

DATA SHEET

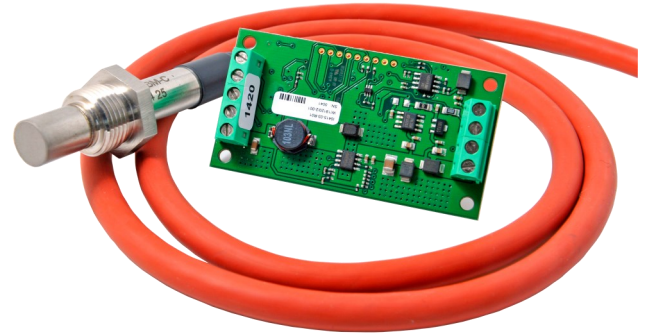
Zirconia O₂ Sensors Oxygen Measurement System



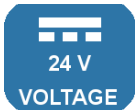
DESIGN • MANUFACTURE • CUSTOMISE • CONFIGURE

FEATURES

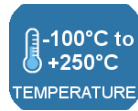
- Fast response zirconium dioxide (ZrO₂) sensor in conjunction with the OXY-LC oxygen sensor interface board
- Long life, non-depleting technology
- Integral heating element
- High accuracy
- Linear output signal



Supply Voltage



Gas Temp



Digital Output



Analogue Output



Response Time



BENEFITS

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

TECHNICAL SPECIFICATIONS

| | |
|--|---|
| Supply voltage | |
| RS485 output variant: | 8—28V _{DC} |
| Analogue output variants: | 20—28V _{DC} |
| Supply current | 600mA max. at 24V _{DC} 1.2A max. at 12V _{DC} |
| Digital output | RS485 (Modbus RTU) |
| Analogue output | 4—20mA; load 600Ω max or 0—10V _{DC} ; load 10kΩ min |
| Pump impedance at 700°C ¹ | < 6kΩ |
| Permissible gas temperature | -100°C to +250°C |
| Gas flow rate ² | 0—10m/s |
| Operating pressure limits ³ | 260—1260mbar absolute |
| Mounting thread | M18 x 1.5 |

OUTPUT VALUES

| | |
|---|--|
| Oxygen range (analogue output) | 0.1—25% O ₂ or 0.1—100% O ₂ |
| Oxygen range (Modbus RTU) | 0.1—100% O ₂ |
| Accuracy after calibration | 0.5% O ₂ |
| Accuracy after calibration | 0.5% O ₂ |
| Output resolution | 0.01% O ₂ |
| Response time (10—90% step) | < 4s |
| Initial warm up time (till stable output) | 5—10mins |
| Output inactive start up delay (heater warm up) | |
| From OFF to ON mode: | 60s |
| From Standby to ON mode (RS485 only): | 20s |

Need help? Ask the expert
Tel: + 44 (0)1236 459 020
and ask for “Technical”



NOTES

- 1) The constant current source used in the pump circuit should be designed to drive a load of up to 6kΩ.
- 2) With baffle fitted to shield the sensor from direct cooling and pollution by the flue gas; refer to DS0122 ZrO₂ Screw Fit Probe Datasheet for fitment details.
- 3) Sensor and interface for correct barometric pressure compensation.


DESCRIPTION

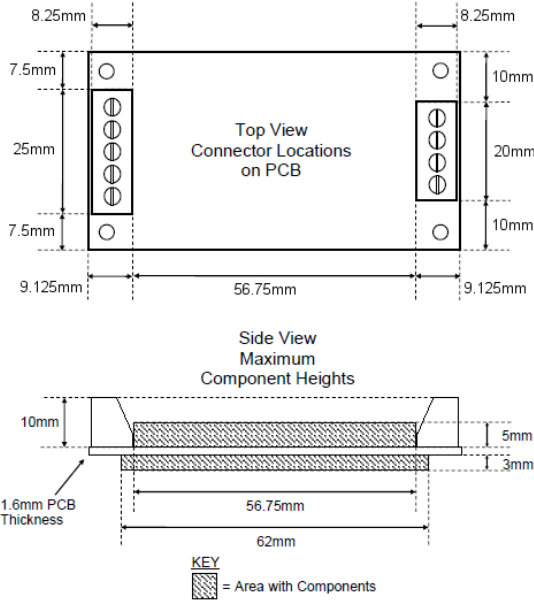
The Oxygen Measurement System is a complete solution consisting of a zirconium dioxide oxygen sensor and interface PCB. Dimensional overview given below; full specifications for each, including complete outline drawing and electrical interface details can be found:

- [DS0122 ZrO₂ Screw Fit Probe Datasheet](#)
- [DS0058 OXY-LC Oxygen Sensor Interface Datasheet](#)

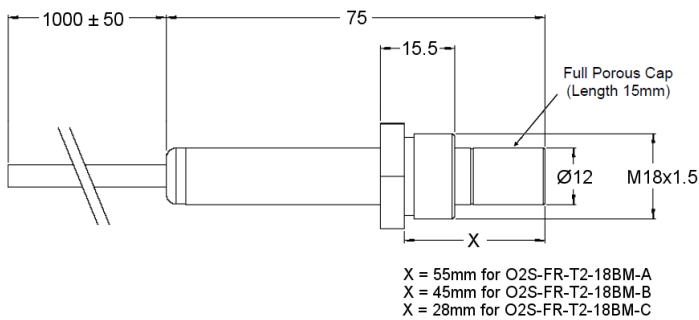
Contact technical@sstsensing.com for details.

Interface Board layout

 Always handle the interface board using the correct ESD handling precautions.



Sensor layout



ORDER INFORMATION

Referring to the tables below will allow you to tailor a system to suit your specific requirements.

For example: Ordering part numbers *OXY-LC-A25-455* and *O2S-FR-T2-18BM-C* will create a system that has a 4—20mA analogue output from the board and a sensor probe that has a length of 28mm from the sensor tip to the beginning of the M18x1.5 screw mount.

Interface Board

| PCB Part Number | O ₂ Measure Range | Output Type | Heater Voltage |
|------------------------|------------------------------|---------------------------------|---------------------|
| OXY-LC-485 | 0.1% and 100% | Modbus RTU | Configurable |
| OXY-LC-A25-455 | 0.1 to 25% | Current: 4—20mA | 4.55V _{DC} |
| OXY-LC-V25-455 | 0.1 to 25% | Voltage: 0—10V _{DC} | 4.55V _{DC} |
| OXY-LC-A100-455 | 0.1 to 100% | Current: 4—20mA | 4.55V _{DC} |
| OXY-LC-V100-455 | 0.1 to 100% | Voltage: 0—10V _{DC} | 4.55V _{DC} |

Sensor

| Sensor Part Number | Probe Length |
|-------------------------|--------------|
| O2S-FR-T2-18BM-A | 55mm |
| O2S-FR-T2-18BM-B | 45mm |
| O2S-FR-T2-18BM-C | 28mm |

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.

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В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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