

DATA SHEET

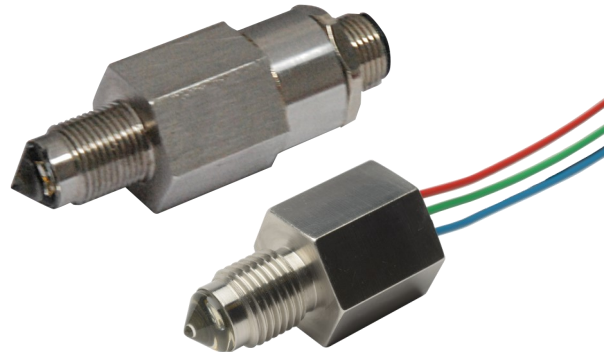
Liquid Level Switches

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



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

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^b (Vout): Iout = 1A
Vs = 4.5—15.4V_{DC}
Output High Vout = Vs - 1.5V max
Output Low Vout = 0V + 0.5V max

Output Voltage^b (Vout): Iout = 1A
Vs = 8—30V_{DC}
Output High Vout = Vs - 1.8V max
Output Low Vout = 0V + 0.7V max

TECHNICAL SPECIFICATIONS

| | |
|---------------------------------------|---|
| Supply voltage (Vs) | 4.5V _{DC} to 15.4V _{DC} |
| or | 8V _{DC} to 30V _{DC} |
| Supply current (Is) | 2.5mA max. (Vs = 15.4V _{DC}) |
| or | 7.5mA max. (Vs = 30V _{DC}) |
| Output sink and source current (Iout) | Up to 1A |
| Operating temperature ^a | -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

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

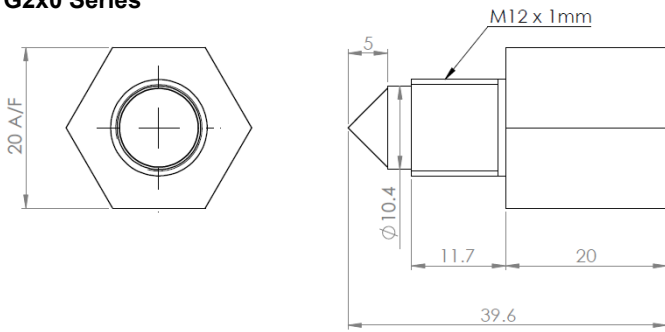


- a) Not suitable for use in freezing liquid or high condensing environments such as steam.
b) Voltages applicable to output value stated.

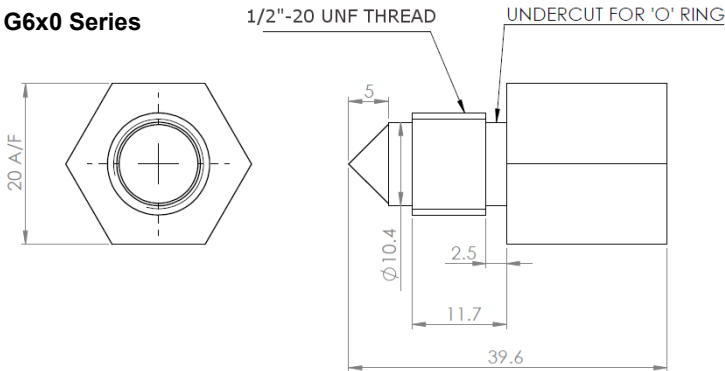
OUTLINE DRAWING

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

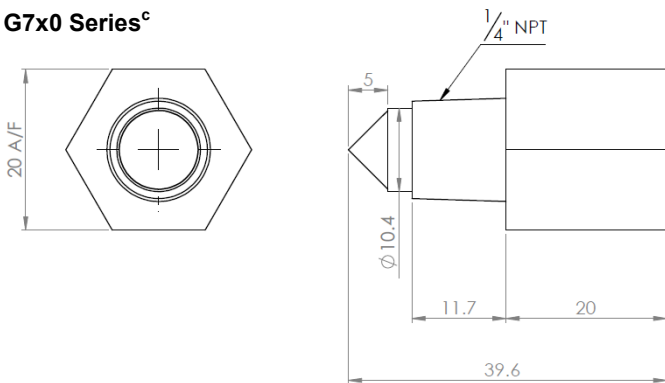
G2x0 Series^c



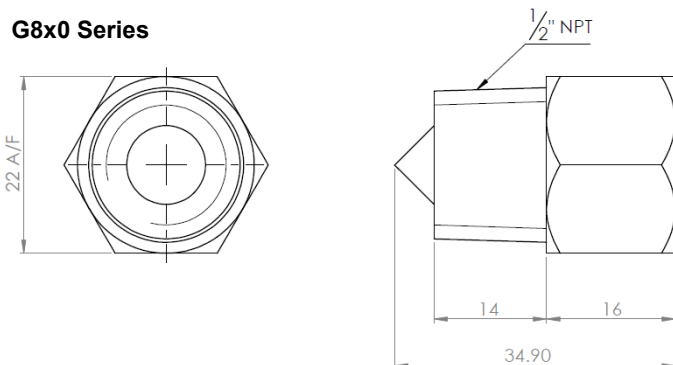
G6x0 Series



G7x0 Series^c



G8x0 Series



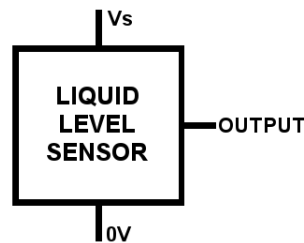
HOUSING SPECIFICATIONS

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

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

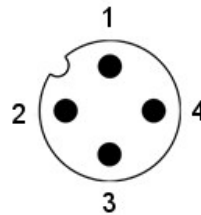
ELECTRICAL INTERFACE OPTIONS

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**



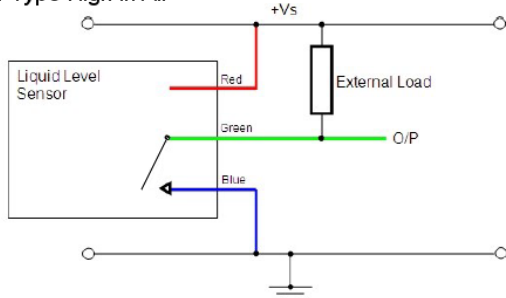
**N-Type with Internal 10kΩ Pull-Up Resistor
High in Air**



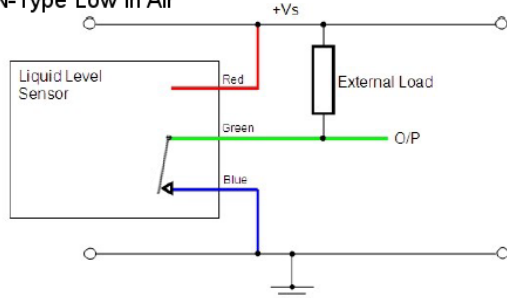
**N-Type with Internal 10kΩ Pull-Up Resistor
Low in Air**



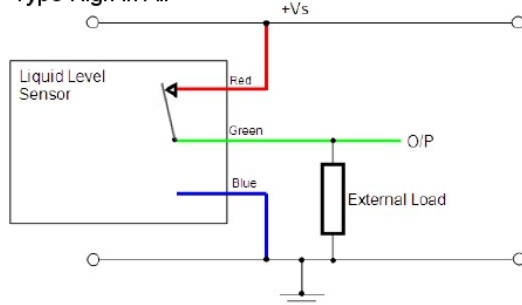
N-Type High in Air



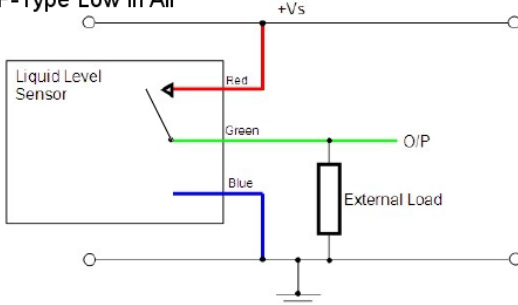
N-Type Low in Air



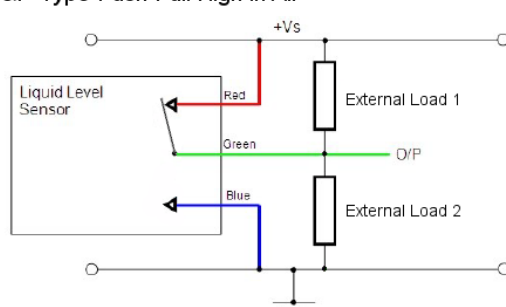
P-Type High in Air



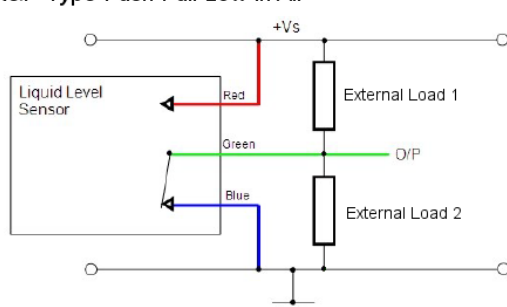
P-Type Low in Air



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.