

## T80-O2 Oxygen Monitor

### Features

- **Microprocessor based**
- **4-20mA Analogue Output**
- **Voltage free relay contacts**
- **RS485 digital interface**
- **Alphanumeric display**
- **“One Person” calibration**
- **Gel based electrochemical sensor**
- **Standalone operation**
- **Rugged aluminium enclosure**
- **IP65 rated**

The Monicon T80-O2 is a high quality, self contained, oxygen gas monitor that offers a host of sophisticated features to provide fast, reliable warnings against exposure to dangerously low or high concentrations of Oxygen.

The T80-O2 will operate as a standalone instrument or in conjunction with a controller or a computer. It is housed in an attractive, compact, diecast aluminium, power coated, enclosure and may be configured or calibrated by one person.

The gas concentration is indicated on a rugged 8-character alphanumeric display which also indicates instrument status.

The T80-O2 provides two volt-free alarm relay contacts, 4-20mA analogue output signal and has an RS485 digital communication interface.

The T80-O2 is fully user programmable and is easily calibrated by one person. All user variables are stored in non-volatile memory (EEPROM) and retained indefinitely even during total power failure.



### Typical Applications for the T80-O2

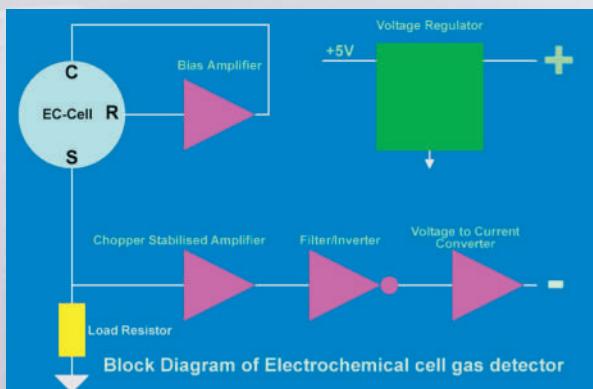
- **Cryogenics**
- **Pharmaceutical**
- **Food processing**
- **Semiconductor manufacture**
- **Chemical Processing**
- **Ventilation Systems**
- **Laboratories**
- **Schools & Colleges**
- **Healthcare & Hospitals**
- **Research**

The T80-O2 is a 4-20mA, 3-wire transmitter. It is housed in a rugged, compact metallic enclosure. It incorporates advanced SMT electronics and an amperometric electrochemical sensor based on micro fuel-cell technology, designed to be maintenance free and inherently stable.

The sensor uses the highly successful capillary diffusion barrier technology, resulting in a low temperature coefficient and a direct response to concentration, relatively unaffected by pressure. The use of electrodes based on fuel cell technology gives a high reserve of activity which results in long term stability. The sensor is a small plug-in component and is easily replaced in minutes when it becomes depleted.

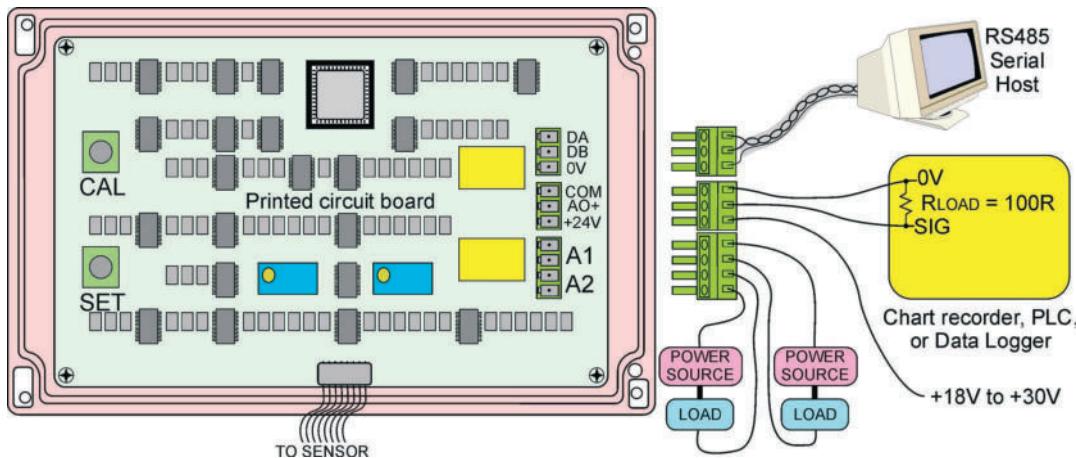
Gas diffusing to the sensor electrode reacts at the surface of the electrode by reduction (or by oxidation for some sensors). Reactions are catalysed by specially developed electrode materials and are designed to be specific to the gas being sensed.

The unit is calibrated or user-programmed by means of on-board pushbutton switches. The operator is then guided through a variety of options by a user-friendly menu. The CPU constantly verifies system operation. In the unlikely event of a fault, the operator is alerted with a helpful diagnostic display.



# T80-O2 Specifications

Supply voltage	Nominal 24Vdc (operates from 20Vdc to 35Vdc)
Power consumption	2W nominal, 2.3W maximum
Circuit protection	Electronic current limiter, 1.5A auto-reset
Transient Protection	PCB mounted, 3 Joule, Metal Oxide Varistor
Analogue output	4-20mA current source referenced to 0V
Analogue output load	100 Ohms typical, 500 Ohms maximum
Operating temperature	-20°C to +40°C
Storage temperature	-40°C to +50°C
Humidity range	10%RH to 90%RH (Non-condensing)
Preconditioning Requirements	Operational: 30 seconds, Specification: 60 minutes
Full-Scale range display	0-5% or 0-25% units available
Response time (T90)	<15 seconds (calculated from 4 minute exposure)
Drift, S.T.P. continuous duty in air	<5% signal loss per year
Linearity	±5%
Repeatability	±2%
Resolution	1%
Recommended Calibration Interval	6 months (depending on application)
Weight	1.5Kg (including sensor)
RS485 operating mode	Slave mode, half duplex, polled
Max. units on RS485 loop	100
RS485 comm parameters	1200-N-8-1
RS485 error checking	1 byte checksum
Unit interrogation time	400mS
Relay contacts	SPST, NO, 230V @ 1A each for A1 & A2
Option setting	Digital setting (all options fitted as standard and user selectable)
Alarm setting	Digital setting (fully adjustable between 10% and 90% of full scale)
Alarm types	Energised/de-energised. Enrichment/deficiency. User selectable
Recommended calibration flow rate	1000mL per minute
Mounting holes	4 holes, diam 5mm, spaced 145mm horizontally, 63mm vertically
User variable storage	Non-volatile RAM (EEPROM)
Electromagnetic Conformance (EMC)	Complies with EN50081 and EN50082
Cable gland entry	M20 x 1.5
Terminations	Detachable, PCB mounted terminal blocks to accept 1.5mm <sup>2</sup> cable
Enclosure	Epoxy coated aluminium. Size W: 160mm H: 100mm D: 60mm
Literature supplied	24-page detailed instruction manual with wiring diagram



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