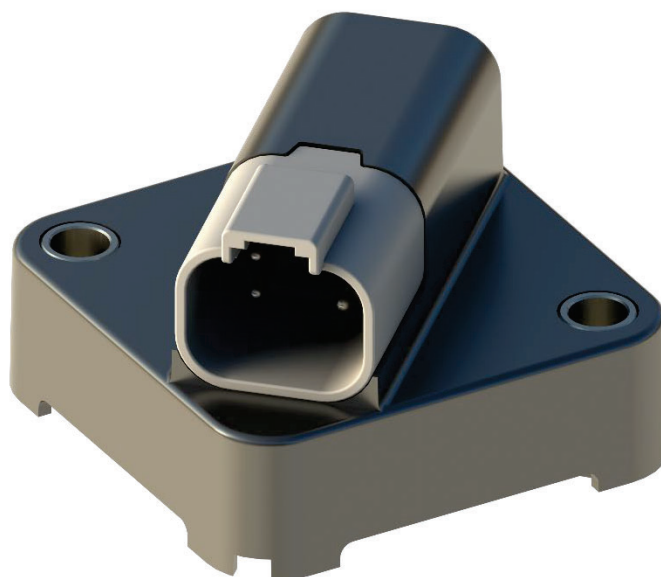


## O<sub>2</sub> SENSOR - Oxygen Sensor O2-LQ

### Specification:

| Description  | Specification  |
|--|--|
| Range  | 0 ... 25.00 Vol%   |
| Resolution   | 14bits   |
| Accuracy (including repeatability, non-linearity and calibration uncertainty)<br><br>Factory calibrated @ 13°C and 1013.25 hPa in 2 points, ZERO @ 100% N <sub>2</sub> and SPAN @ 20.8% O <sub>2</sub> or 10% O <sub>2</sub> in N <sub>2</sub> | <p>± (1.5% of range +3% of reading), applies for readings above 2% of full scale</p> <p>Temperature dependence, typical &lt; ± 0.2% /°C of reading @ -5°C ... 30°C, corrected by internal temperature sensor.</p> <p>Long-term stability &lt; ± 4.5% FS/2years</p> <p>Calibration is normalized to standard pressure, by internal barometer</p> <p>Readings are displayed in Vol%, reflecting the partial pressure of oxygen</p> |
| Warm up time   | < 1 min from power on to operational, 20 min to full performance   |
| Time constant T <sub>63%</sub>   | <5 min   |
| Operational temperature and humidity   | <p>-5°C ... 30°C at full accuracy, -20°C ... 60°C at reduced accuracy, 0-100%RH</p> <p>Resistant to condensing environment</p>   |
| Recommended calibration interval in air  | 1-year intervals. SPAN-Calibration in ambient air @13°C, 20.8 % O <sub>2</sub> , barometric correction, stabilization period > 45 min. Can be executed during reefer PTI.  |
| Storage temperature  | -40°C ... 80°C   |
| Measuring principle  | Luminescence quenching by oxygen, ratio-metric decay-time measurement  |



## Oxygen Sensor O2-LQ SPECIFICATIONS

### Specification, electrical:

| Description                | Specification  |
|----------------------------|--|
| Supply voltage             | 12VDC (8V ... 15V), protected against overvoltage and reverse polarity |
| Current consumption @12VDC | Peak < 60mA, average <10mA   |
| RS485 driver and circuit   | 60V max protected.   |
| Miss wiring                | No damage  |

### Serial communication:

| Name       | Type  | Description                   | Specification                 |
|------------|-------|-------------------------------|-------------------------------|
| 2-wire     | RS485 | RS 485 communication channel  | 9600, 19200 or 115000 bit/sec |
| Modbus RTU |       | Modbus communication protocol | SW selectable                 |

### Electrical connection:

| Name  | Function                                      |
|---|---|
| Integrated Deutsch DT04-receptacle. DT06-plug<br>and cable/wire pins:<br>( <a href="http://www.deutsch.net">www.deutsch.net</a> ) | 1: 12V<br>2: 0V / GND<br>3: com A<br>4: com B |

### Mechanical specs:

| Description                    | Specification  |
|--------------------------------|--|
| Mounting                       | Two holes (diameter 6 mm) with 54 mm from center to center for rivet or screw                |
| Mechanical external dimensions | See the pictures / drawings for dimensional indication.<br>W, L, H: 52.5 x 52.5 x 36.5 mm    |
| IP class                       | 67, measuring cuvettes protected by 1µm pore PTFE hydrophobic and oleophobic filter membrane |

#### EMC

| Description   |
|---|
| EN61000-6-3 Emission, Domestic  |
| EN61000-6-2 Immunity, Industrial: HF 10 Veff, FT $\pm 4$ kV, ESD $\pm 8$ kV air, $\pm 4$ kV contact |
| CE component declaration will be signed.  |

#### Vibration and chock

| Description    |  |
|----------------|--|
| IEC 60068-2-64 | Test Fc 18Hz to 1kHz 3g rms<br>3 x 2 hours in each direct x-y-z  |
| Description    |  |
| IEC 60068-2-27 | 6 directions (X-Y-Z both ways): Half sine wave 11ms with peak at 6g, 30 shocks each direction.<br><br>Vertical: 5 shocks half sine wave 11ms peak at 70g |

#### Salt spray

| Description |   |
|-------------|---|
| ASTM B117   | Test time 168 hours<br><br>No visible corrosions after test |

#### Disclaimer

| Description                  |  |
|------------------------------|--|
| Exposure to aggressive gases | Exposure to VOC's and other aggressive gases, like SO <sub>2</sub> , NH <sub>3</sub> , HCl and alcohol, especially in combination with condensing environment, may adversely influence the sensors' measuring accuracy and reduce the lifetime. <a href="https://www.sensirion.com">https://www.sensirion.com</a> , Humidity_Sensors_Handling_Instructions.pdf |

