

# DATA SHEET

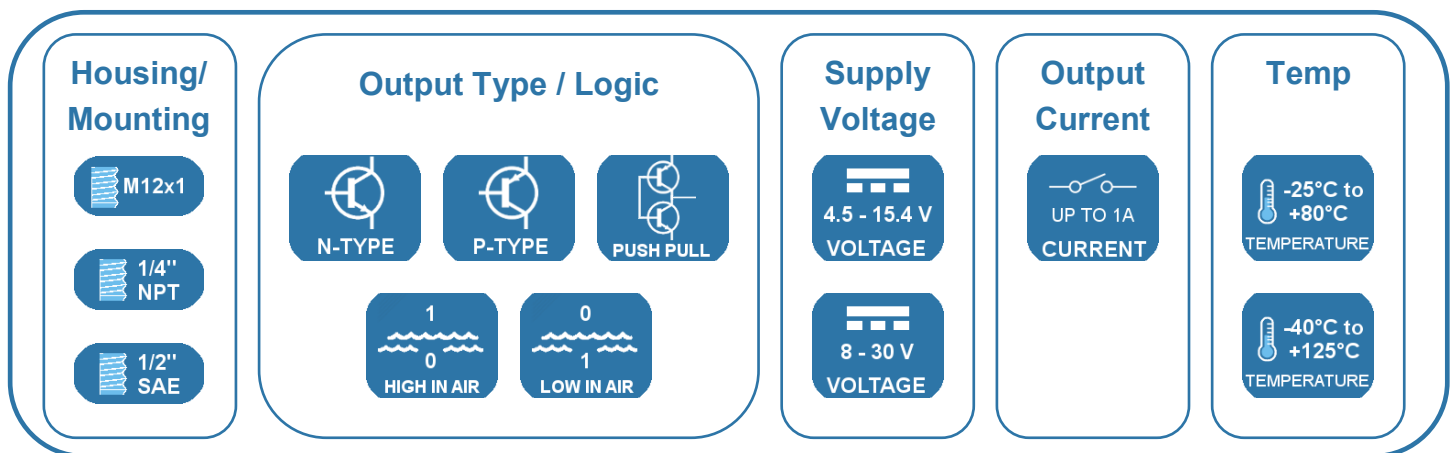
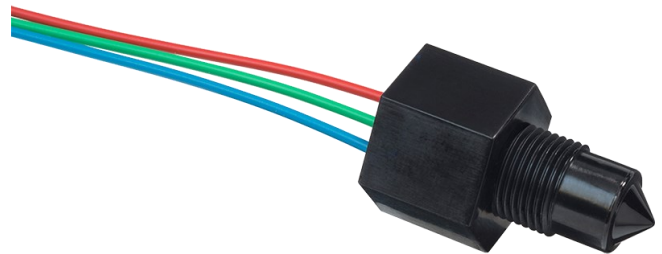
## Liquid Level Switches

### 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



#### BENEFITS

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

#### 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<br>Extended: -40°C to +125°C |
| Storage temperatures                  | Standard: -30°C to +85°C<br>Extended: -40°C to +125°C |
| Housing material <sup>1, 2</sup>      | Polysulfone or Trogamid®                              |
| Sensor termination                    | 20AWG, 250mm PTFE wires, 8mm tinned                   |

#### 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)

Need help? Ask the expert

Tel: + 44 (0)1236 459 020

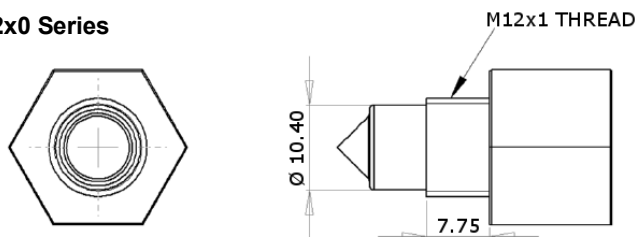
and ask for "Technical"



- 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.

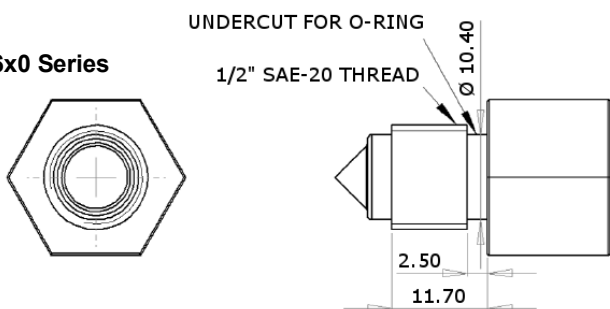
All dimensions shown in mm. Tolerances =  $\pm 1$ mm.

## LLx2x0 Series

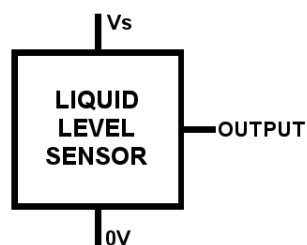


|                       | Housing Series                     |                                   |                       |
|-----------------------|------------------------------------|-----------------------------------|-----------------------|
|                       | 2x0                                | 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      |                                   |                       |

## LLx6x0 Series

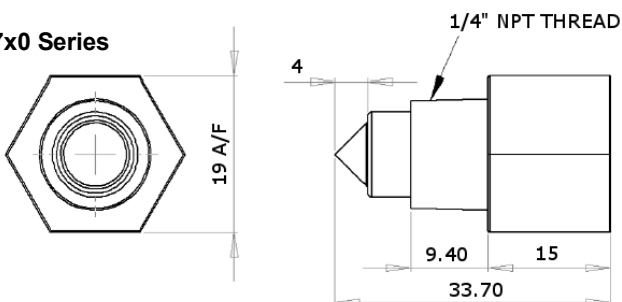


## **ELECTRICAL INTERFACE**



| Wire  | Designation |
|-------|-------------|
| Red   | Vs          |
| Green | Output      |
| Blue  | 0V          |

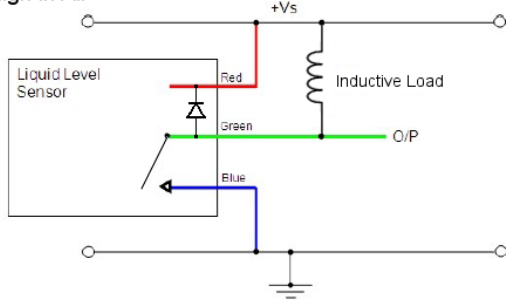
## LLx7x0 Series



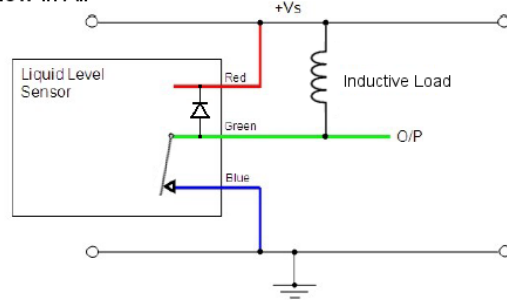
- 1) Hex nut and O-ring sold separately; email: [technical@sstsensing.com](mailto:technical@sstsensing.com) for details.
- 2) NPT version can be sealed with PTFE tape.
- 3) When correctly sealed.

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](#).

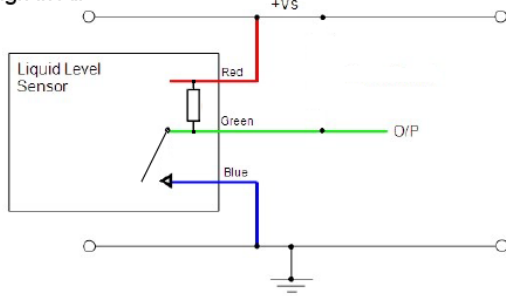
**N-Type with Flyback Protection Diode  
High in Air**



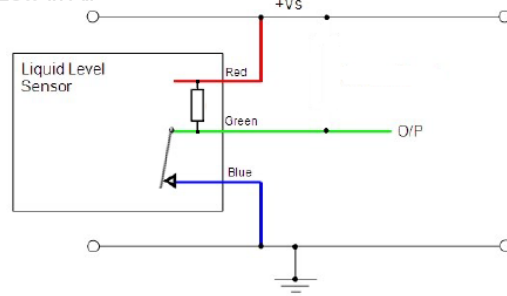
**N-Type with Flyback Protection Diode  
Low in Air**



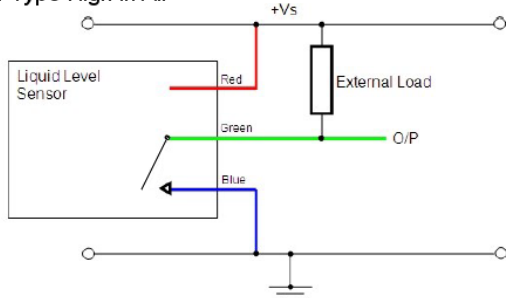
**N-Type with Internal 10kΩ Pull-Up Resistor  
High in Air**



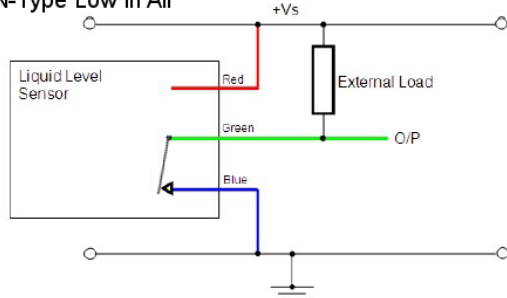
**N-Type with Internal 10kΩ Pull-Up Resistor  
Low in Air**



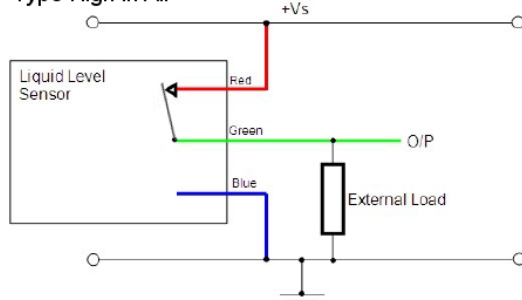
**N-Type High in Air**



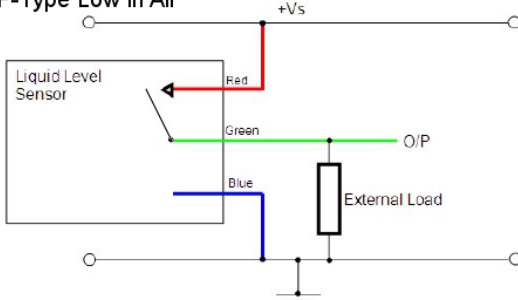
**N-Type Low in Air**



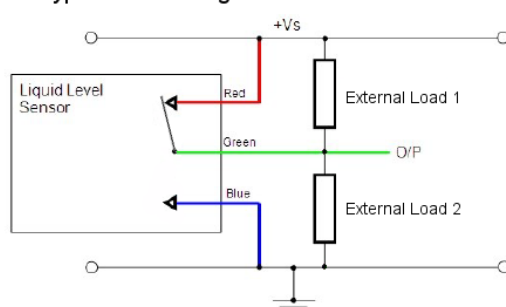
**P-Type High in Air**



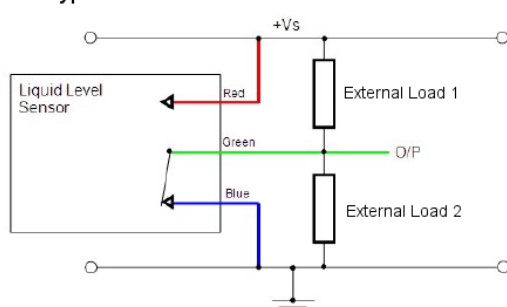
**P-Type Low in Air**



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



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



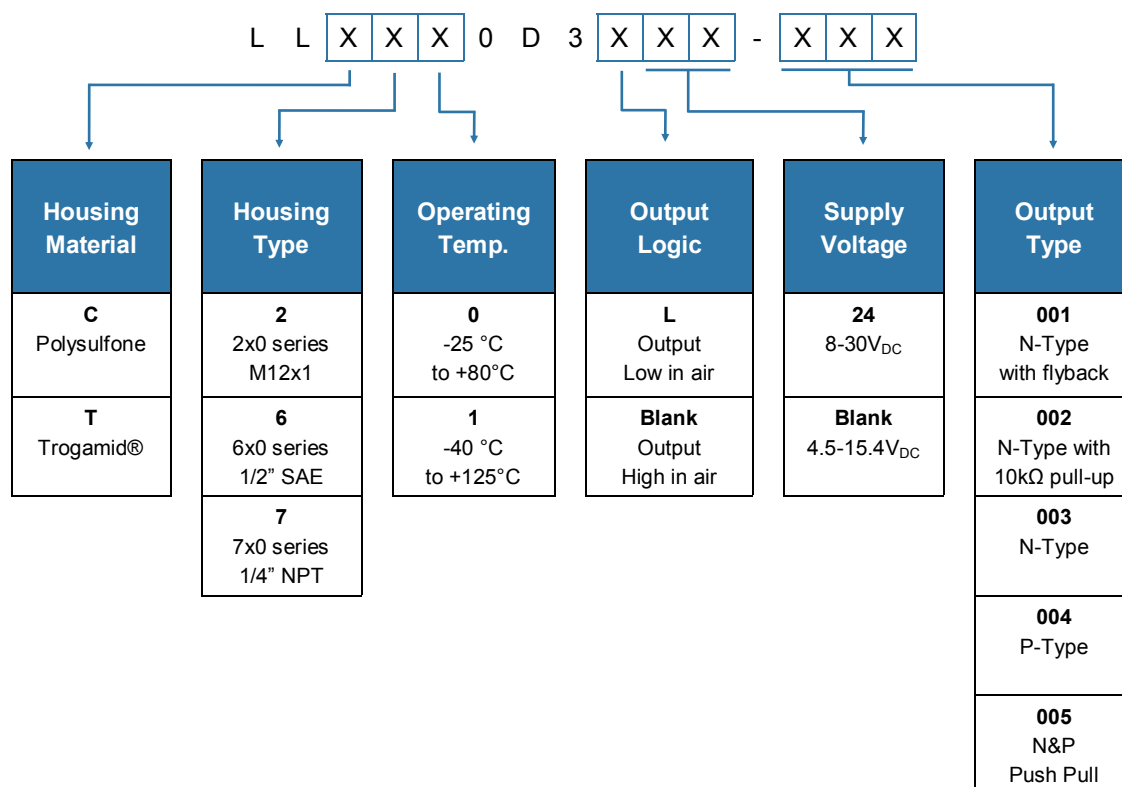
**CAUTION:** Take care when connecting loads.

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.