



## T100 Toxic Gas Transmitter

The T100 is a 4-20mA 2 wire transmitter that can measure a wide range of gases and is housed in a rugged, compact metallic enclosure. It incorporates advanced SMD electronics and a 3 electrode electrochemical sensor based on micro fuel cell technology, designed to be maintenance free and inherently stable.



### Features

- 2 Wire 4-20mA Analogue Transmitter
- Plug in Electrochemical sensor
- Built in Zero and Span Controls
- SMD Electronic Circuitry
- Enhanced RFI and EMI Resistance
- Certified ATEX II 2G EEx ia IIC T4

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.

Gas diffusing to the sensor electrode reacts at the surface of the electrode either by oxidation (e.g. CO, H<sub>2</sub>S, SO<sub>2</sub>, NO, H<sub>2</sub>, HCN, HCl, C<sub>2</sub>H<sub>4</sub>O, NH<sub>3</sub>) or by reduction (NO<sub>2</sub>, O<sub>3</sub> and Cl<sub>2</sub>). Reactions are catalysed by specially developed electrode materials and are designed to be specific to the gas being sensed.

## T100 Specifications

Supply voltage	<i>Nominal 24Vdc (operates from 12Vdc to 30Vdc)</i>
Supply current	<i>Normal: 4mA, full-scale 20mA</i>
Ec-cell operating life in air at S.T.P.	<i>Minimum 2 years (1 year for NH<sub>3</sub>)</i>
Preconditioning Requirements	<i>1 Hour (24 hours for HCl, C<sub>2</sub>H<sub>4</sub>O, NO &amp; NH<sub>3</sub>)</i>
Storage life at 0 to 20°C	<i>6 months</i>
Operating temperature range	<i>-10° to +40°C (H<sub>2</sub>S, -40°C to +40°C)</i>
Operating pressure range	<i>Ambient ± 10%</i>
Effect of operating pressure on accuracy	<i>» 0.05% signal per mm Hg</i>
Operating RH range	<i>15% to 90% non-condensing</i>
Position sensitivity	<i>None</i>
Drift, S.T.P. continuous duty in air	<i>&lt;2% Full Scale per month</i>
ATEX approval	<i>EEx ia IIC T4 (Certificate No. Ex 99E2035)</i>
Size	<i>W: 75mm, D: 58mm, H: 80mm (excluding sensor)</i>
Weight	<i>400g</i>
Electromagnetic Conformance (EMC)	<i>Complies with EN50081 and EN50082</i>
Enclosure material	<i>Durable aluminium ALSi12, magnesium content &lt;0.4%,  finished in stove enamel gray RAL7001, rated IP65.</i>

(Marine grade version available to special order)

## Available gases and ranges

To cover a wide range of applications, a variety of ranges are available. The following table shows the available gases along with the minimum and maximum full-scale range for that gas. The maximum T90 response time is also shown (in seconds).

Gas	CO	H <sub>2</sub> S	SO <sub>2</sub>	NO	NO <sub>2</sub>	H <sub>2</sub>	Cl <sub>2</sub>	HCN	HCl	NH <sub>3</sub>	O <sub>3</sub>	C <sub>2</sub> H <sub>4</sub> O	O <sub>2</sub>
Min FSD (ppm)	50	5	5	10	5	50	5	50	5	50	3	20	5%
Max FSD (ppm)	4%	1000	2000	1500	200	4%	250	200	100	200	5	100	25%
T90 Response	25	30	15	10	35	30	100	100	120	100	150	140	12

**Specialists in Safety: Gas Detection**

## Total Protection (UK) Limited

142 Leyland Trading Estate Irthlingborough Road  
Wellingborough Northamptonshire NN8 1RT

**Tel: 0844 567 7423**

**info@totalprotectionuk.com**

**www.totalprotectionuk.com**