

# DATA SHEET

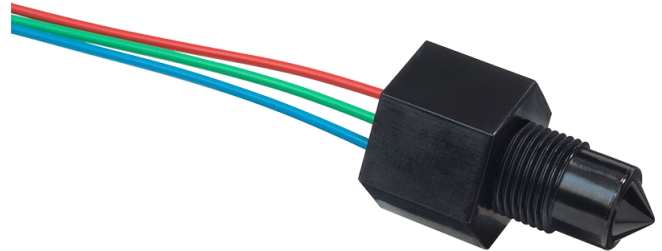
## Liquid Level Switches

### Optomax Industrial Series



#### FEATURES

- Liquid level switches that can detect almost any liquid type; oil or water based
- Choice of material; Polysulfone (standard) or Trogamid®
- Choice of threads



<b>Housing/ Mounting</b> <ul style="list-style-type: none"><li>M12x1</li><li>1/4" NPT</li><li>1/2" SAE</li></ul>	<b>Output Type / Logic</b> <ul style="list-style-type: none"><li>N-TYPE</li><li>P-TYPE</li><li>PUSH PULL</li><li>HIGH IN AIR</li><li>LOW IN AIR</li></ul>	<b>Supply Voltage</b> <ul style="list-style-type: none"><li>4.5 - 15.4 V VOLTAGE</li><li>8 - 30 V VOLTAGE</li></ul>	<b>Output Current</b> <ul style="list-style-type: none"><li>UP TO 1A CURRENT</li></ul>	<b>Temp</b> <ul style="list-style-type: none"><li>-25°C to +80°C TEMPERATURE</li><li>-40°C to +125°C TEMPERATURE</li></ul>
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#### BENEFITS

- High power
- Industrial supply voltage
- Direct load drive design

#### OUTPUT VALUES

**Output Voltage<sup>3</sup> (Vout): Iout = 1A**

**Vs = 4.5—15.4V<sub>DC</sub>**

Output High

Vout = Vs - 1.5V max

Output Low

Vout = 0V + 0.5V max

**Output Voltage (Vout): Iout = 1A**

**Vs = 8—30V<sub>DC</sub>**

Output High

Vout = Vs - 1.8V max

Output Low

Vout = 0V + 0.7V max

Other sensor options available on request, email:

[technical@sstsensing.com](mailto:technical@sstsensing.com)

#### TECHNICAL SPECIFICATIONS

Supply voltage (Vs)	4.5V <sub>DC</sub> to 15.4V <sub>DC</sub>
	or 8V <sub>DC</sub> to 30V <sub>DC</sub>
Supply current (Is)	2.5mA max. (Vs = 15.4V <sub>DC</sub> )
	or 7.5mA max. (Vs = 30V <sub>DC</sub> )
Output sink and source current (Iout)	1A
Operating temperatures	Standard: -25°C to +80°C Extended: -40°C to +125°C
Storage temperatures	Standard: -30°C to +85°C Extended: -40°C to +125°C
Housing material <sup>1, 2</sup>	Polysulfone or Trogamid®
Sensor termination	20AWG, 250mm PTFE wires, 8mm tinned

**Need help? Ask the expert**

**Tel: + 44 (0)1236 459 020  
and ask for "Technical"**

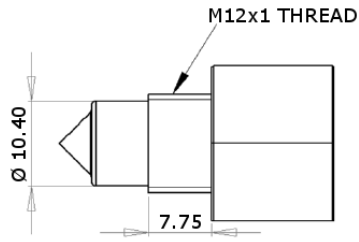
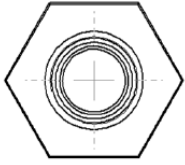


- 1) Above +85°C, Trogamid is suitable for water based liquids. Oil based liquids can cause deformation of the sensing tip and must be tested for compatibility.
- 2) Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®.
- 3) Voltages applicable to output value stated.

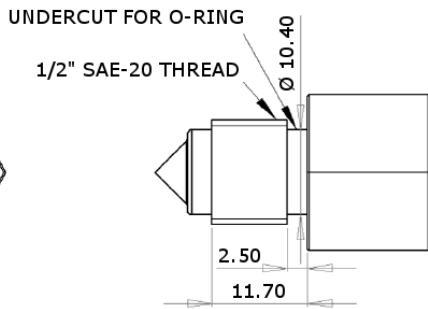
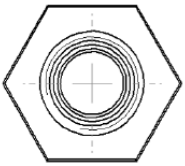
## OUTLINE DRAWING

All dimensions shown in mm. Tolerances =  $\pm 1$ mm.

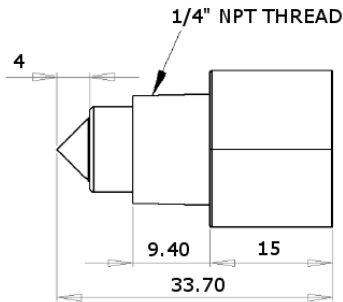
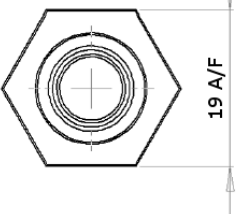
### LLx2x0 Series



### LLx6x0 Series



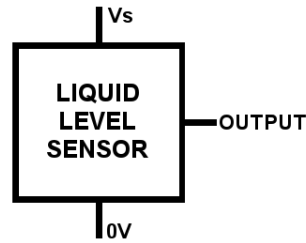
### LLx7x0 Series



## HOUSING SPECIFICATIONS

	Housing Series		
	2x0	6x0	7x0
Thread	M12x1x8g with hex nut <sup>1</sup>	1/2" SAE with O-ring <sup>1</sup>	1/4" NPT <sup>2</sup>
Pressure <sup>3</sup>	7 bar / 101 psi maximum		
Tightening Torque	1.5 Nm / 13.26 in-lbs maximum		

## ELECTRICAL INTERFACE



Wire	Designation
Red	Vs
Green	Output
Blue	0V



- 1) Hex nut and O-ring sold separately; email: [technical@sstsensing.com](mailto:technical@sstsensing.com) for details.
- 2) NPT version can be sealed with PTFE tape.
- 3) When correctly sealed.

In order to suit any application, these sensors have been designed with various output circuit configurations. They are identified by the 3-digit code at the end of the part number as shown in [Order Information](#).

**N-Type with Flyback Protection Diode  
High in Air**



**N-Type with Flyback Protection Diode  
Low in Air**



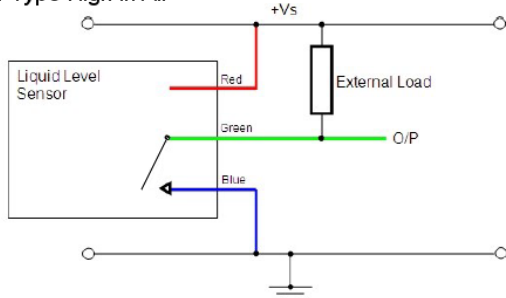
**N-Type with Internal 10kΩ Pull-Up Resistor  
High in Air**



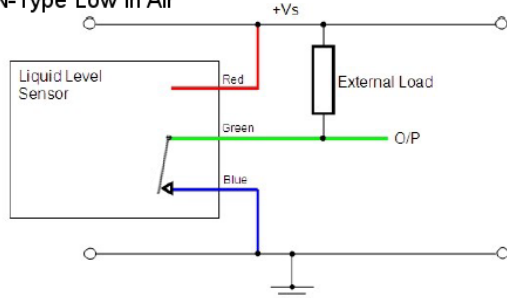
**N-Type with Internal 10kΩ Pull-Up Resistor  
Low in Air**



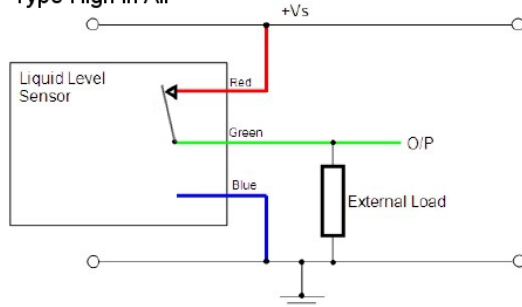
**N-Type High in Air**



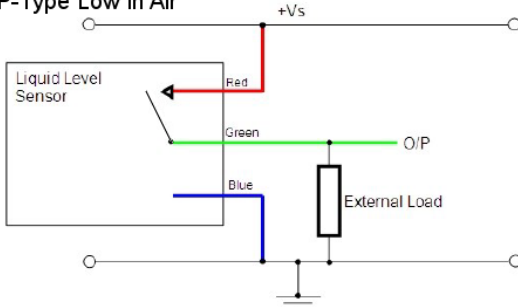
**N-Type Low in Air**



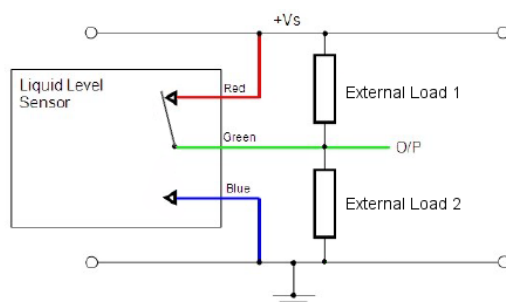
**P-Type High in Air**



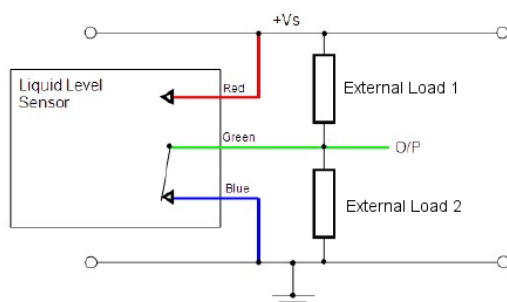
**P-Type Low in Air**



**N&P-Type Push Pull High in Air**



**N&P-Type Push Pull Low in Air**



**CAUTION:** Take care when connecting loads.

The minimum load impedance should not exceed  $V_s/\text{max output current}$ .

**Note:** Shorting the output to  $V_s$  or  $0V$  will result in irreparable damage to the sensor.