

DATA SHEET

Liquid Level Switches

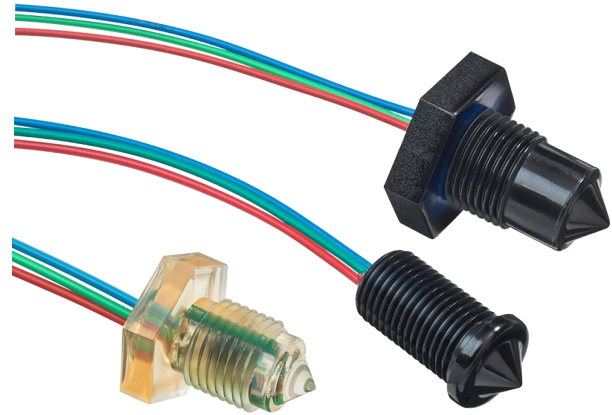
Optomax Digital Series



DESIGN • MANUFACTURE • CUSTOMISE • CONFIGURE

FEATURES

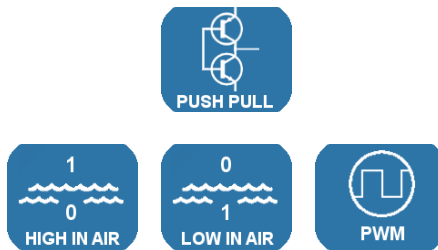
- Liquid level switches that can detect almost any liquid type; oil or water based
- Choice of material; Polysulfone (standard) or Trogamid®
- Choice of threads



Housing/ Mounting

- M10x1
- M12x1
- 1/4" NPT
- 1/2"-20 UNF

Output Type / Logic



Supply Voltage

4.5 - 15.4 V
VOLTAGE

Output Current

UP TO 100mA
CURRENT

Temp

-25°C to +80°C
TEMPERATURE

-40°C to +125°C
TEMPERATURE

BENEFITS

- Low power
- Low cost
- Compact design

TECHNICAL SPECIFICATIONS

Supply voltage (Vs)	4.5V _{DC} to 15.4V _{DC} or 4.5V _{DC} to 5.5V _{DC} (PWM output)
Supply current (Is)	2.5mA max. (Vs = 15.4V _{DC})
Output sink and source current (Iout)	100mA
Operating temperatures	Standard: -25°C to +80°C Extended: -40°C to +125°C
Storage temperatures	Standard: -30°C to +85°C Extended: -40°C to +125°C
Housing material ^{a, b}	Polysulfone or Trogamid®
Sensor termination	24AWG, 250mm PTFE wires, 8mm tinned

OUTPUT VALUES

Output Voltage^c (Vout): Iout = 100mA
Output High Vout = Vs - 1.5V max
Output Low Vout = 0V + 0.5V max

PWM
Duty cycle in air 25% ± 10%
Duty cycle in liquid 75% ± 10%
Frequency 2kHz ± 10%

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"



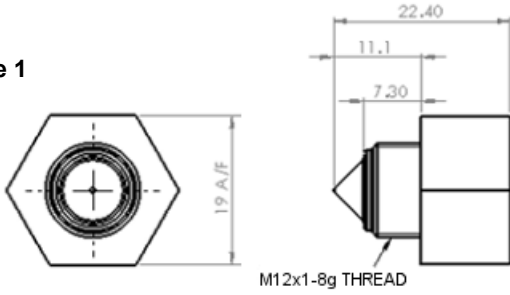
NOTES

- Above +85°C, Trogamid is suitable for use in water based liquids. Oil based liquids can cause deformation of the sensing tip and must be tested for compatibility.
- Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®.
- Voltages applicable to output value stated.

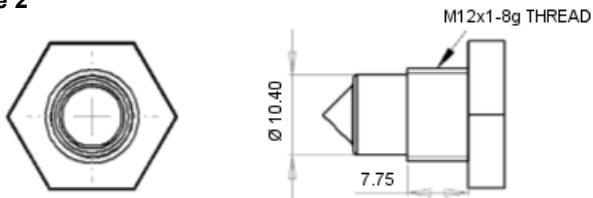
OUTLINE DRAWING

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

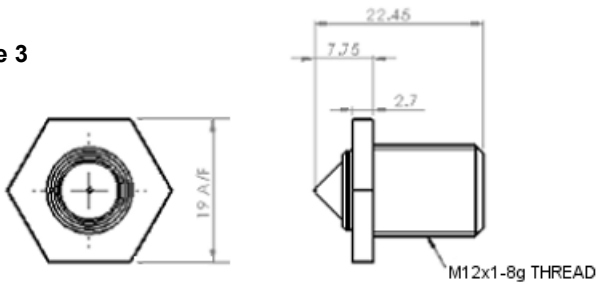
Type 1



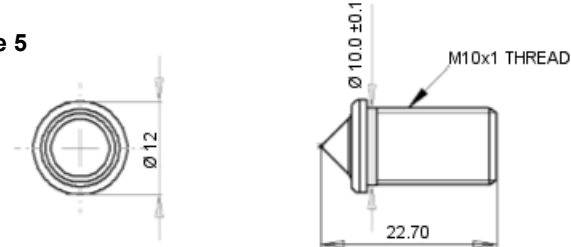
Type 2



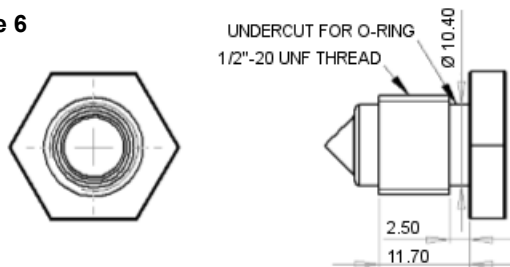
Type 3



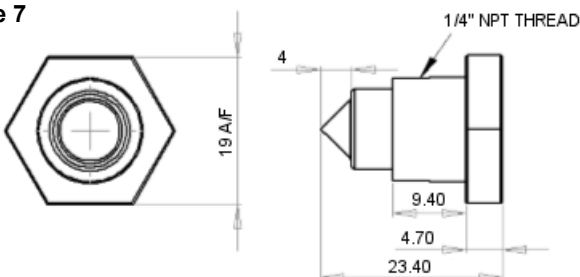
Type 5



Type 6



Type 7

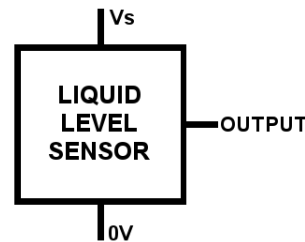


HOUSING SPECIFICATIONS

	Housing Series		
	Type 1	Type 2	Type 3
Thread	M12x1-8g ^d		
Pressure ^g	7 bar / 101 psi maximum		
Tightening Torque	1.5 Nm / 13.26 in-lbs maximum		

	Housing Series		
	Type 5	Type 6	Type 7
Thread	M10x1	1/2"-20 UNF ^e	1/4" NPT ^f
Pressure ^g	20 bar / 209 psi max.	7 bar / 101 psi maximum	
Tightening Torque	1.5 Nm / 13.26 in-lbs maximum		

ELECTRICAL INTERFACE



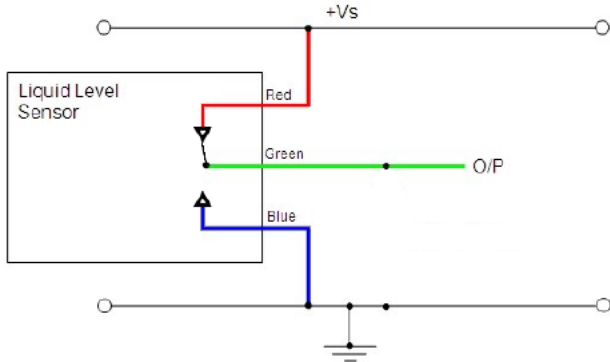
Wire	Designation
Red	Vs
Green	Output
Blue	0V



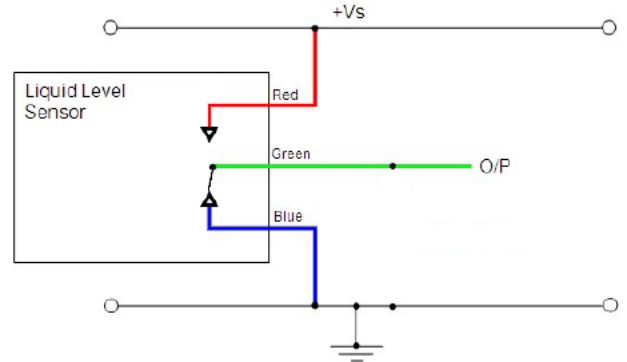
- d) Types 1, 2 and 3 can be sealed with washers and locknuts.
- e) Type 6 should be sealed with Parker 3-905 type o-ring.
- f) Type 7 should be sealed with PTFE tape.
- g) When correctly sealed.

In order to suit any application, these sensors have been designed with various output circuit configurations.

Digital Output High in Air



Digital Output 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 opposite. Use only those letters and numbers that correspond to the sensor and output options you require — omit those you do not.

Sensor mounted from inside vessel

L L X X X 0 D 3 X

Housing Material	Housing Type	Operating Temp.	Output Logic
C Polysulfone	3 Type 3 M12x1-8g	0 -25 °C to +80°C	Blank Output High in air
T Trogamid®	5 Type 5 M10x1	1 -40 °C to +125°C	L Output Low in air
			P PWM output

Sensor mounted from outside vessel

L L X X X 0 D 3 X S H

Housing Material	Housing Type	Operating Temp.	Output Logic
C Polysulfone	1 Type 1 M12x1-8g	0 -25 °C to +80°C	Blank Output High in air
T Trogamid®	2 Type 2 M12x1-8g	1 -40 °C to +125°C	L Output Low in air
	6 Type 6 1/2"-20 UNF		P PWM output
	7 Type 7 1/4" NPT		

Notes:

- Type 3 and Type 5 sensors are mounted internally.
- Types 1, 2, 6 & 7 sensors are mounted externally.
- SH suffix applicable to Types 1, 2, 6 & 7 sensors only; omit from Type 3 and Type 5 sensor part numbers.

Please contact SST Sensing for details; email: technical@sstsensing.com