

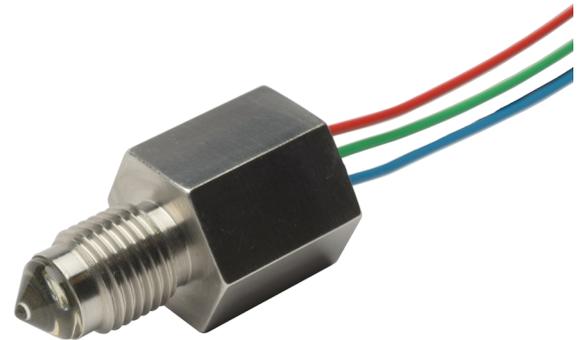
# DATA SHEET

## Liquid Level Switches

### Optomax Industrial Glass Series

#### FEATURES

- Liquid level switches that can detect almost any liquid type; oil or water based
- Suitable for harsh environments; robust stainless steel housing and glass tip
- Choice of mounting threads



Housing/ Mounting	Output Type / Logic	Supply Voltage	Output Current	Temp
<ul style="list-style-type: none"> <li>M12x1</li> <li>1/4" NPT</li> <li>1/2" NPT</li> <li>1/2" SAE</li> </ul>	<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>	<ul style="list-style-type: none"> <li>4.5 - 15.4 V VOLTAGE</li> <li>8 - 30 V VOLTAGE</li> </ul>	<ul style="list-style-type: none"> <li>UP TO 1A CURRENT</li> </ul>	<ul style="list-style-type: none"> <li>-40°C to +125°C TEMPERATURE</li> </ul>

#### 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 <sup>1</sup>	-40°C to +125°C
Storage temperatures	-40°C to +125°C
Operating pressure	0 to 600bar
Housing material	Stainless steel with glass tip
Sensor termination	20AWG, 250mm PTFE wires, 8mm tinned

#### OUTPUT VALUES

**Output Voltage<sup>2</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<sup>2</sup> (Vout): Iout = 1A**

**Vs = 8—30V<sub>DC</sub>**

Output High

Vout = Vs - 1.8V max

Output Low

Vout = 0V + 0.7V max

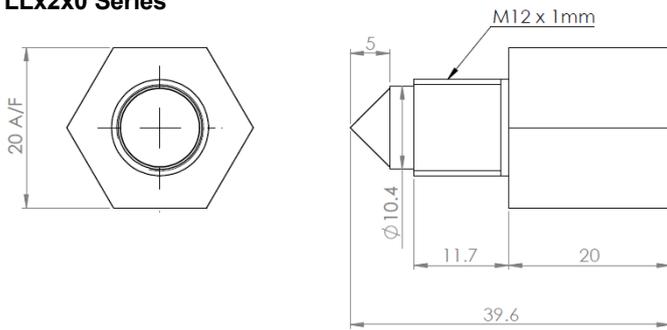


- 1) Not suitable for use in freezing liquid or high condensing environments such as steam.
- 2) Voltages applicable to output value stated.

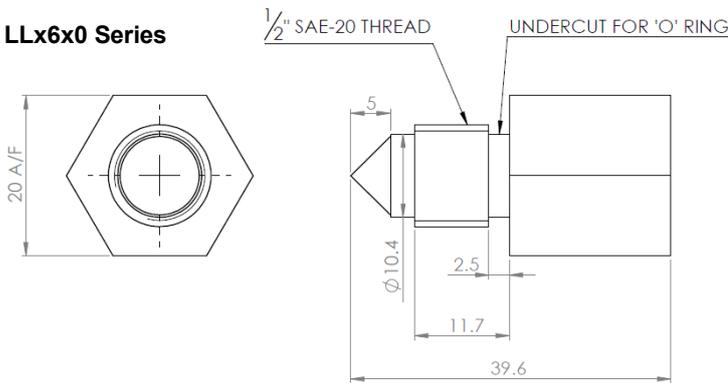
**OUTLINE DRAWING**

All dimensions shown in mm. Tolerances = ±1mm.

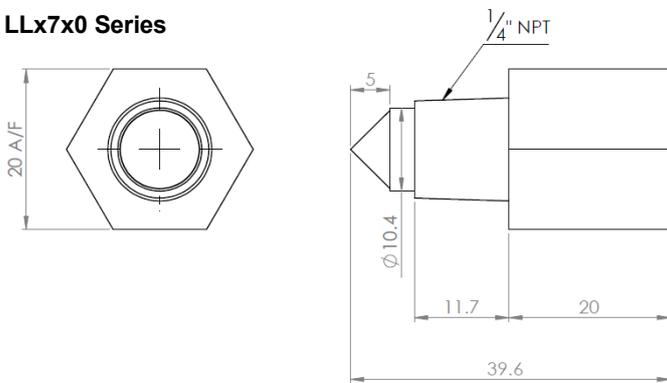
**LLx2x0 Series**



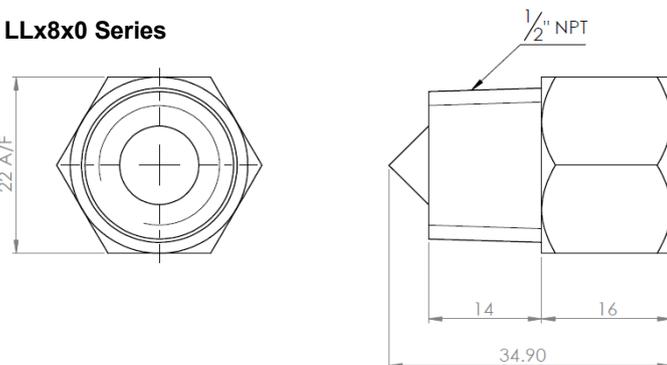
**LLx6x0 Series**



**LLx7x0 Series**



**LLx8x0 Series**

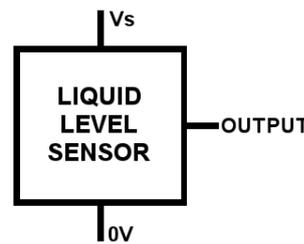


**HOUSING SPECIFICATIONS**

	Housing Series	
	G2x0	G6x0
Thread	M12x1x8g with hex nut <sup>1</sup>	1/2" SAE with O-ring <sup>1</sup>
Pressure <sup>3</sup>	100 bar / 1450 psi maximum	
Tightening Torque <sup>4</sup>	3 Nm / 26.5 in-lbs maximum	

	Housing Series	
	G7x0	G8x0
Thread	1/4" NPT <sup>2</sup>	1/2" NPT <sup>2</sup>
Pressure <sup>3</sup>	100 bar / 1450 psi max.	600 bar / 8702 psi max.
Tightening Torque <sup>4</sup>	3 Nm / 26.5 in-lbs maximum	

**ELECTRICAL INTERFACE**



Wire	Designation
Red	Vs
Green	Output
Blue	0V

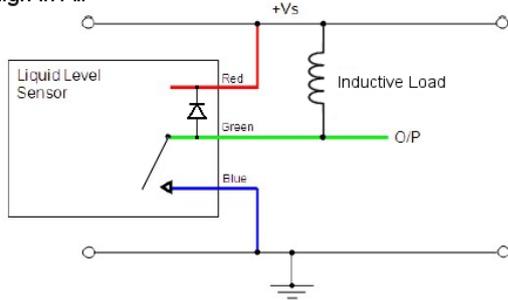


- 1) Hex nut and O-ring sold separately, email:
- 2) NPT version can be sealed with a curing type thread sealant such as "Loctite 565" with primer "N". Do NOT use PTFE tape.
- 3) When correctly sealed.
- 4) Do NOT over-tighten as this can permanently damage the sensor.

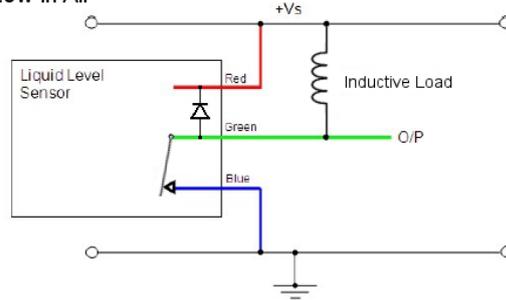
**CIRCUIT DIAGRAMS**

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

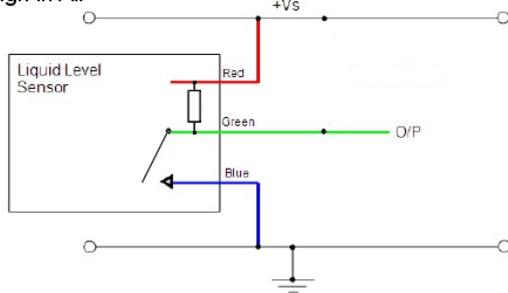
**N-Type with Flyback Protection Diode  
High in Air**



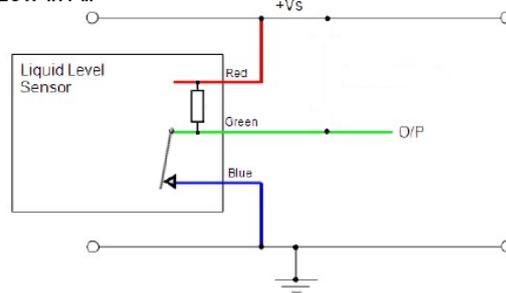
**N-Type with Flyback Protection Diode  
Low in Air**



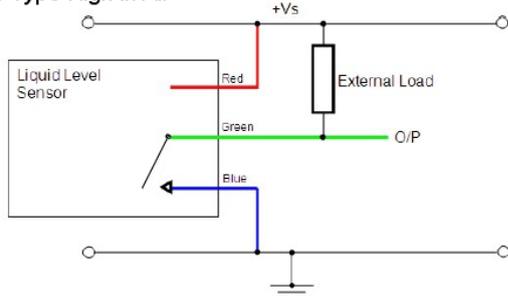
**N-Type with Internal 10kΩ Pull-Up Resistor  
High in Air**



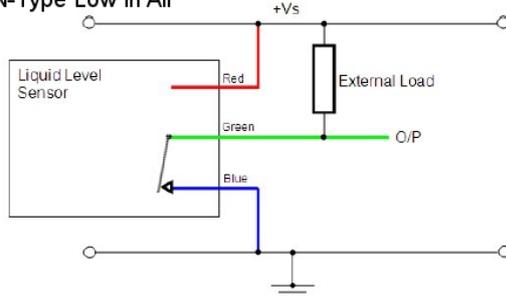
**N-Type with Internal 10kΩ Pull-Up Resistor  
Low in Air**



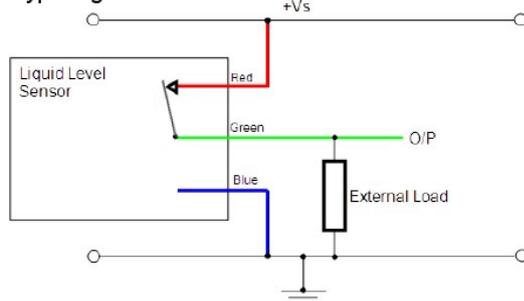
**N-Type High in Air**



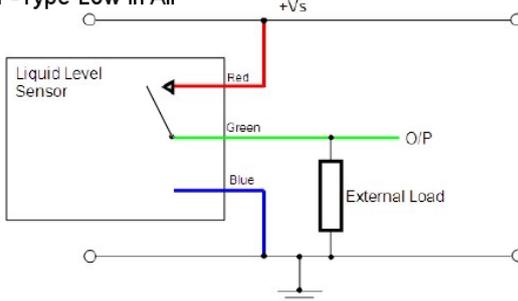
**N-Type Low in Air**



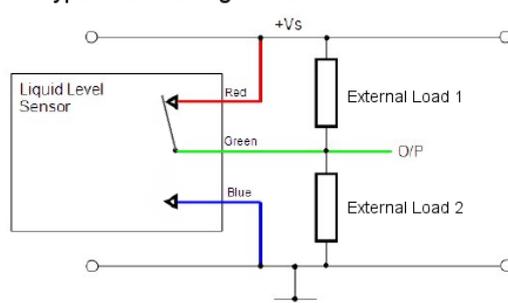
**P-Type High in Air**



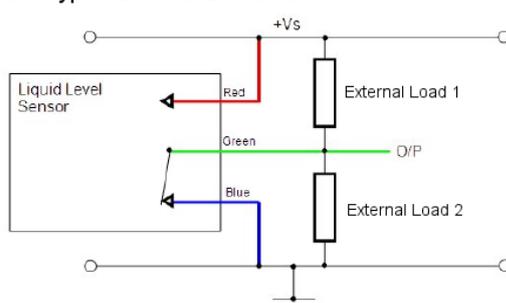
**P-Type Low in Air**



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



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



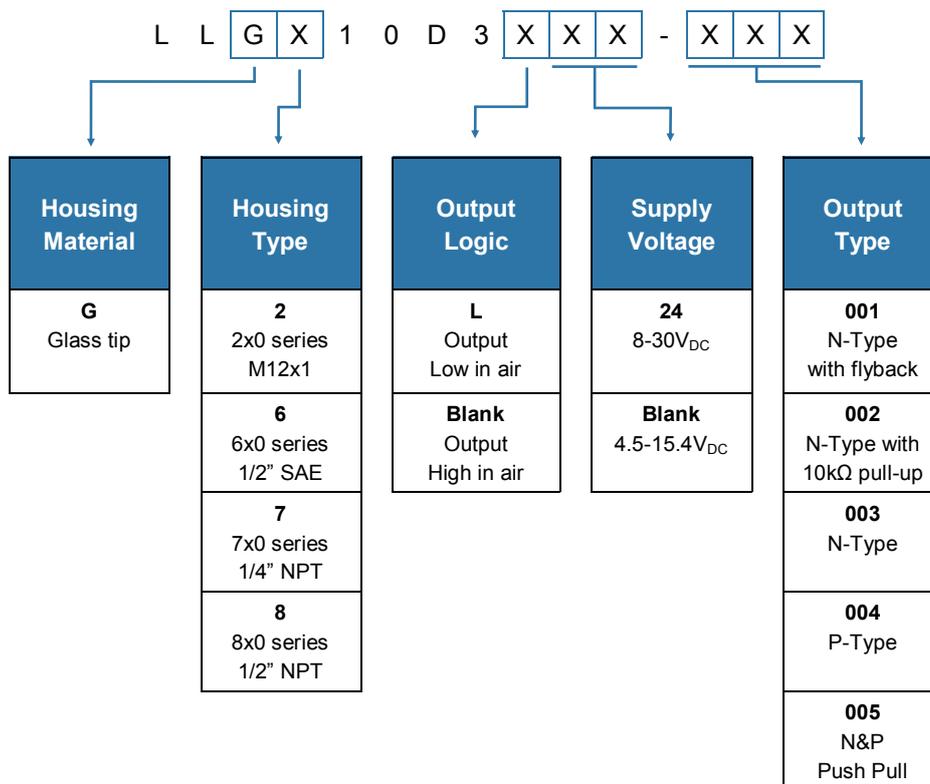
**CAUTION:** Take care when connecting loads.

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 Stainless Steel and glass.

**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.

