

# Installation Instructions for Standard and Extended Temperature Optomax Series Liquid Level Sensors

## GENERAL DESCRIPTION

The liquid level sensor provides single point liquid detection via a TTL compatible push pull output. An infra-red LED and phototransistor accurately positioned at the base of the sensing tip ensure good optical coupling between the two when the sensor is in air. When the sensing tip is immersed in liquid, the infra-red light escapes from the cone causing a change in the amount of light present at the phototransistor which makes the output change state.

## CLEANING

Proper fluids should be selected based on type of contamination to be removed. SST Sensing recommends freon and alcohol based solvents. DO NOT use chlorinated solvents such as trichlorethane as these are likely to attack the sensor material.

## Liquid Media Compatibility

Before use check that the fluid in which you wish to use these devices is compatible either with polysulphone or trogamid.

## ELECTRICAL SPECIFICATIONS

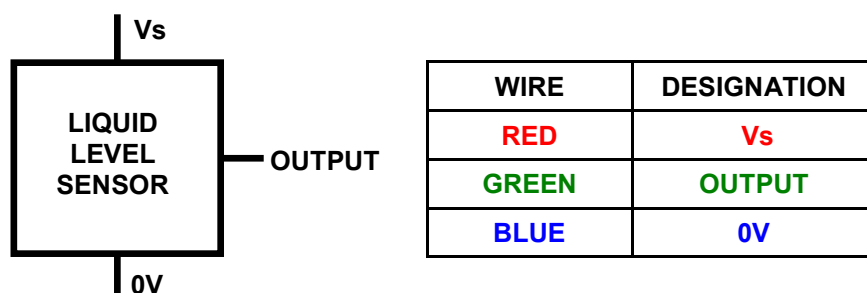
|                                       |   |                                       |   |
|---------------------------------------|---|---------------------------------------|---|
| Supply Voltage (Vs)                   | +4.5 Vdc to +15.4Vdc  | Output Voltage (Vout)<br>Iout = 100mA | <b>Output High</b><br>Vout = Vs - 1V Max<br><b>Output Low</b><br>Vout = 0V + 0.5V Max   |
| Supply Current (Is)                   | Max 2.5mA (Vs = 15.4Vdc)  |                                       |   |
| Output Type                           | An "L" in the part number after D3 indicates that the sensor output will be low in air. Otherwise the output will be high in air. | Output Voltage (Vout)<br>Iout = 0mA   | <b>Output High</b><br>Vout = Vs - 0.3V Max<br><b>Output Low</b><br>Vout = 0V + 0.1V Max |
| Output Sink and Source Current (Iout) | 100mA   |                                       |   |
| Operating Temperatures                | -25°C to +80°C (Standard)<br>-40°C to +125°C (Extended)   |                                       |   |
| Storage Temperatures                  | -30°C to +85°C (Standard)<br>-40°C to +125°C (Extended)   |                                       |   |

## MOUNTING AND HOUSING TYPES

| Housing Series                   | 200 and 210 SH Series               | 500 and 510 Series | 600 and 610 SH Series | 700 and 710 SH Series |
|----------------------------------|-------------------------------------|--------------------|-----------------------|-----------------------|
| Thread                           | M12x1x8g with Hex Nut*              | M10x1              | ½" SAE with O-Ring*   | ¼" NPT                |
| Tightening Torque                | 1.5 N m/13.26 in lb max.            |                    |                       |                       |
| Pressure (when correctly sealed) | 7 bar max                           | 20 bar max         | 7 bar max             | 7 bar max             |
| Mounting Hole                    | Ø12mm                               | Ø10mm              | Ø ½ Inch              | ¼" NPT Threaded       |
| Housing Material                 | Polysulphone or Trogamid            |                    |                       |                       |
| Sensor Termination               | 24AWG, 250mm PTFE Wires, 8mm Tinned |                    |                       |                       |

\* Hex nut and o-ring sold separately, please contact us for details. NPT version can be sealed with PTFE tape.

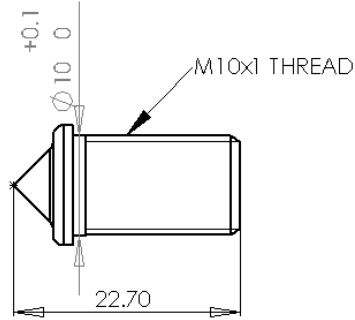
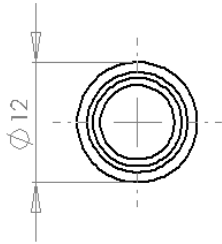
## Sensor Output Wiring



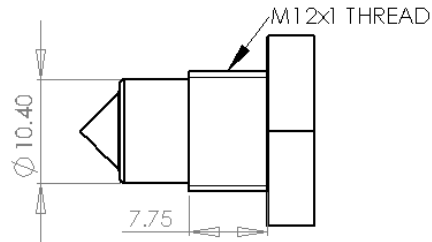
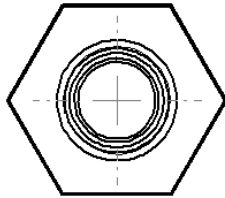
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**PRODUCT DIMENSIONS**  
(All dimensions in mm)

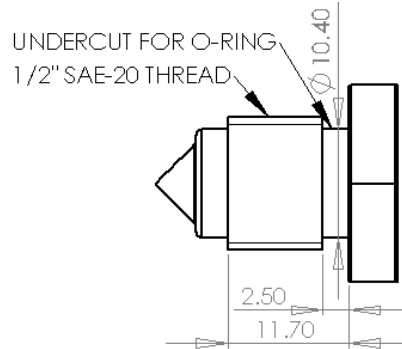
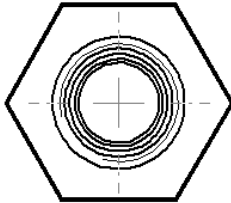
**500 and 510 Series (Mounted from Inside)**



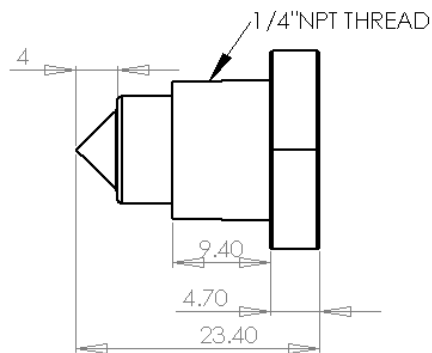
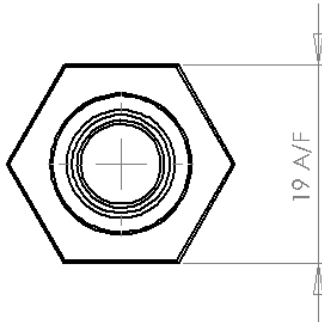
**200 and 210 SH Series (Mounted from Outside)**



**600 and 610 SH Series (Mounted from Outside)**



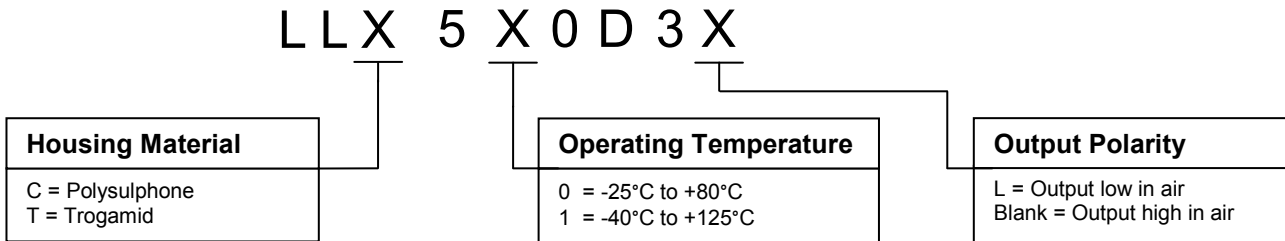
**700 and 710 SH Series (Mounted from Outside)**



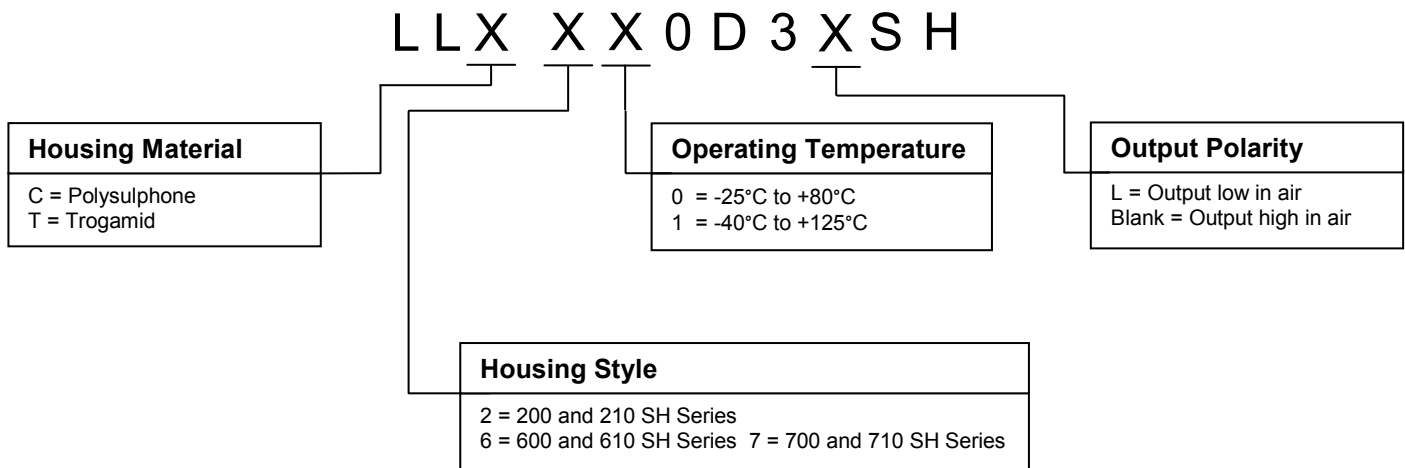
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## PART NUMBERING SYSTEM

### SENSOR MOUNTED FROM INSIDE VESSEL



### SENSOR MOUNTED FROM OUTSIDE VESSEL



#### WARNING

##### Personal Injury

DO NOT USE these products as safety or Emergency Stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

#### CAUTION

Do not exceed maximum ratings.

Although the sensor is protected against supply reversal, it is not recommended.

Do not overtighten screw-in type.

Do not use chlorinated solvents.

Do not mount with dome pointing downwards.

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

**It is the customer's responsibility to ensure that this product is suitable for use in their application. For technical assistance or advice, please email us: [info@sstsensing.com](mailto:info@sstsensing.com)**

**General Note:** SST Sensing Ltd reserves the right to make changes in product specifications without notice or liability.

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