation           | N.C. when float is horizontal                                                                                                                                                                        |
| Contact Forms              | Form A (SPST) or Form C (SPDT)                                                                                                                                                                       |
| Contact Material           | Ruthenium                                                                                                                                                                                            |
| Contact resistance (max)   | 140 mΩ                                                                                                                                                                                               |
| Housing and Float Material | Glass filled nylon 6.6 (better for oil, fuel, non-ionic liquids)<br>Glass filled PPS (better for water and aqueous solutions)<br>Glass filled Polypropylene (better for water and aqueous solutions) |
| Cable Description          | 18 AWG 32/0.2mm PVC insulated, UL/CSA/BS6361                                                                                                                                                         |
| Shock                      | ±50g 11ms half sign duration                                                                                                                                                                         |
| Vibration                  | ±35g 0 – 500Hz                                                                                                                                                                                       |
| Ambient Humidity           | 0 – 95% RH (non-condensing)                                                                                                                                                                          |
| Ingress protection         | IP68 (wetted surfaces) IP65 (non-wetted surfaces)                                                                                                                                                    |
| Approvals & Certifications | UL file E98428                                                                                                                                                                                       |

**LIQUID LEVEL SWITCH**  
LS SERIES

Outline Dimensions



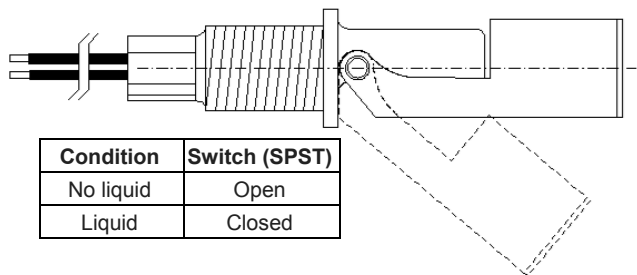
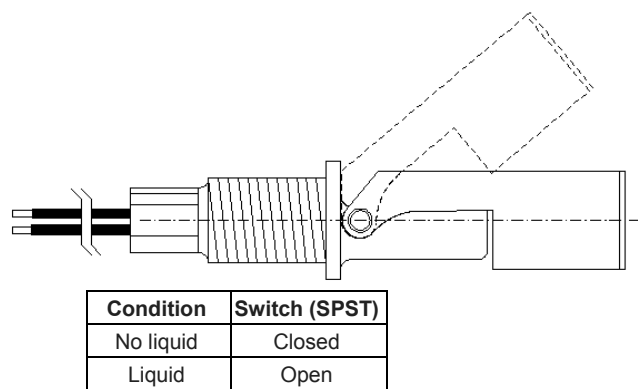
Schematic



LIQUID LEVEL SWITCH

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Mounting Orientations



Mounting Detail & Hardware

INTERNAL FITTING

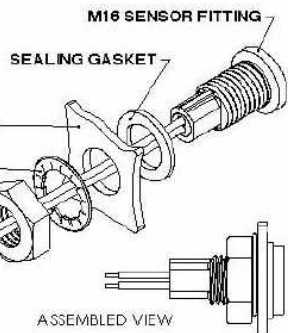
CONTAINER WALL  
(THICKNESS MAX 10mm, MIN 1mm)

NOTE! DRILL 0.65" OR 16.5mm HOLE,  
ENSURE FREE FROM SWarf AND  
SHARP EDGES.

LOCK WASHER

FIXING NUT

NOTE! MAX TORQUE 3lbs/ft  
OR 4Nm.



EXTERNAL FITTING

CONTAINER WALL  
(THICKNESS MAX 4mm, MIN 1mm)

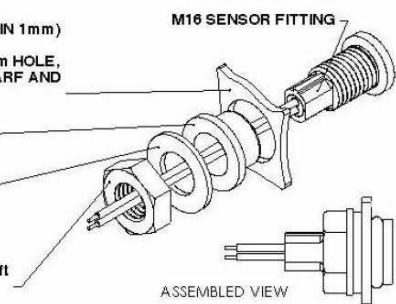
NOTE! DRILL 0.9" OR 23mm HOLE,  
ENSURE FREE FROM SWarf AND  
SHARP EDGES.

SEALING GROMMET

FRICTION RELIEF  
WASHER

FIXING NUT

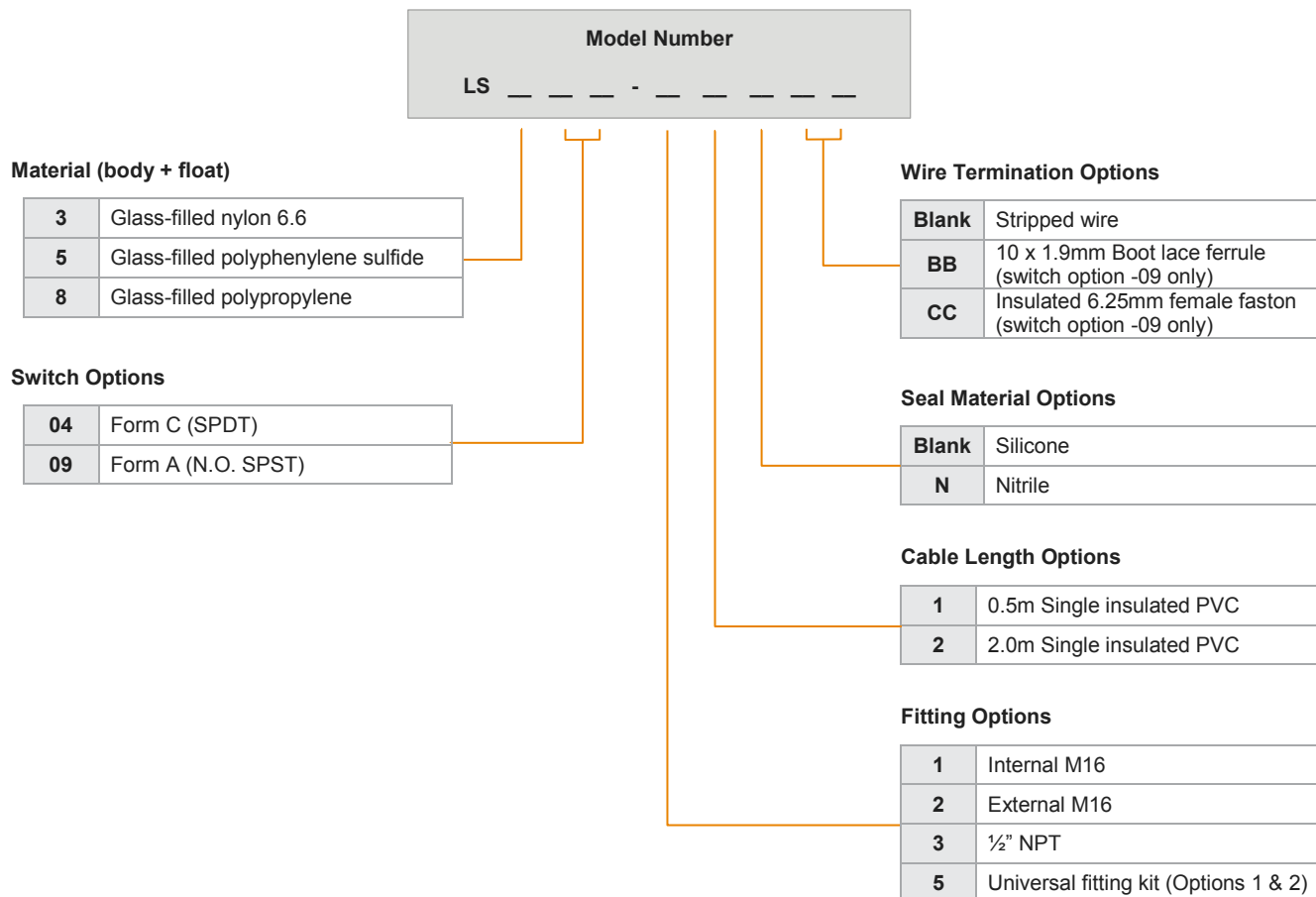
NOTE! MAX TORQUE 2lbs/ft  
OR 2.67Nm.



## LIQUID LEVEL SWITCH

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### Ordering Information



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