# DATA SHEET Liquid Level Switches Optomax Industrial Glass Series



DESIGN • MANUFACTURE • CUSTOMISE • CONFIGURE

## 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





### 🐻 BENEFITS

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

## **X** TECHNICAL SPECIFICATIONS

Supply voltage (Vs)
or
Supply current (Is)
or
Output sink and source
current (lout)
Operating temperature <sup>a</sup>
Storage temperature
Operating pressure
Housing material
Switch termination

### **APPLICATIONS**

- Tank level control; fill/empty
- Leak detection
- Pump control

4.5V<sub>DC</sub> to 15.4V<sub>DC</sub> 8V<sub>DC</sub> to 30V<sub>DC</sub>

Up to 1A

- Sump level switching
- Overfill protection

2.5mA max. (Vs =  $15.4V_{DC}$ )

-40°C to +125°C (-40°F to +257°F)

-40°C to +125°C (-40°F to +257°F)

316L Stainless steel with glass tip Flying leads or M12 connector

7.5mA max. (Vs =  $30V_{DC}$ )

0 to 600bar (0 to 8700psi)

### **OUTPUT VALUES**

Output Voltage <sup>b</sup> (Vout):	lout = 1A
Vs = 4.5—15.4V <sub>DC</sub>	
Output High	Vout = Vs - 1.5V max
Output Low	Vout = 0V + 0.5V max
	lout = 1.0

### Output Voltage<sup>b</sup> (Vout): lout = 1A

Vs = 8—30V<sub>DC</sub> Output High Output Low

Vout = Vs - 1.8V max Vout = 0V + 0.7V max

Other sensor options available on request, email: technical@sstsensing.com

> Need help? Ask the expert Tel: + 44 (0)1236 459 020 and ask for "Technical"



a) Not suitable b) Voltages ap

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

## ☐↓ OUTLINE DRAWING

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

1/2"-20 UNF THREAD

Ø10.4

2.5

11.7

39.6

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

G6x0 Series

20 A/F





UNDERCUT FOR 'O' RING

## 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-Ibs maximum	







ELECTRICAL INTERFACE OPTIONS

Flying Leads



Wire	Designation
Red	Vs
Green	Output
Blue	0V

G8x0 Series





#### M12 Connector



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



Standard switch dimensions shown; when fitted with M12 connector, the overall length of the switch is 63.6mm.

- Refer to mounting information on page 4.
- e) When correctly sealed.
- ) 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 Internal 10k $\Omega$ Pull-Up Resistor High in Air $$_{\rm +Vs}$$



+Vs

External Load

O/P

#### N-Type with Flyback Protection Diode



N-Type with Internal 10kΩ Pull-Up Resistor







N&P-Type Push Pull Low in Air



P-Type High in Air

C

N-Type High in Air

Liquid Level

Sensor

C







CAUTION: Take care when connecting loads. The minimum load impedance should not exceed Vs/max output current. **Note:** Shorting the output to Vs or 0V will result in irreparable damage to the switch.