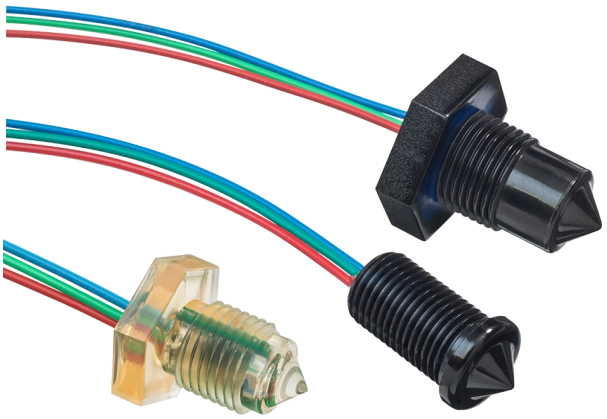
DATA SHEET

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" SAE

Output Type / Logic

- PUSH PULL
- 1 / 0 HIGH IN AIR
- 0 / 1 LOW IN AIR
- PWM

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[1, 2]	Polysulfone or Trogamid®
Sensor termination	24AWG, 250mm PTFE wires, 8mm tinned

OUTPUT VALUES

Output Voltage[3] (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"

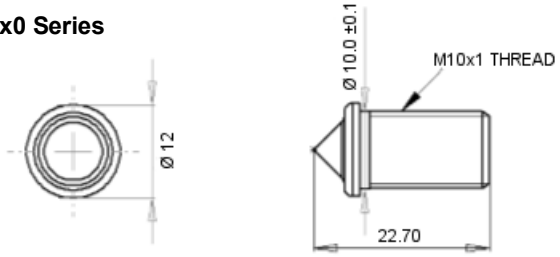
NOTES

1) 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.
2) Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®.
3) Voltages applicable to output value stated.

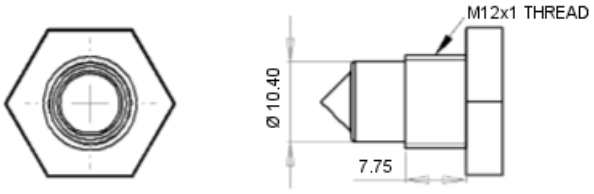
OUTLINE DRAWING

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

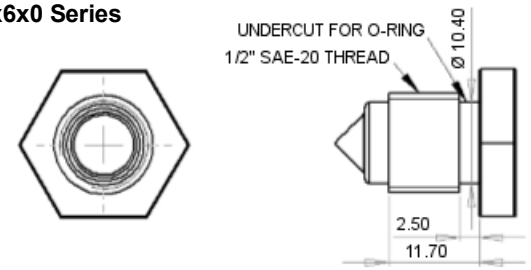
LLx5x0 Series



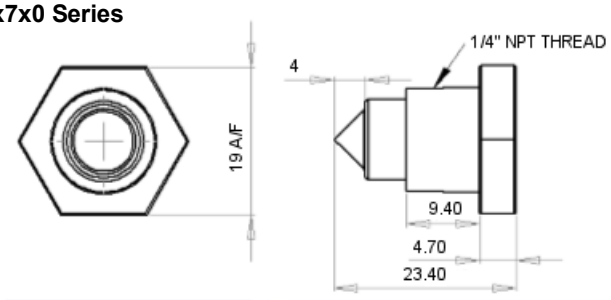
LLx2x0 Series



LLx6x0 Series



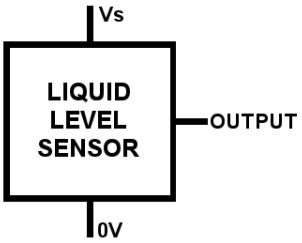
LLx7x0 Series



HOUSING SPECIFICATIONS

	Housing Series			
	5x0	2x0	6x0	7x0
Thread	M10x1	M12x1x8g with hex nut[1]	1/2" SAE with O-ring[1]	1/4" NPT[2]
Pressure[3]	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

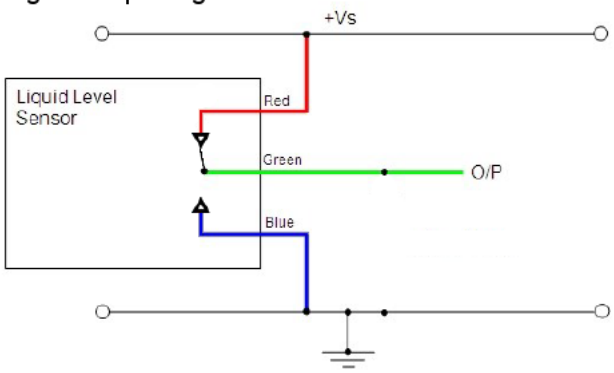
NOTES

1) Hex nut and O-ring sold separately; email: technical@sstsensing.com for details.
2) NPT version can be sealed with PTFE tape.
3) When correctly sealed.

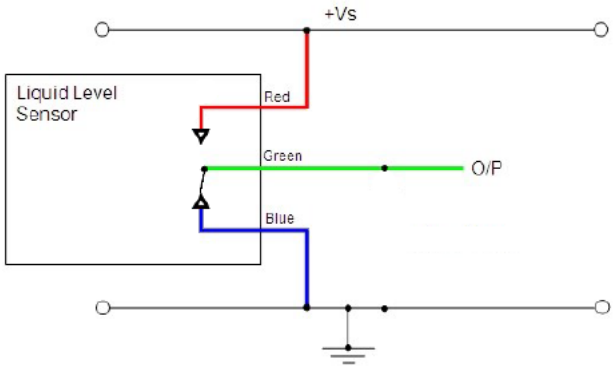
CIRCUIT DIAGRAMS

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] 5 [X] 0 D 3 [X]

Housing Material	Operating Temp.	Output Logic
C Polysulfone	**0** -25 °C to +80°C	**Blank** Output High in air
T Trogamid®	**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	**2** 2x0 SH series M12x1	**0** -25 °C to +80°C	**Blank** Output High in air
T Trogamid®	**6** 6x0 SH series 1/2" SAE	**1** -40 °C to +125°C	**L** Output Low in air
	7 7x0 SH series 1/4" NPT		**P** PWM output

Notes:

- 5x0 series sensors are mounted internally
- 2x0, 6x0 & 7x0 series sensors are mounted externally
- SH suffix applicable to 2x0, 6x0 & 7x0 series sensors only; omit from 5x0 series sensor part number

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

CAUTION

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.

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.

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