

Features

- *Microprocessor based*
- *4-20mA Analogue Output*
- *Voltage free relay contacts*
- *RS485 digital interface*
- *Alphanumeric dot-matrix display*
- *"One Person" calibration*
- *Gel based electrochemical sensor*
- *Standalone operation*

The Monicon T80 is a high quality, self contained, toxic gas sensor that offers a host of sophisticated features to provide fast, reliable warnings against exposure to dangerous concentrations of toxic gases such as CO, SO₂, H₂S, NH₃, O₃, NO, NO₂, HCl, HCN, Cl₂, and oxygen.

The T80 will operate as a standalone instrument or in conjunction with a controller or a computer. It is housed in an attractive, compact 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 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

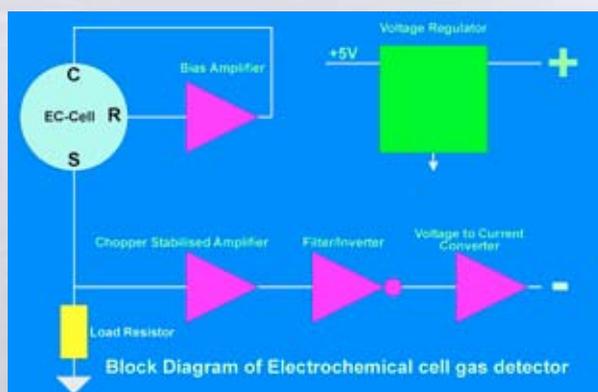
- *Boiler houses*
- *Car Parks*
- *Food processing*
- *Paint manufacture*
- *Chemical Processing*
- *Ventilation Systems*
- *Laboratories*
- *Schools & Colleges*
- *Greenhouses*
- *Refrigeration*

The T80 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.

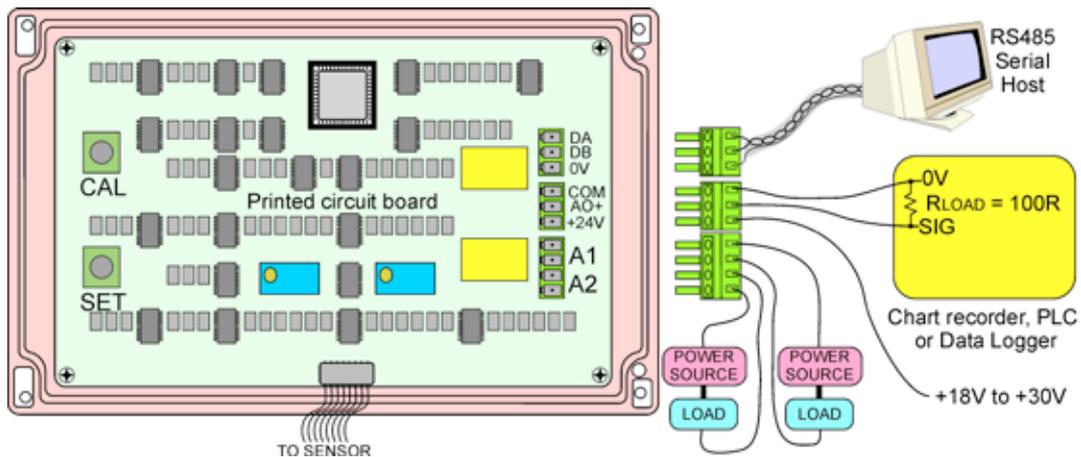
Gas diffusing to the sensor electrode reacts at the surface of the electrode by reduction (or by oxidation for some sensors). Reactions are catalysed by specially developed electrode materials and are designed to be specific to the gas being sensed.

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 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	0-3, 0-5, 0-25, 0-50, 0-100, 0-250 (depends on gas and sensor)
Response time (T90)	Depends on sensor, e.g. <30 seconds for CO
Drift, S.T.P. continuous duty in air	<3% over three months at 20°C (depends on sensor)
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	500mL 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 ² 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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