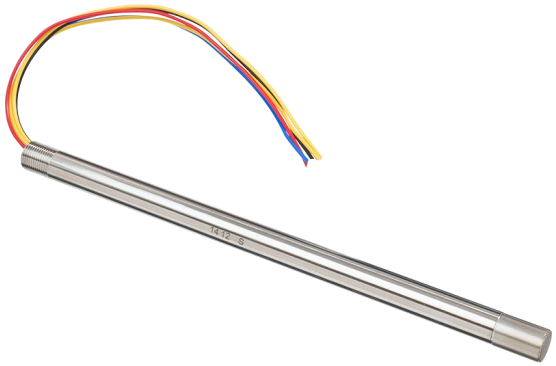
DATA SHEET

DESIGN • MANUFACTURE • CUSTOMISE • CONFIGURE

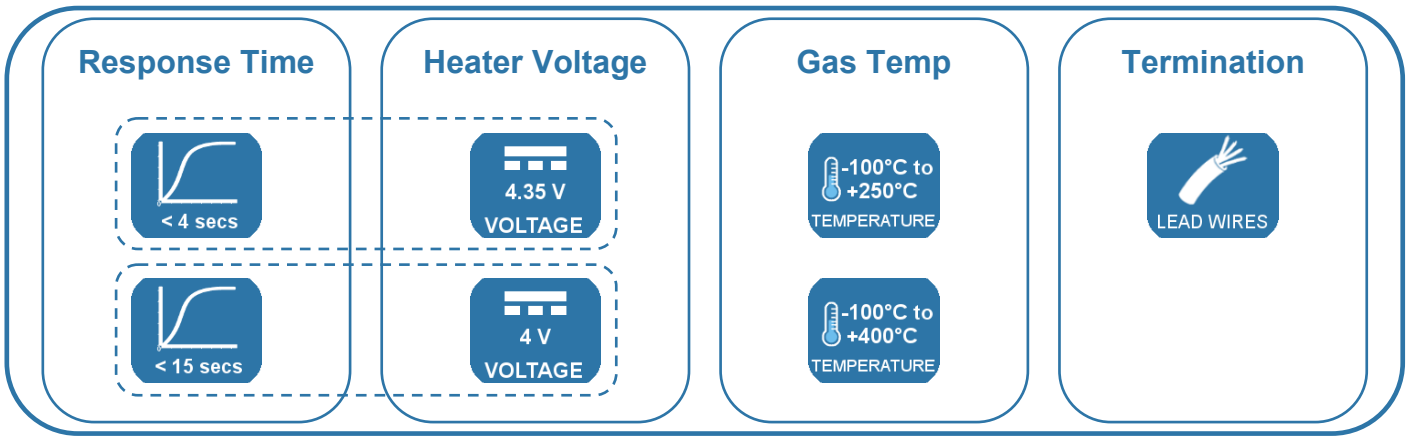
Zirconia O_2 Sensors

Probe Series—Long Housing



FEATURES

- Zirconium dioxide (ZrO_2) sensing elements
- Long life, non-depleting technology
- Integral heating element
- High accuracy
- Requires an external interface board to operate[a]



BENEFITS

- No reference gas required
- No need for temperature stabilisation
- Three lengths available; 220mm, 400mm and 600mm

TECHNICAL SPECIFICATIONS

Heater voltage[b]	
Operating (standard response)	$4V_{DC} \pm 0.1V_{DC}$ (1.7A)
Standby	$1.65V_{DC}$ (0.7A)
Operating (fast response)	$4.35V_{DC} \pm 0.1V_{DC}$ (1.85A)
Standby	$2V_{DC}$ (0.85A)
Pump impedance at 700°C[c]	< 6kΩ
Permissible gas temperature	
Standard temperature	-100°C to +250°C
High temperature	-100°C to +400°C
Gas flow rate	0—10 m/s
Repetitive permissible acceleration	5g
Incidental permissible acceleration	30g

OUTPUT VALUES

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

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

a) Interface board sold separately; contact technical@sstsensing.com for details.
b) It is important to measure the heater voltage as close to the sensor as possible due to voltage drops in the supply cable.
c) If providing your own interface board, note that the constant current source used in the pump circuit should be designed to drive a load of up to 6kΩ.

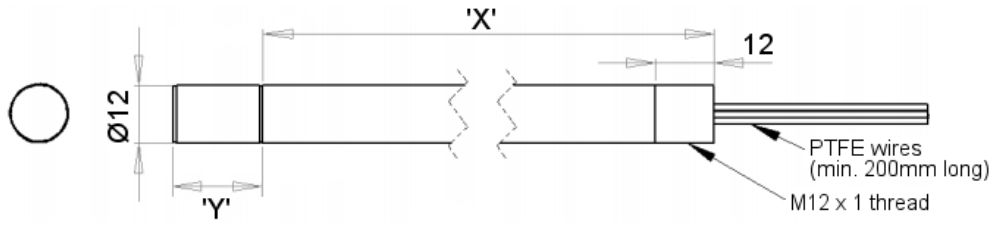
OUTLINE DRAWING

All dimensions shown in mm.

O2S-T6-SH
Mass: 105g

O2S-T6
Mass: 195g

O2S-T6-LG
Mass: 295g



Where **'X'** is the probe length, see **Order Information** for details.

Where **'Y'** is the cap length;

Standard response—17.8mm

Fast response—15mm

NOTE: High temperature version probes have single-core wires.

ELECTRICAL INTERFACE

Lead Wires

Wire	Designation
Red	Pump
Black	Common
Yellow	Heater (1)
Blue	Sense
Yellow	Heater (2)

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.

O 2 S - X X - T 6 - X X - X

Response Time	Probe Length	Operating Temp
Blank Std response < 15s	**Blank** 400mm	**Blank** -100 °C to +250°C
FR Fast response < 4s	**SH** 200mm	**H** -100 °C to +400°C
	LG 600mm	

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

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.

RoHS

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