FEATURES
- Zirconium dioxide (ZrO₂) sensing elements
- Long life, non-depleting technology
- Integral heating element
- High accuracy
- Requires an external interface board to operate

OUTPUT VALUES
- Oxygen pressure range: 2 mbar—3 bar max
- Accuracy: 5 mbar max
- Internal operational temperature: 700°C
- Response time (10—90% step):
  - Standard response sensor: <15 s
  - Fast response sensor: <4 s
- Warm up time (prior to sensor operation): 60 s
- Warm up time (from standby): 20 s
- Output stabilisation time: ~180 s

TECHNICAL SPECIFICATIONS
- Heater voltage
  - Standard response sensor: 4VDC ± 0.1VDC (1.7A)
  - Standby: 1.65VDC (0.7A)
  - Fast response sensor: 4.35VDC ± 0.1VDC (1.85A)
  - Standby: 2VDC (0.85A)
- Pump impedance at 700°C: < 6kΩ
- Permissible gas temperature: -100°C to +250°C
- Gas flow rate: 0—10 m/s
- Repetitive permissible acceleration: 5g
- Incidental permissible acceleration: 30g

OTHER SENSOR OPTIONS AVAILABLE ON REQUEST, EMAIL: technical@sstsensing.com

NOTES
1) Interface board sold separately; contact technical@sstsensing.com for details.
2) It is important to measure the heater voltage as close to the sensor as possible due to voltage drops in the supply cable.
3) The constant current source used in the pump circuit should be designed to drive a load of up to 6kΩ.

BENEFITS
- No reference gas required
- No need for temperature stabilisation
- PCB mountable

DATA SHEET
Zirconia O₂ Sensors
Miniature Series
**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. Zirconium dioxide sensors are damaged by the presence of silicone. Vapours (organic silicone compounds) from RTV rubbers and sealants are known to poison oxygen sensors and MUST be avoided. Do NOT use chemical cleaning agents. 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. For detailed information on the sensor operation refer to application note AN0043 Operating Principle and Construction of Zirconium Dioxide Oxygen Sensors. For technical assistance or advice, please email: technical@sstsensing.com

**ORDER INFORMATION**

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

O2S-T3 Standard Response (porous lid cap)  
O2S-FR-T3 Fast Response (full porous cap)

<table>
<thead>
<tr>
<th>Wire</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Pump</td>
</tr>
<tr>
<td>C</td>
<td>Common</td>
</tr>
<tr>
<td>H1</td>
<td>Heater (1)</td>
</tr>
<tr>
<td>S</td>
<td>Sense</td>
</tr>
<tr>
<td>H2</td>
<td>Heater (2)</td>
</tr>
</tbody>
</table>

Note: Sensor pins must NOT be soldered. Connections should be crimped onto the pins.