## Technical Specifications

**Supply voltage (Vs)**
- 4.5V<sub>DC</sub> to 15.4V<sub>DC</sub>  
- 4.5V<sub>DC</sub> to 5.5V<sub>DC</sub> (PWM output)

**Supply current (I<sub>s</sub>)**
- 2.5mA max. (Vs = 15.4V<sub>DC</sub>)

**Output sink and source current (I<sub>out</sub>)**
- 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**
- Polysulfone or Trogamid®

**Sensor termination**
- 24AWG, 250mm PVDF wires, 10mm tinned

## 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

## Output Values
- **Output Voltage (Vout):**
  - 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%

## Housing/Mounting
- M10x1
- M12x1
- 1/4" NPT
- 1/2"-20 UNF

## Output Type / Logic

<table>
<thead>
<tr>
<th>HIGH IN AIR</th>
<th>LOW IN AIR</th>
<th>PWM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

## Notes
- Before use check that the fluid in which you wish to use these devices is compatible either with Polysulfone or Trogamid®. Some common fluids and compatibility can be found in SST’s Liquid Level Switches – Installation, Operation and Compatibility Guide (AN 0041).
- When using Trogamid® above +85°C some oil based liquids can cause deformation of the sensing tip, and must be tested for compatibility.

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”
c) Recommended nuts and sealing accessories outlined within the Accessory Table.

d) 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 require.

Sensor mounted from inside vessel

Sensor mounted from outside vessel

<table>
<thead>
<tr>
<th>Housing Material</th>
<th>Housing Type</th>
<th>Operating Temp.</th>
<th>Output Logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Polysulfone</td>
<td>3 Type 3 M12x1-8g</td>
<td>-25 °C to +80°C</td>
<td>Blank Output High in air</td>
</tr>
<tr>
<td>T Trogamid®</td>
<td>5 Type 5 M10x1</td>
<td>-40 °C to +125°C</td>
<td>L Output Low in air</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P PWM output</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing Material</th>
<th>Housing Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>C Polysulfone</td>
<td>1 Type 1 M12x1-8g</td>
<td>-25 °C to +80°C</td>
<td>Blank Output High in air</td>
</tr>
<tr>
<td>T Trogamid®</td>
<td>2 Type 2 M12x1-8g</td>
<td>-40 °C to +125°C</td>
<td>L Output Low in air</td>
</tr>
<tr>
<td></td>
<td>6 Type 6 1/2&quot;-20 UNF</td>
<td></td>
<td>P PWM output</td>
</tr>
<tr>
<td></td>
<td>7 Type 7 1/4&quot; NPT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Type 3 and Type 5 sensors are mounted internally.
- Types 1, 2, 6 & 7 sensors are mounted externally.

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

<table>
<thead>
<tr>
<th>Thread</th>
<th>Housing Type</th>
<th>Accessory</th>
<th>Material</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>Seal Washer</td>
<td>Nitrile</td>
<td>41000190-002</td>
</tr>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>Seal Washer</td>
<td>EPDM</td>
<td>41000190-003</td>
</tr>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>Seal Washer</td>
<td>VAMAC</td>
<td>41000190-004</td>
</tr>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>‘O’ Ring</td>
<td>As Required</td>
<td>Not Sold by SST</td>
</tr>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>Nut</td>
<td>Zinc-Plated Brass</td>
<td>LL-NUT-ZNC</td>
</tr>
<tr>
<td>M12</td>
<td>Type 2</td>
<td>Nut</td>
<td>Stainless Steel</td>
<td>LL-NUT-STS</td>
</tr>
<tr>
<td>M10</td>
<td>Type 5</td>
<td>Nut</td>
<td>Plastic (PLA)</td>
<td>LL-NUT-PLA</td>
</tr>
<tr>
<td>1/2&quot; -20 UNF</td>
<td>Type 6</td>
<td>‘O’ Ring</td>
<td>As Required - See SAE J1926-1</td>
<td>Not Sold by SST</td>
</tr>
<tr>
<td>1/4&quot; NPT</td>
<td>Type 7</td>
<td>Sealing Tape</td>
<td>PTFE</td>
<td>Not Sold By SST</td>
</tr>
<tr>
<td>1/4&quot; NPT</td>
<td>Type 7</td>
<td>Sealing Compound</td>
<td>Sealing Compound must be compatible with housing material</td>
<td>Not Sold By SST</td>
</tr>
</tbody>
</table>

### 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

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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.