

# DATA SHEET

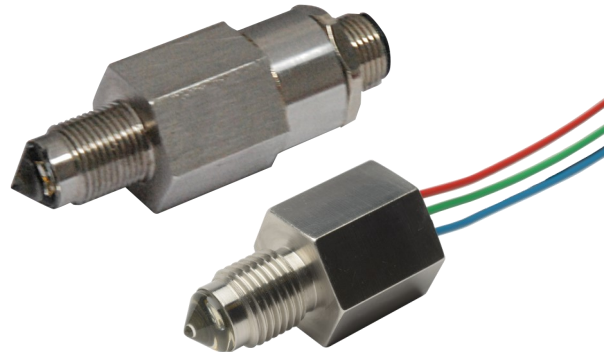
## Liquid Level Switches

### Optomax Industrial Glass Series



#### FEATURES

- Liquid level switches that can detect the presence or absence of oil or water based liquids
- Corrosion resistant, 316L stainless steel housing with hardened glass tip; suitable for harsh environments
- Compact size, wide operating temperature and pressure, choice of mounting threads and terminal connections



<b>Housing / Mounting</b>  <b>STAINLESS STEEL 316</b>  <b>GLASS TIP</b>  <b>M12x1</b>  <b>1/4" NPT</b>  <b>1/2" NPT</b>  <b>1/2"-20 UNF</b>	<b>Output Type / Logic</b>  <b>N-TYPE</b>  <b>P-TYPE</b>  <b>PUSH PULL</b>  <b>1 0 HIGH IN AIR</b>  <b>0 1 LOW IN AIR</b>	<b>Supply Voltage</b>  <b>4.5 - 15.4 V VOLTAGE</b>  <b>8 - 30 V VOLTAGE</b>	<b>Output Current</b>  <b>UP TO 1A CURRENT</b>	<b>Temp. / Pressure</b>  <b>-40°C to +125°C TEMPERATURE</b>  <b>0 - 600bar</b>
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#### BENEFITS

- Direct high current switching
- Industrial supply voltages
- Direct load drive design
- High pressure
- High temperature

#### APPLICATIONS

- Tank level control; fill/empty
- Leak detection
- Pump control
- Sump level switching
- Overfill protection

#### OUTPUT VALUES

**Output Voltage<sup>b</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>b</sup> (Vout): Iout = 1A**  
**Vs = 8—30V<sub>DC</sub>**  
 Output High Vout = Vs - 1.8V max  
 Output Low Vout = 0V + 0.7V max

#### 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)	Up to 1A
Operating temperature <sup>a</sup>	-40°C to +125°C (-40°F to +257°F)
Storage temperature	-40°C to +125°C (-40°F to +257°F)
Operating pressure	0 to 600bar (0 to 8700psi)
Housing material	316L Stainless steel with glass tip
Switch termination	Flying leads or M12 connector

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"**

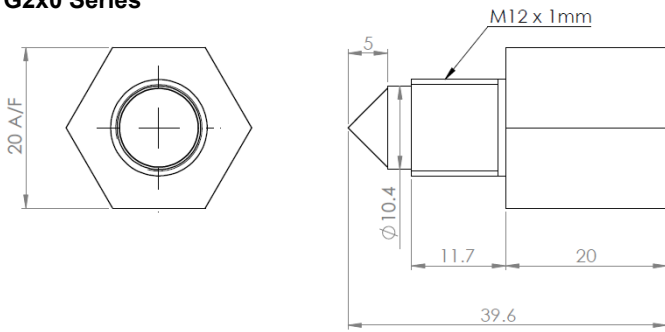


a) Not suitable for use in freezing liquid or high condensing environments such as steam.  
 b) Voltages applicable to output value stated.

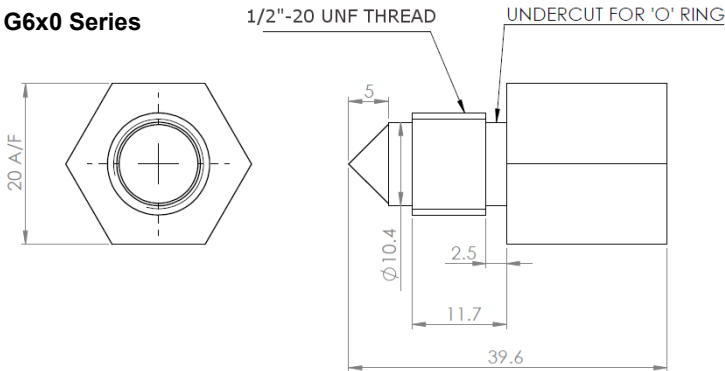
## OUTLINE DRAWING

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

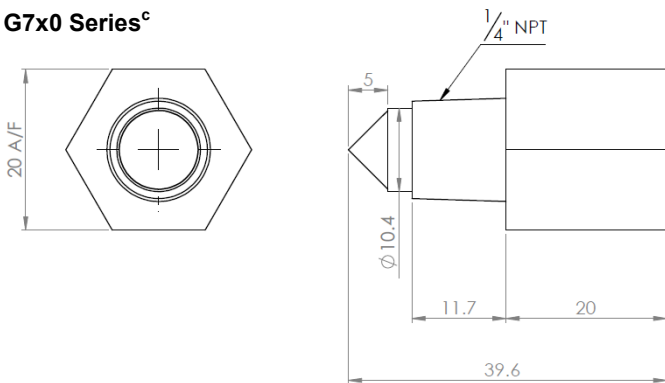
### G2x0 Series<sup>c</sup>



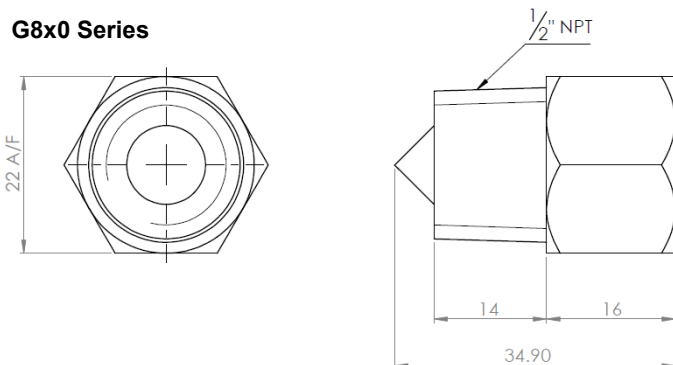
### G6x0 Series



### G7x0 Series<sup>c</sup>



### G8x0 Series



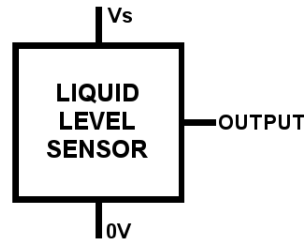
## HOUSING SPECIFICATIONS

	Housing Series	
	G2x0	G6x0
Thread <sup>d</sup>	M12x1 with hex nut	1/2"-20 UNF with O-ring
Pressure <sup>e</sup>	100 bar / 1450 psi maximum	
Tightening Torque <sup>f</sup>	3 Nm / 26.5 in-lbs maximum	

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

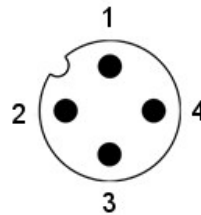
## ELECTRICAL INTERFACE OPTIONS

### Flying Leads



Wire	Designation
Red	Vs
Green	Output
Blue	0V

### M12 Connector



Pin	Designation
1	Vs
2	Not connected
3	0V
4	Output



- c) Standard switch dimensions shown; when fitted with M12 connector, the overall length of the switch is 63.6mm.
- d) Refer to mounting information on page 4.
- e) When correctly sealed.
- f) Do NOT over-tighten as this can permanently damage the switch.

In order to suit any application, these switches have been designed with various output circuit configurations. They are identified by the 3-digit output type code in 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**



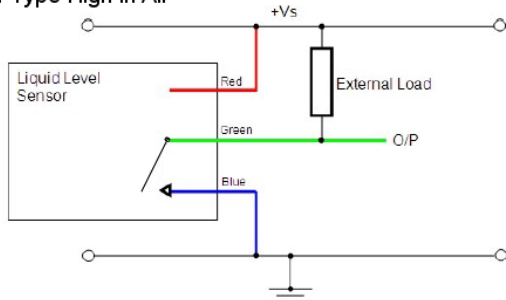
**N-Type with Internal 10kΩ Pull-Up Resistor  
High in Air**



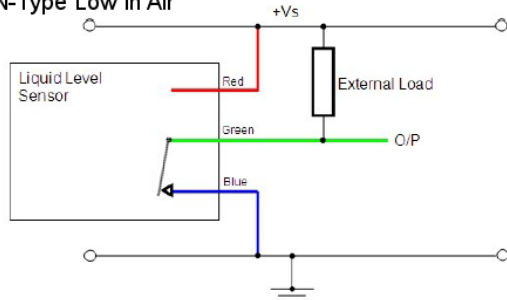
**N-Type with Internal 10kΩ Pull-Up Resistor  
Low in Air**



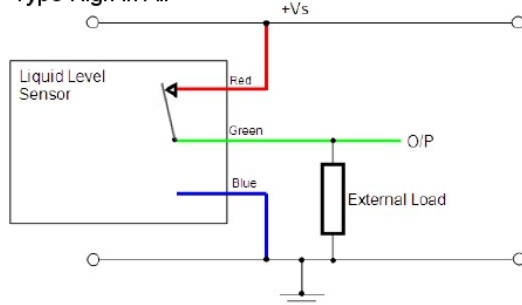
**N-Type High in Air**



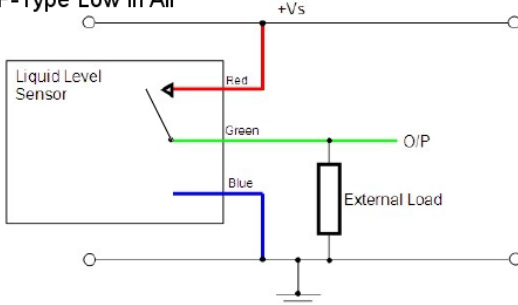
**N-Type Low in Air**



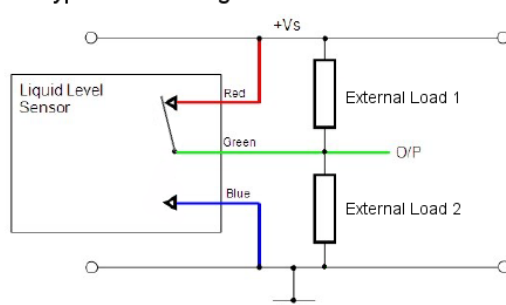
**P-Type High in Air**



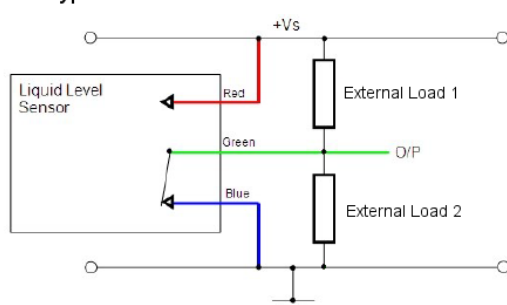
**P-Type Low in Air**



**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 switch.