

## SIL O<sub>2</sub> 106 Oxygen Analyser



The Ntron SIL O<sub>2</sub> 106 Oxygen Analyser was designed specifically for OEM requirements to address the market requirements for a low cost SIL 2 rated Oxygen analyser for inertisation applications.

The SIL O<sub>2</sub> 106 Oxygen Analyser utilises two continuous self monitoring microprocessors and the complete system (analyser and sensor) meets the requirements of IEC 61508 SIL 2.

Extremely fast response, high accuracy, and no requirement for periodic calibrations make this analyser a low-maintenance solution that delivers reliable performance for safety critical process control applications.

### Applications

#### An Oxygen Analyser for use in:

- Additive Manufacturing
- Glove box purge and leak detection
- Air Separation
- Wave Soldering
- Inert Ovens

### Features

- Certified according to IEC61598 SIL 2
- Measurement ranges: 0 - 25% O<sub>2</sub>
- Reliable Zirconia sensor technology
- Suited to harsh process applications
- Fast response time
- Din rail mounting
- LCD display
- Analogue 4 to 20mA output for retransmission of measured signal (SIL 2 Rated)
- RS485 communications
- 24VDC power supply
- 2 Configurable alarm relays (SIL 2 rated)  
1 Transistor output
- KF50 process connection Option



### **SIL O<sub>2</sub> 106 Oxygen Analyser**

The SIL O<sub>2</sub> 106 Oxygen Analyser utilises two continuous self-monitoring microprocessors and incorporates an easy to read LCD display of Oxygen Concentration. It has a measurement range of 0 to 25 % Oxygen. This compact analyser user proven Zirconia sensor technology to accurately measure O<sub>2</sub> in a variety of safety critical applications.

### **Proven Sensor Technology**

The LP Oxygen Sensor uses ceramic foils as the solid-state electrolyte. Screen-printing techniques are employed for producing the individual functional layers (electrodes, protective layers, etc.). The printed foils are laminated one on top of the other, and this principle enables a heater to be integrated in the sensor element.

The LP Oxygen Sensor element is fixed in the sensor housing by means of a ceramic seal packing. The double-wall protective tube provides the sensor element with highly effective protection against excessive thermal and mechanical stresses.

### **Special characteristics of this sensor type**

- Short start-up times
- Stable control characteristics
- Lower heater rating
- Small size

### **Communication Options**

The SIL O<sub>2</sub> 106 Oxygen Analyser has a analog 4 to 20 mA Output which is SIL 2 rated for a measurement range of 0 to 25% Oxygen. Alarm monitoring takes place by two relay contacts and one transistor output. All alarm outs can be used in safety circuits and are galvanic isolated from each other and the power supply.

### **Low Maintenance and Cost of Ownership**

The Ntron Zirconia Oxygen sensor has an extremely long life expectation in the region of 3 to 5 years under normal operation. Due to the highly stable nature of the sensor, a calibration interval of once per year is required, allowing for significant cost savings.

### **Integration Flexibility**

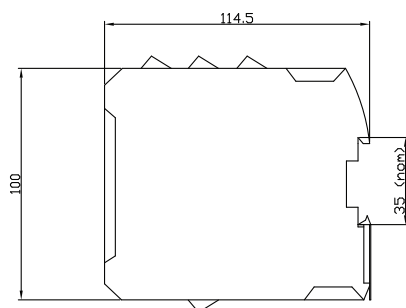
The compact SIL O<sub>2</sub> 106 Oxygen Analyser is easy to install. The analyser is designed to be Din Rail mounted and can be integrated into a wide variety of equipment.

The OC-85 LP Oxygen Sensor has an M18 threaded process connection and can be installed in a flow through sensor base or with a KF adapter for in-situ monitoring.

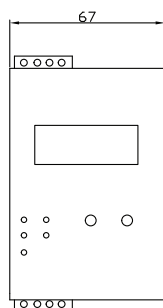
# SIL O<sub>2</sub> 106

## Product specifications

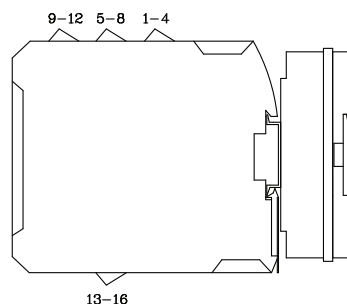
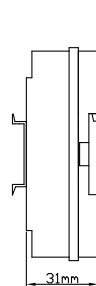
|                                   |                                                        |
|-----------------------------------|--------------------------------------------------------|
| <b>Gas Type / Range</b>           | Oxygen / 0 - 25%                                       |
| <b>Sensor Technology</b>          | LP Zirconia sensor technology (LP)                     |
| <b>Sensor Type</b>                | Ntron Oxygen Sensor OC-85 (LP Zirconia)                |
| <b>Accuracy</b>                   | ± 2% of reading at 20°C                                |
| <b>Response Time (T90)</b>        | <10 seconds                                            |
| <b>Warm Up Time</b>               | 3 mins                                                 |
| <b>Expected Sensor Life</b>       | 3 -5 years                                             |
| <b>Relative Humidity</b>          | 0 - 95% non-condensing                                 |
| <b>Max Sample Gas Temperature</b> | 600°C                                                  |
| <b>Sample Pressure</b>            | Vented to atmosphere during operation and calibration  |
| <b>Display</b>                    | 4 Digit LCD display & LED indication for Alarm / Fault |
| <b>Power Requirements</b>         | 24VDC ± 10%, 1.2 Amps                                  |
| <b>Analogue Output</b>            | 4 to 20mA, Linearity is ± 1%                           |
| <b>Relay Outputs</b>              | 2 Relay contacts, 1 transistor (SIL 2 Rated)           |
| <b>Serial Communication</b>       | RS 485                                                 |
| <b>Warranty</b>                   | 12 Months from date of shipping                        |
| <b>Dimensions</b>                 | 100mm (h) x 70mm (w) x 145.5mm (d)                     |
| <b>Weight</b>                     | 300g Din Rail Mount                                    |
| <b>Mounting</b>                   | Din Rail Mount                                         |
| <b>Environmental Rating</b>       | IP 54                                                  |



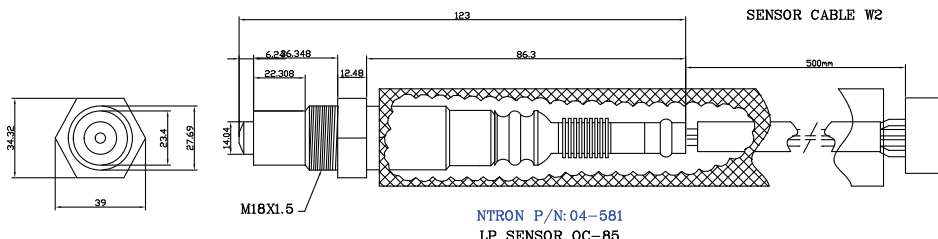
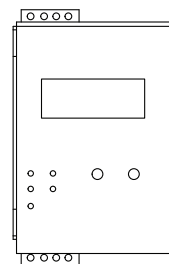
NTRON P/N: 04-615  
SILO2 TRANSMITTER  
SIDE & FRONT VIEW



NTRON P/N: 04-607  
PSU BASE  
SIDE VIEW SHOWING  
DIN RAIL MOUNT



ASSEMBLED UNIT  
SIDE & FRONT VIEW



NTRON P/N: 04-581  
LP SENSOR OC-85

# SIL O<sub>2</sub> 106

## Ordering information

| Product                          | Sensor Type | Measurement Range | Process Connection           | Part No. |
|----------------------------------|-------------|-------------------|------------------------------|----------|
| SIL O <sub>2</sub> 106           | Zirconia    | 0 to 25%          | M18x1.5mm. KF Flansch Option | 04-664   |
| Standard Cable Length - 3 metres |             |                   |                              |          |

| Components                  | Drawing Number | Part Number |
|-----------------------------|----------------|-------------|
| SIL O <sub>2</sub> Module   | E530           | 04-615      |
| OC-85 O <sub>2</sub> Sensor | E529           | 04-581      |
| LP Power Supply Unit        | E501           | 04-607      |