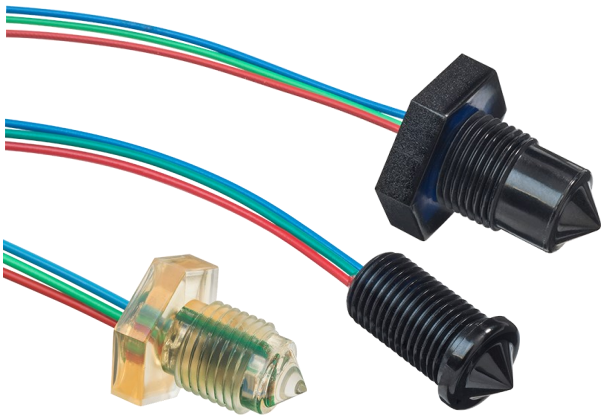
DATA SHEET

Liquid Level Switches

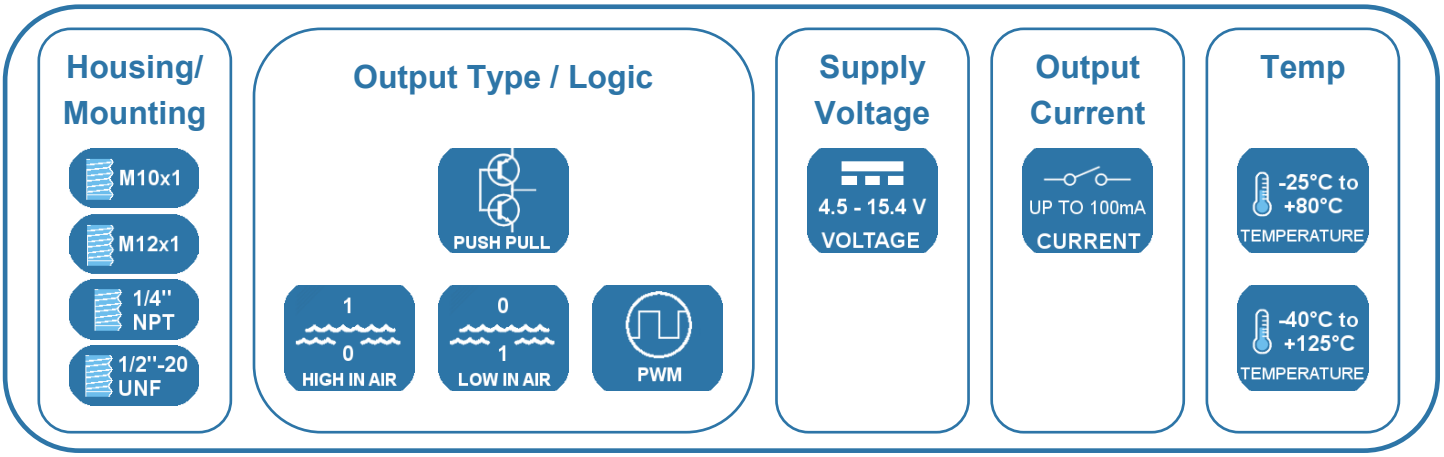
Optomax Digital Series

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



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"

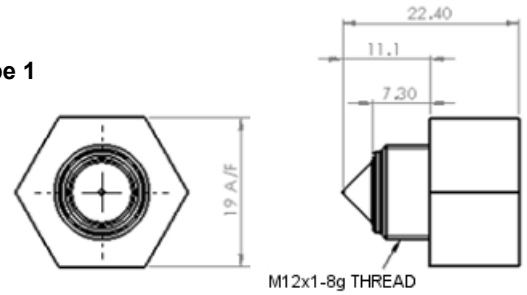
NOTES

a) 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.
b) Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®.
c) Voltages applicable to output value stated.

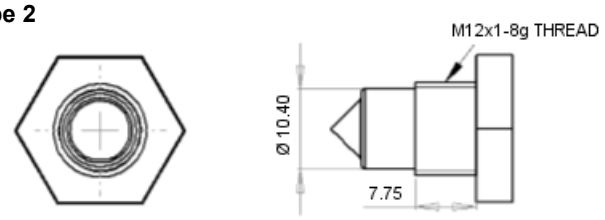
OUTLINE DRAWING

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

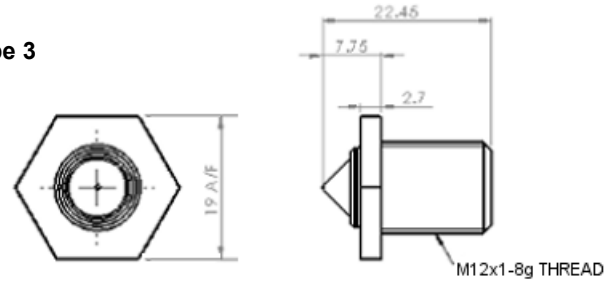
Type 1



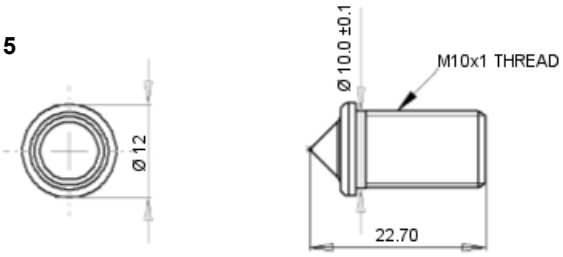
Type 2



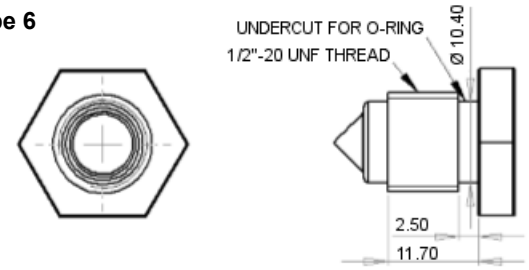
Type 3



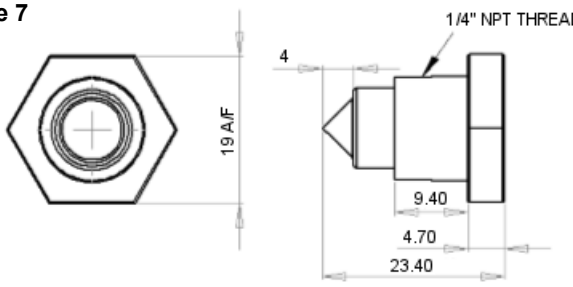
Type 5



Type 6



Type 7

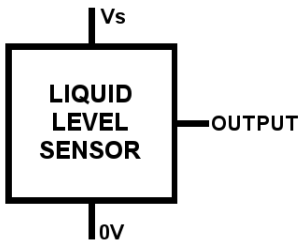


HOUSING SPECIFICATIONS

	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

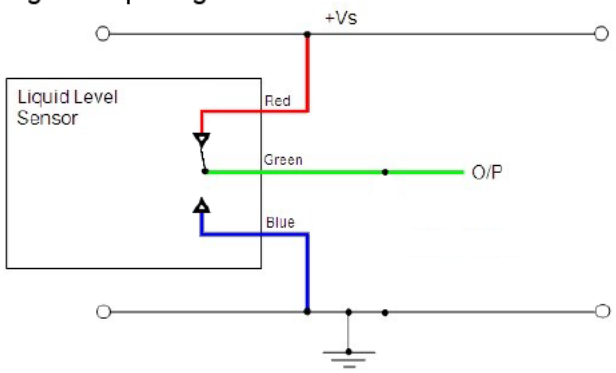
NOTES

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.

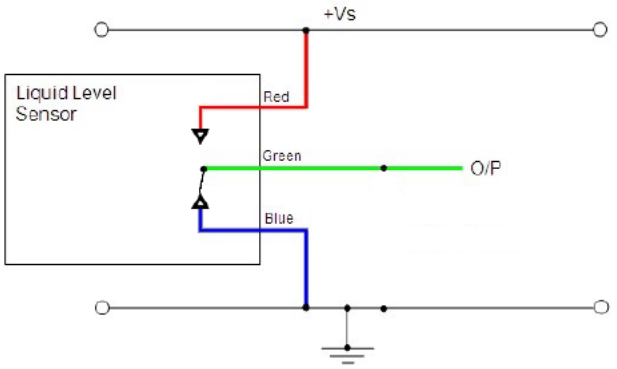
CIRCUIT DIAGRAMS

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 Vs/max output current.
Note: Shorting the output to Vs 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