FEATURES

- High accuracy linear output
- Externally triggered automatic or manual calibration
- Can be calibrated in fresh air (20.7% O\textsubscript{2}) or to any other known O\textsubscript{2} concentration
- Selectable output filtering allows adaptive, fast and dynamic or slow and stable output

OUTPUT VALUES

Oxygen range (analogue output)\textsuperscript{2} 0.1—25% O\textsubscript{2} or 0.1—100% O\textsubscript{2}
Oxygen range (RS232 output) 0.1\textsuperscript{1} and 100% O\textsubscript{2}
Accuracy after calibration\textsuperscript{3,4} 1% O\textsubscript{2}
Repeatability after calibration\textsuperscript{3} 0.5% O\textsubscript{2}
Output resolution
  - Analogue 4—20mA: 0.01mA
  - Analogue 0—10V DC: 0.01V
  - Digital RS232: 0.01% O\textsubscript{2}
Response time < 15s
Warm up time (prior to sensor operation) 60s
Output stabilisation time ~ 180s

BENEFITS

- Cycling 3.3V\textsubscript{DC} logic output allows direct monitoring of the O\textsubscript{2} sensor pump cycle for diagnostic purposes
- No reference gas required

TECHNICAL SPECIFICATIONS

Supply voltage 24V\textsubscript{DC} ± 10%
Supply current 500mA max. at 24V\textsubscript{DC}
Digital output RS232
Analogue output 4—20mA; load 600Ω max. or 0—10V\textsubscript{DC}; load 10kΩ min.

Housing temperature limits
  - Storage: -10°C to +85°C
  - Operating: -10°C to +85°C
Permissible gas temperatures (probe tip)
  - Standard: -100°C to +250°C
  - High: -100°C to +400°C
Gas flow rate 0 to 10 m/s
Permissible acceleration
  - Repetitive: 5g
  - Incidental: 30g

NOTES

1) Prolonged operation below 0.1% O\textsubscript{2} can damage the sensing element.
2) Range selectable by altering the position of the jumper links on the PCB; refer to PCB Layout on page 3.
3) Assuming barometric pressure (BP) remains constant.
4) As the O\textsubscript{2} sensor measures the partial pressure of oxygen (PPO\textsubscript{2}) within the measurement gas deviations in the BP from that present during calibration will cause readout errors proportional to the change. EG. if the sensor reads 21% O\textsubscript{2} at 1013.25mbar and the BP increases by 1%, the sensor readout will also increase by 1% to 21.21% O\textsubscript{2}.

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

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

Housing: Amphenol Ecomate C016 30C006 100 12
Mating Connector: Binder 99-4218-00-07

NOTE: Mating connector also supplied.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V_{DC}±10%</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>Calibrate</td>
</tr>
<tr>
<td>4</td>
<td>Cycle</td>
</tr>
<tr>
<td>5</td>
<td>4—20mA / RS232 Tx (see Note)</td>
</tr>
<tr>
<td>6</td>
<td>0—10V_{DC} / RS232 Rx (see Note)</td>
</tr>
<tr>
<td>CENTRE</td>
<td>Housing / Probe Earth</td>
</tr>
</tbody>
</table>

NOTE: Output pins 5 and 6 are both referenced to the supply GND (pin 2). Due to high current flow in the supply GND, when monitoring the 0—10V_{DC} output (pin 6) it is recommended that a separate GND wire for the measurement system is taken from pin 2. This removes errors due to voltage drops in the power supply connections.

Assignment of output pins 5 and 6 selectable by altering the position of the jumper links on the PCB; see PCB LAYOUT below.
Generate your specific part number using the convention shown below. Use only those letters and numbers that correspond to the options you require — omit those you do not. Include the “OXY-FLEX” prefix.

<table>
<thead>
<tr>
<th>Probe Length</th>
<th>Gas Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 220mm</td>
<td>BLANK -100 °C to +250°C</td>
</tr>
<tr>
<td>1 400mm</td>
<td>H -100 °C to +400°C</td>
</tr>
</tbody>
</table>

**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 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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