

DATA SHEET

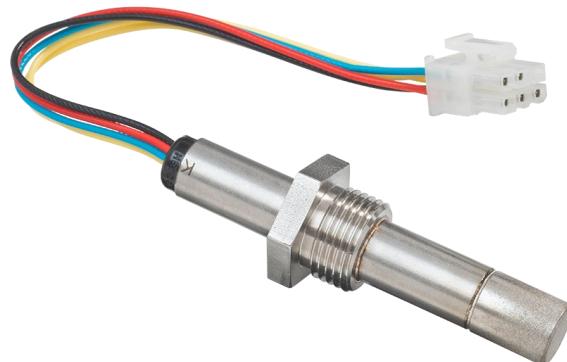
Zirconia O₂ Sensors

Metric Probe Series—Screw Fit Housing



FEATURES

- Zirconium dioxide (ZrO₂) sensing elements
- Long life, non-depleting technology
- Integral heating element
- High accuracy
- Requires an external interface board to operate¹



Response Time < 4 secs	Heater Voltage 4.35 V VOLTAGE	Gas Temp -100°C to +250°C TEMPERATURE	Termination 0.15m CABLE 0.3m CABLE 1.1m CABLE
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BENEFITS

- No reference gas required
- No need for temperature stabilisation
- Variety of probe mounting positions available; 28mm, 45mm & 55mm
- M18x1.5 screw mounting

OUTPUT VALUES

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

TECHNICAL SPECIFICATIONS

Heater voltage²

Operating	4.35V _{DC} ± 0.1V _{DC} (1.85A)
Standby	2V _{DC} (0.85A)

Pump impedance at 700°C³

< 6kΩ

Permissible gas temperature

-100°C to +250°C

Gas flow rate

0—10 m/s

Repetitive permissible acceleration

5g

Incidental permissible acceleration

30g

Mounting thread

M18 x 1.5

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”



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.

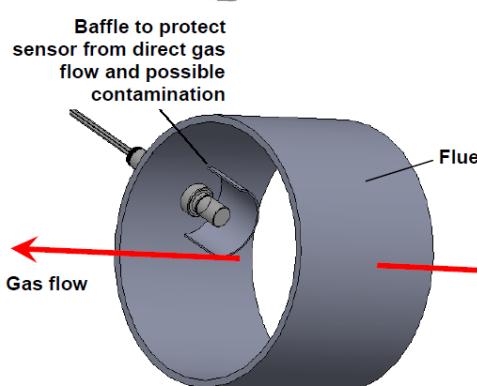
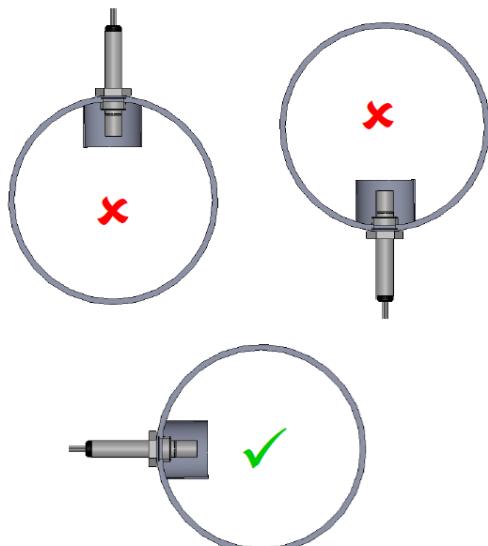
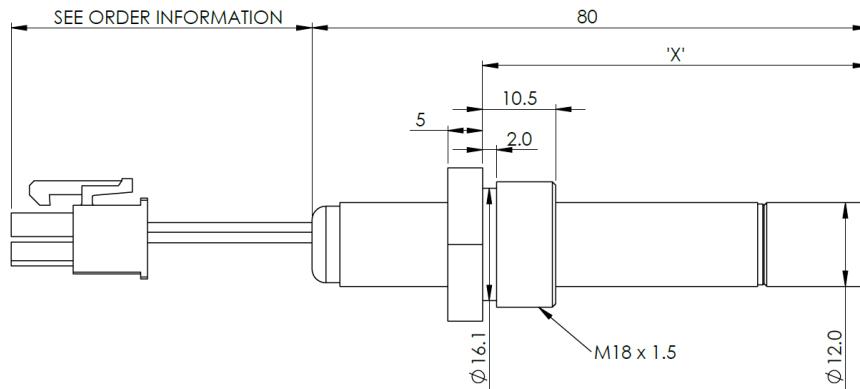


OUTLINE DRAWING AND MOUNTING INFORMATION

All dimensions shown in mm.

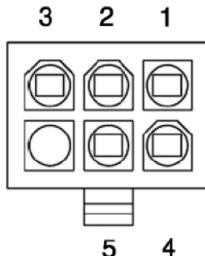
Molex mating connector
39-01-2061 (plastic plug)
39-00-0041 (pins)

X= 55mm for O2S-FR-T2-18A
X= 48mm for O2S-FR-T2-18B
X= 28mm for O2S-FR-T2-18C



ELECTRICAL INTERFACE

Molex Connector



Pin	Designation
1	Pump (Red)
2	Common (Black)
3	Heater (1) (Yellow)
4	Sense (Blue)
5	Heater (2) (Yellow)



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 - F R - T 2 - 1 8 X - X X X

Probe Length
A 55mm
B 45mm
C 28mm

Termination
Blank 0.15m cable
002 0.3m cable
003 1.1m cable

! 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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[O2S-FR-T2-18BM-B](#) [O2S-FR-T2-18BM-C](#) [O2S-FR-T2-18BM-A](#)