### DATA SHEET Liquid Level Switches



#### Optomax Digital Series

#### 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











#### Supply Voltage



#### Output Current



#### Temp







- Low power
- Low cost
- Compact design

#### **✓** OUTPUT VALUES

Output Voltage<sup>c</sup> (Vout): lout = 100mA

Output High Vout = Vs - 1.5V maxOutput Low Vout = 0V + 0.5V max

**PWM** 

Duty cycle in air $25\% \pm 10\%$ Duty cycle in liquid $75\% \pm 10\%$ Frequency $2kHz \pm 10\%$ 

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

and ask for "Technical"

Need help? Ask the expert Tel: + 44 (0)1236 459 020



#### \* 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 (lout) 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<sup>a, b</sup> Polysulfone or Trogamid®

24AWG, 250mm PTFE wires, 8mm tinned

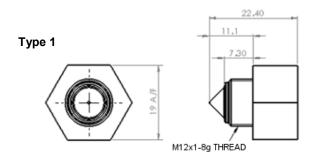


Sensor termination

- 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.
- 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.

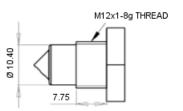
#### OUTLINE DRAWING

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

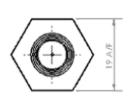


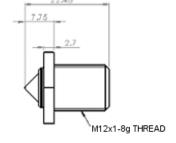
Type 2





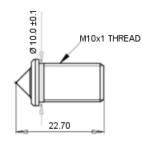
Type 3





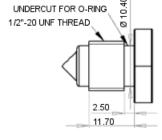
Type 5

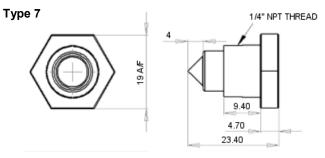




Type 6





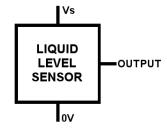




	Housing Series		
	Type 1	Type 2	Type 3
Thread	M12x1-8g <sup>d</sup>		
Pressure <sup>9</sup>	7 bar / 101 psi maximum		
Tightening Torque	1.5 Nm / 13.26 in-lbs maximum		

	Housing Series		
	Type 5	Type 6	Type 7
Thread	M10x1	1/2"-20 UNF <sup>e</sup>	1/4" NPT <sup>f</sup>
Pressure <sup>g</sup>	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	

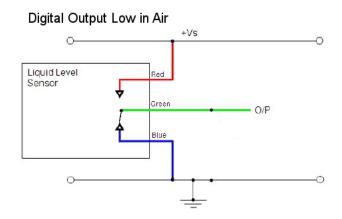


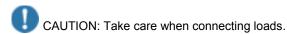
- d) Types 1, 2 and 3 can be sealed with washers and locknuts.
- e) Type 6 should be sealed with Parker 3-905 type o-ring.
- f) Type 7 should be sealed with PTFE tape.
- g) When correctly sealed.



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

# Digital Output High in Air Liquid Level Sensor Green O/P Blue





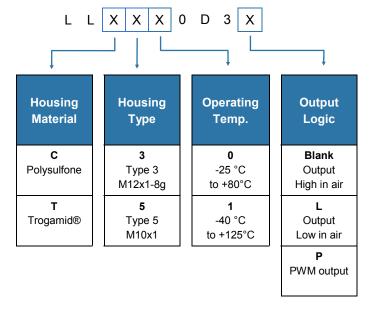
The minimum load impedance should not exceed Vs/max output current.

Note: Shorting the output to Vs or 0V will result in irreparable damage to the sensor.

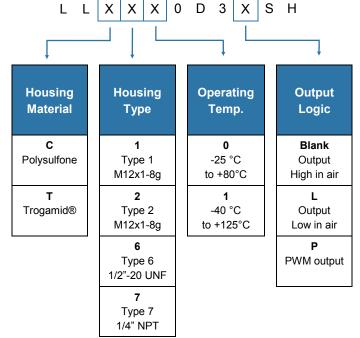


Generate your specific part number using the convention shown opposite. Use only those letters and numbers that correspond to the sensor and output options you require — omit those you do not.

#### Sensor mounted from inside vessel



#### Sensor mounted from outside vessel



#### 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



Do not exceed maximum ratings and ensure sensor(s) are operated in accordance with their requirements.

Carefully follow all wiring instructions. Incorrect wiring can cause permanent damage to the device.

SST Sensing Ltd recommend using alcohol based cleaning agents. Do NOT use chlorinated solvents such as trichloroethane as these are likely to attack the sensor material.

Failure to comply with these instructions may result in product damage.

#### 1 INFORMATION

As customer applications are outside of SST Sensing Ltd.'s control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure that the equipment is suitable for their intended application. Before use, check that the fluid in which you wish to use these devices is compatible with Polysulfone or Trogamid®.

For technical assistance or advice, please email: technical@sstsensing.com

**General Note:** SST Sensing Ltd. reserves the right to make changes to product specifications without notice or liability. All information is subject to SST Sensing Ltd.'s own data and considered accurate at time of going to print.

