

Data Sheet

O2S-FR-T2-18X Oxygen Sensors - Screw Fit Probe

FEATURES

- Oxygen pressure range 2 mbar - 3bar
- Zirconium dioxide (ZrO_2) sensing elements
- Non-consumption technology
- Integral heating element
- No need for temperature stabilisation
- No reference gas required
- High accuracy
- Linear output signal
- Operates with external interface boards
- M18x1.5 screw mount



SPECIFICATIONS

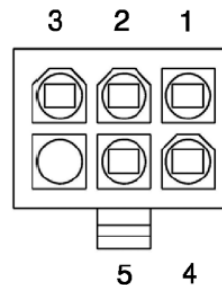
Heater Voltage*	$4.35V_{DC} \pm 0.1V_{DC}$ (1.85A)
Stand by	$2V_{DC}$ (0.85A)
Pump resistance @ 700°C**	< 6k Ω
Permissible gas temperature	-100 to 250°C
Gas flow rate	0 to 10 m/s
Repetitive permissible acceleration	5 g
Incidental permissible acceleration	30 g

* It is important to measure the heater voltage as close to the sensor as possible due to voltage drops in the supply cable. Heater can also be operated with an equivalent a.c. or PWM signals.

** The constant current source used in the pump circuit should be designed to drive a load of up to 6k Ω

ELECTRICAL CONNECTION

Molex Connector



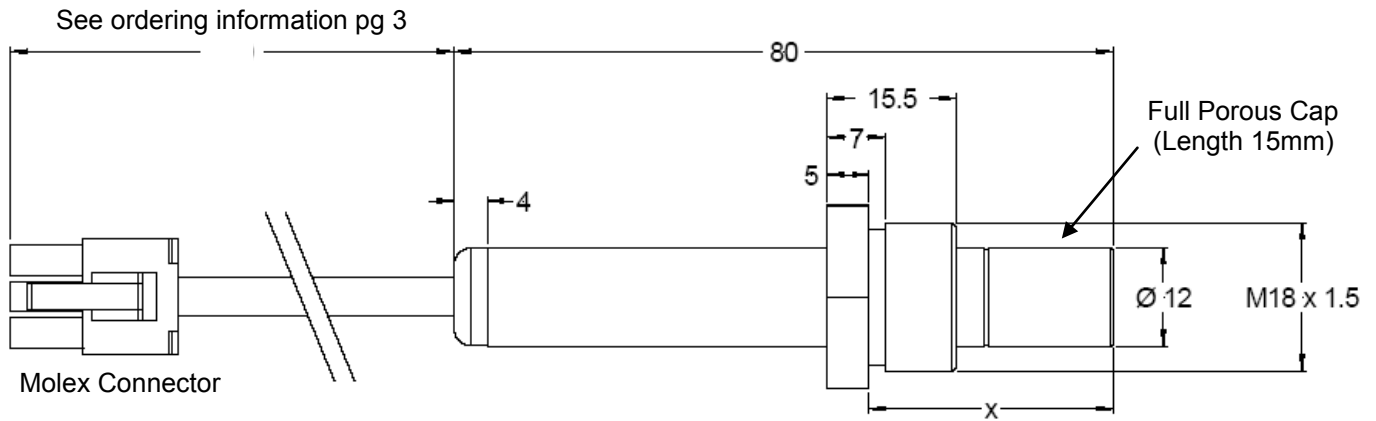
- 1: Pump (Red)
- 2: Common (Black)
- 3: Heater (Yellow)
- 4: Sense (Blue)
- 5: Heater (Yellow)

For detailed information on the sensor operation please refer to the following application note: AN0043 Operation Principle and Construction of Zirconium Dioxide Oxygen Sensor.

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OUTLINE DRAWING



Mass: 45g

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

X = 55mm for O2S-FR-T2-18A
X = 45mm for O2S-FR-T2-18B
X = 28mm for O2S-FR-T2-18C

All dimensions in mm.
Sensor lengths are approximate.

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PERFORMANCE CHARACTERISTIC

Characteristics	Min.	Typ.	Max.	Unit
Oxygen pressure range	2		3000	mbar
Accuracy			5	
Internal operational temperature		700 (4.35V _{DC})		°C
Response time (10-90% step)			4	s
Warm up time (prior to sensor operation)			100	
Warm up time (from stand by)			20	
Output stabilisation time		~180		

ORDERING INFORMATION

Part number	Housing	Termination
O2S-FR-T2-18A	Probe with M18 x 1.5 nut X = 55mm	0.15m Cable with Molex Connector
O2S-FR-T2-18A-002		0.3m Cable with Molex Connector
O2S-FR-T2-18A-003		1.1m Cable with Molex Connector
O2S-FR-T2-18B	Probe with M18 x 1.5 nut X = 45mm	0.15m Cable with Molex Connector
O2S-FR-T2-18B-002		0.3m Cable with Molex Connector
O2S-FR-T2-18B-003		1.1m Cable with Molex Connector
O2S-FR-T2-18C	Probe with M18 x 1.5 nut X = 28mm	0.15m Cable with Molex Connector
O2S-FR-T2-18C-002		0.3m Cable with Molex Connector
O2S-FR-T2-18C-003		1.1m Cable with Molex Connector

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 and ensure sensor is operated in accordance with all requirements of AN0043 **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

General Note: SST Sensing Ltd reserves the right to make changes in product specifications without notice or liability. All information is subject to SST's own data and considered accurate at time of going to print.