

# DATA SHEET

## GASTRACK



### Gas Analyser Probe (GAP)

#### OXYGEN ANALYSER

A compact zirconium dioxide 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 gas is extracted to the sensing 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.



<b>Supply Voltage</b> 24 V VOLTAGE	<b>Sensor</b> O <sub>2</sub>	<b>Output Digital</b> RS485 RELAY	<b>Output Analogue</b> 4-20mA CURRENT	<b>Alarm</b> SCREEN
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#### 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

<b>Measurement technology</b>	Zirconium Oxide (ZrO <sub>2</sub> )
<b>Gas</b>	Oxygen
<b>Measurement range</b>	0.1—25% vol. O <sub>2</sub> %
<b>Output resolution</b>	0.01 mA or 0.01% O <sub>2</sub>
<b>Accuracy (0.1—25%)</b>	< 0.25% vol. O <sub>2</sub> (typical) <sup>b</sup>
<b>Response time (T90)</b>	< 30 seconds
<b>Repeatability</b>	< 0.25% vol. O <sub>2</sub>

##### Operating Conditions

<b>Electronics</b>	
<b>Ambient temperature</b>	-20 to +55°C (-4 to +131°F)
<b>Ambient relative humidity</b>	0-95% RH
<b>Gas composition</b>	Combustion gas from natural gas, biogas or oil
<b>Sample gas temperature<sup>a</sup></b>	+700°C (1292°F)
<b>Sample gas flow rate</b>	4m/s minimum recommended
<b>Compensated pressure</b>	750—1260mbar absolute

#### NOTES

- a) Temporary excursions up to 750°C for 30 minutes will not damage the probe.  
b) Refer to *UG-003, GAP User Guide* for conditions.

**Electrical Input / Output**

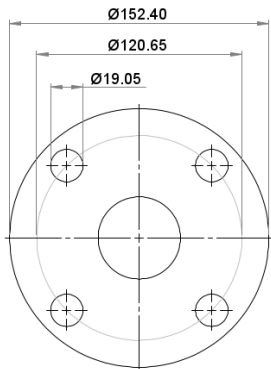
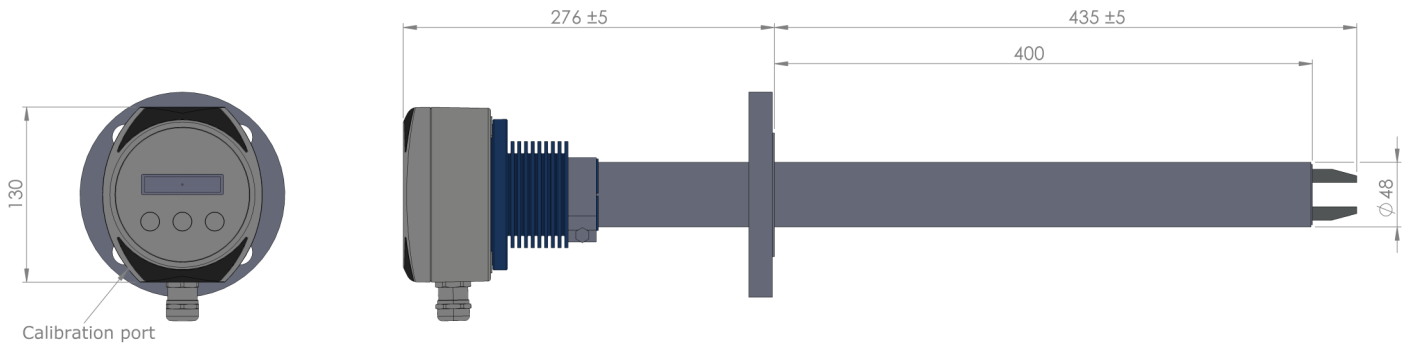
<b>Power supply</b>	24V <sub>DC</sub> ±10% Limited Power Supply
<b>Power consumption</b>	700mA maximum @ 24V <sub>DC</sub>
<b>Analog outputs</b>	Single or Dual 4—20mA
<b>Output ranges (oxygen)</b>	0—25% vol. O <sub>2</sub>
<b>Output ranges (pressure)</b>	750—1260mbar absolute
<b>Relays (SPST, N/O as std.)</b>	1 x system alarm (SPST) 1 x user configurable O <sub>2</sub> set point alarm
<b>Digital communications</b>	RS485 Modbus RTU protocol
<b>Display</b>	16 character, 2-line, backlit

**Mechanical Specifications**

<b>Time to first reading</b>	60 seconds
<b>Stabilisation time to stated accuracy</b>	< 10 minutes
<b>Dimensions</b>	see Outline Dimensions
<b>Calibration port</b>	4mm push-fit connector
<b>Weight:</b>	
<b>Head</b>	1.6kg (3.5lbs)
<b>Probe</b>	3.9kg (8.6lbs)
<b>Wetted materials</b>	Stainless steel, Macor®, PTFE, aluminium, platinum, aluminium oxide, zirconium dioxide
<b>Process connection</b>	2" 150lbs ANSI flange
<b>Gasket material</b>	Milam PSS 1.3mm thick (supplied)
<b>Housing material</b>	Painted aluminium
<b>Ingress protection</b>	IP65

 **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.

 **ORDER INFORMATION**

Part Number	Output Measurement
<b>GAP-B0</b>	Single analogue output; 0—25% O <sub>2</sub>
<b>GAP-B2</b>	Dual analogue outputs; 0—25% O <sub>2</sub> and gas pressure (750—1260mbar)

Contact SST Sensing Ltd for assistance; call +44 (0)1236 459 020 and ask for "Technical" or email [technical@sstsensing.com](mailto:technical@sstsensing.com)



 **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](mailto: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.