

# DATA SHEET

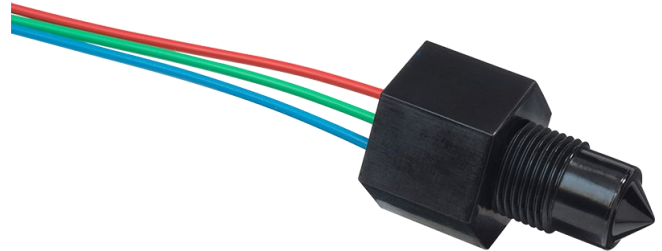
## Liquid Level Switches

### 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"**

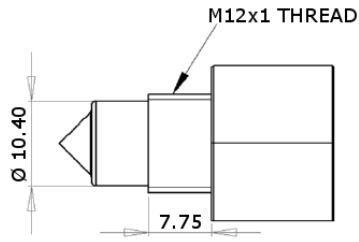
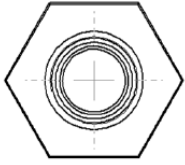


- 1) Above +85°C, Trogamid is suitable for water based liquids. Oil based liquids can cause deformation of the sensing tip and must be tested for compatibility.
- 2) Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®.
- 3) Voltages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

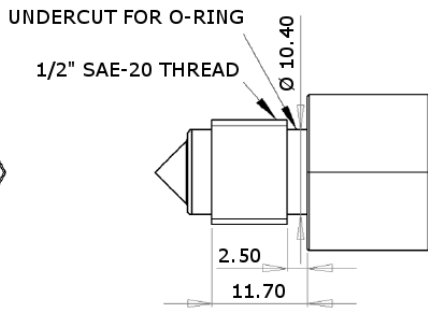
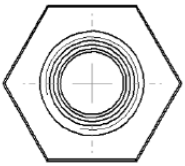
## OUTLINE DRAWING

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

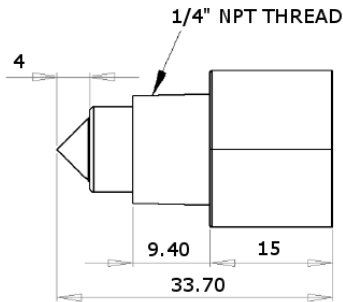
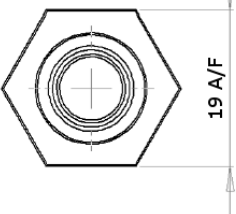
### LLx2x0 Series



### LLx6x0 Series



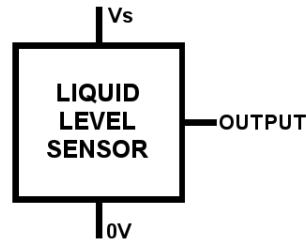
### LLx7x0 Series



## 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



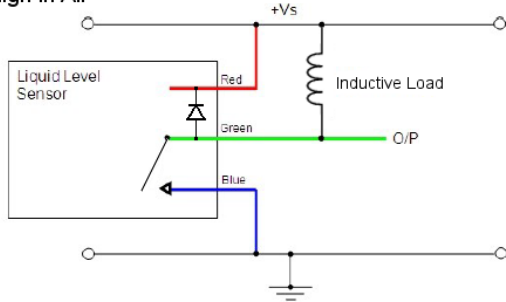
Wire	Designation
Red	Vs
Green	Output
Blue	0V



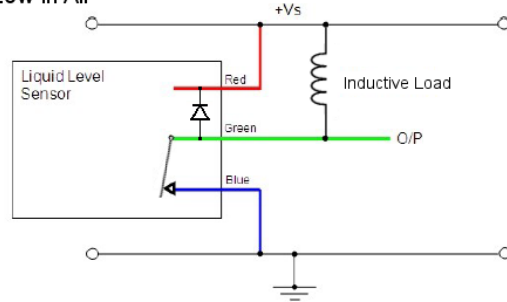
- 1) Hex nut and O-ring sold separately; email: [technical@sstsensing.com](mailto:technical@sstsensing.com) for details.
- 2) NPT version can be sealed with PTFE tape.
- 3) When correctly sealed.

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](#).

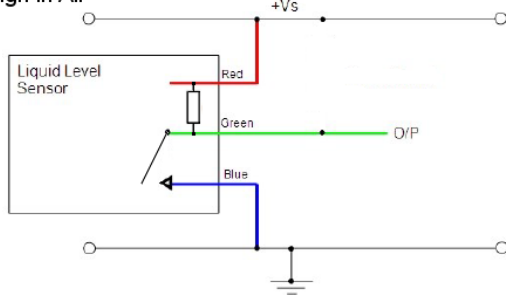
**N-Type with Flyback Protection Diode  
High in Air**



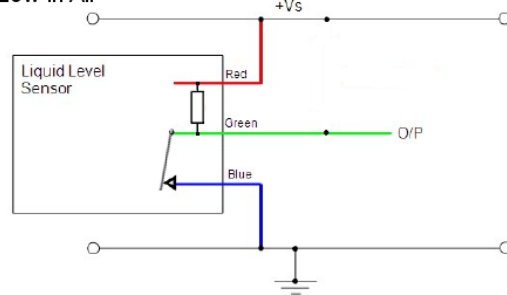
**N-Type with Flyback Protection Diode  
Low in Air**



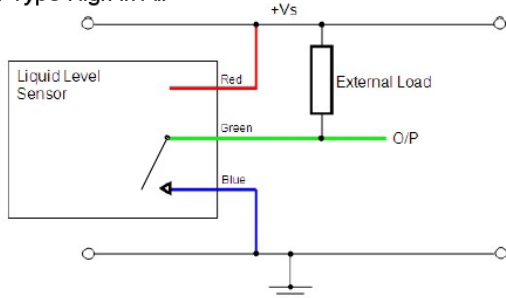
**N-Type with Internal 10kΩ Pull-Up Resistor  
High in Air**



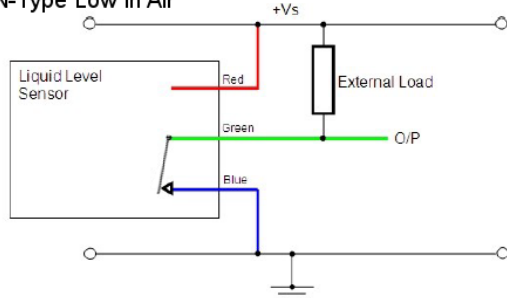
**N-Type with Internal 10kΩ Pull-Up Resistor  
Low in Air**



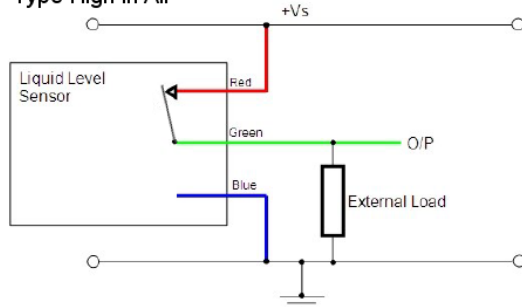
**N-Type High in Air**



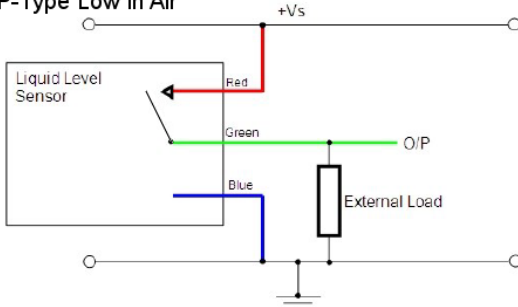
**N-Type Low in Air**



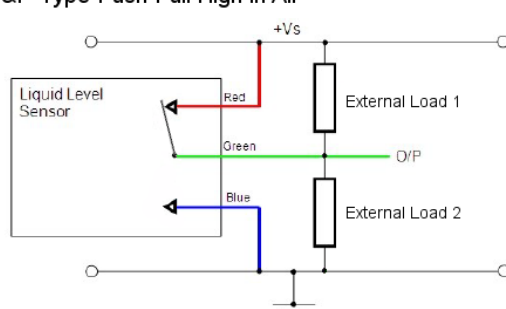
**P-Type High in Air**



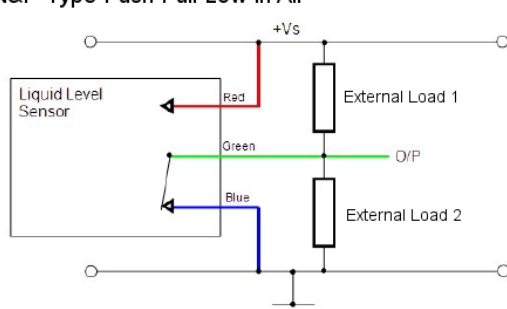
**P-Type Low in Air**



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



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



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

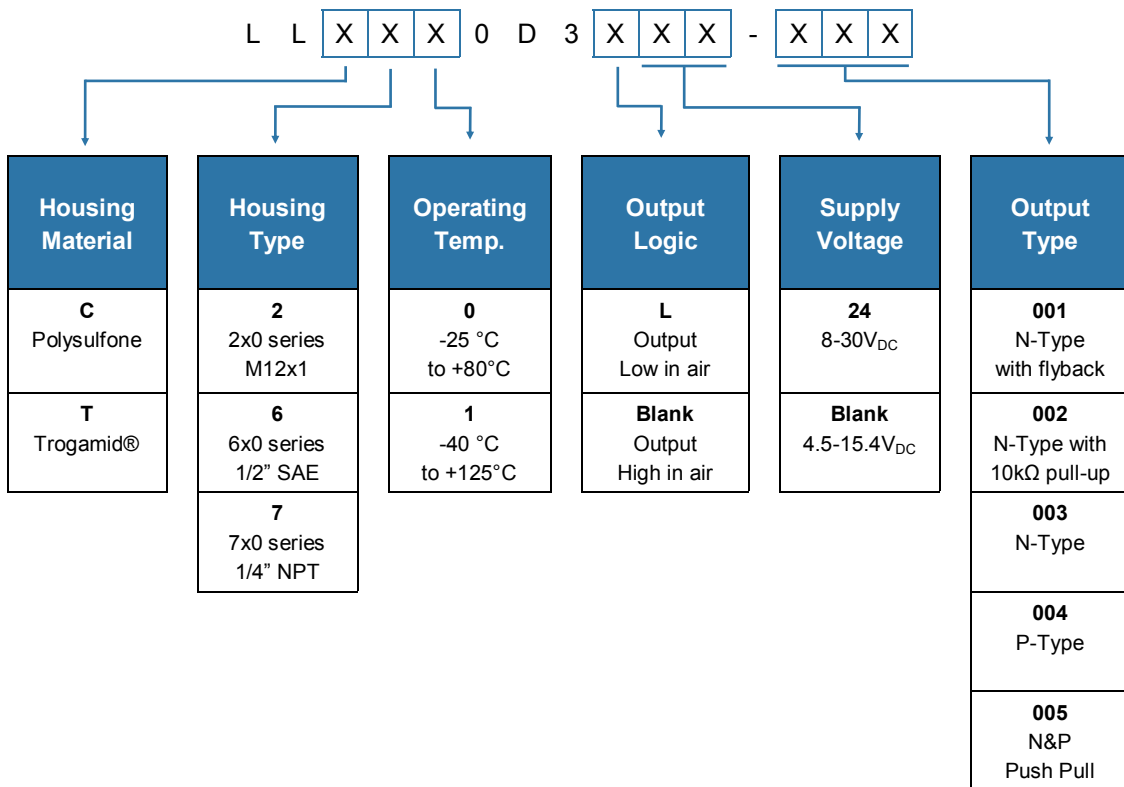
The minimum load impedance should not exceed  $V_s/\text{max output current}$ .

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



## ORDER INFORMATION

Generate your specific part number using the convention shown below. Use only those letters and numbers that correspond to the sensor and output options you require — omit those you do not.



### CAUTION

Do not exceed maximum ratings and ensure sensor(s) are operated in accordance with their requirements.

Carefully follow all wiring instructions. Incorrect wiring can cause permanent damage to the device.

SST Sensing Ltd recommend using alcohol based cleaning agents. Do NOT use chlorinated solvents such as trichloroethane as these are likely to attack the sensor material.

**Failure to comply with these instructions may result in product damage.**

### INFORMATION

As customer applications are outside of SST Sensing Ltd.'s control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure that the equipment is suitable for their intended application. Before use, check that the fluid in which you wish to use these devices is compatible with Polysulfone or Trogamid®.

**For technical assistance or advice, please email:**  
[technical@sstsensing.com](mailto:technical@sstsensing.com)

**General Note:** SST Sensing Ltd. reserves the right to make changes to product specifications without notice or liability. All information is subject to SST Sensing Ltd.'s own data and considered accurate at time of going to print.

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