DATA SHEET

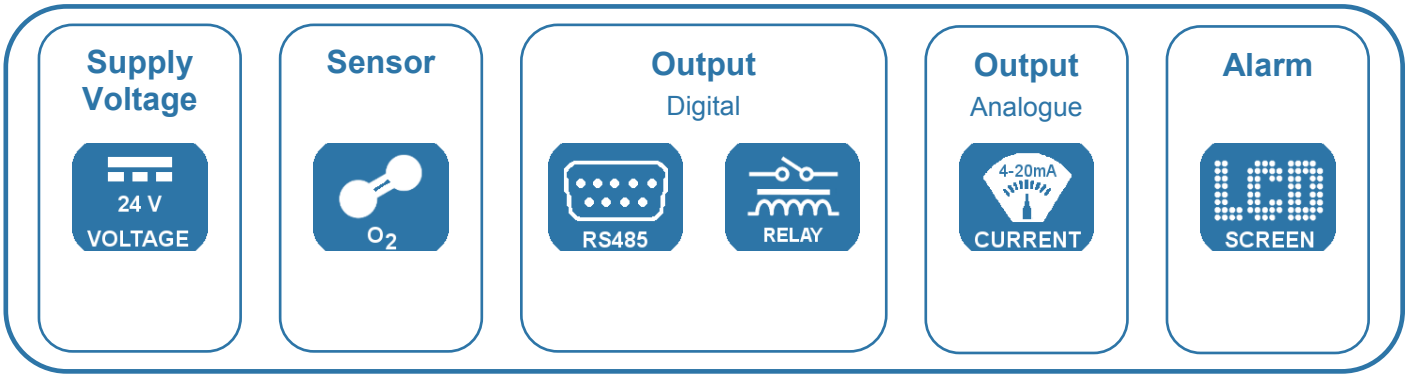
GASTRACK

SST
DESIGN • MANUFACTURE • CUSTOMISE • CONFIGURE

Gas Analyser Probe (GAP)

OXYGEN ANALYSER

A compact zirconium-oxide analyser to measure percentage level (0-25%) oxygen in combustion processes. The probe is manufactured from 316 stainless steel and can handle sample temperatures up to 700°C with an insertion length of 435mm. The sample is extracted to the sensor chamber and returned to the flue via the Pitot effect, so there is no need for instrument air. The analyser operates without the need for an air reference.



FEATURES

- The GAP provides customers with a single gas flue or ventilation monitoring system
- Barometric pressure and temperature sensors included
- RS485 MODBUS RTU as standard
- User configurable relay outputs
- Easy to swap sensor module, no special tools
- Calibrate in fresh air

APPLICATIONS

- Combustion control of boilers fuelled by natural gas, light oil, diesel, coal and biomass
- Excess air analysis
- Boiler trim control
- Incineration furnaces
- Power generation
- Combined cycle gas turbines (CCGT)
- Ceramic furnace monitoring

TECHNICAL SPECIFICATIONS

Performance

Measurement technology	Zirconium Oxide (ZrO_2)
Gas	Oxygen
Measurement range	0.1—25%
Output resolution	0.01 mA or 0.01% O_2
Accuracy (0.1-25%)	< 0.25% O_2
Response time (T90)	< 15 seconds
Repeatability	< 0.25%
Sample Flow Effect	±0.5% of full scale
Sample cell temperature	+700°C (1292°F)
Temperature measurement	Pt100

Operating Conditions

Ambient temperature	-20 to +55°C (-4 to +131°F)
Ambient relative humidity	0-95% RH
Background gas	Combustion gas from natural gas, biogas or oil
Sample gas temperature[a]	+700°C (1292°F)
Sample pressure	260—1260mbar Absolute

NOTES

a) Temporary excursions up to 750°C for 30 minutes will not damage the probe.

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TECHNICAL SPECIFICATIONS

Electrical Input / Output

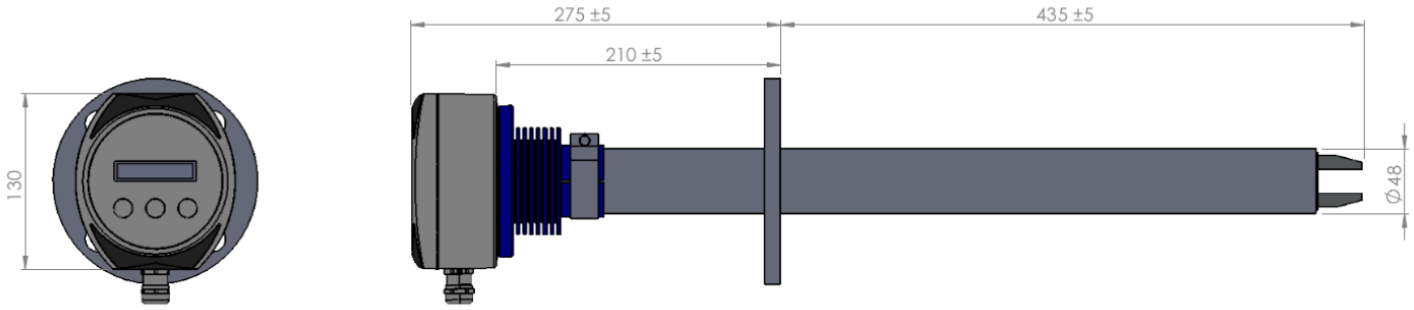
Power supply	24V_{DC}, ±10% LPS
Power consumption	700mA maximum @ 24V_{DC}
Analog outputs	Single or Dual 4—20mA
Output ranges (oxygen)	0-25% O_2
Output ranges (temperature)	-50 to +300°C (-58 to+572°F)
Output ranges (pressure)	260—1260mbar (0.017—0.086psia)
Relays (SPST, N/O as std.)	1 x system alarm (SPST) 1 x user configurable alarm
Digital communications	RS485 protocol
Display	16 character, 2-line, backlit

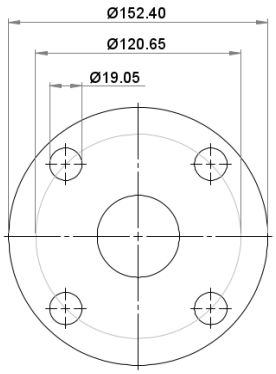
Mechanical Specifications

Warm up time	< 90seconds
Stabilisation time	< 5minutes
Dimensions	see Outline Dimensions
Weight:	
Head	1.6kg (3.5lbs)
Probe	3.9kg (8.6lbs)
Wetted materials	Stainless steel, Macor®, PTFE, aluminium and platinum
Process connection	2” 150lbs ANSI flange
Ingress protection	IP65
Housing material	Painted aluminium

OUTLINE DIMENSIONS

All dimensions shown in mm. Tolerances = ±1mm.





Flange profile to match ANSI Class 150 lb.

Nominal pipe size	2”
External diameter	152.40 (6.000”)
PCD	120.65 (4.750”)
Flange thickness	19.05 (0.750”)
No. of holes	4
Bolt hole diameter	19.05 (0.750”)

NOTE: The flange is NOT pressure retaining.

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.
Do NOT use chemical cleaning agents.

Failure to comply with these instructions may result in product damage.

INFORMATION

All sensors are tested at ambient environmental conditions unless otherwise stated. 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 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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