3ME/F CiTiceL®

Carbon Monoxide (CO) Gas Sensor with mV Output

Key Features & Benefits:

- **Robust 3-Series packaging**
- **Factory calibrated mV output**

Technical Specifications

MEASUREMENT

Sensor Type Used	3E/F
Maximum Range	2000 ppm CO
Sensitivity	
Standard	1 mV/ppm ± 5%
High	10 mV/ppm ± 5%
Filter	To remove SO_x/NO_x & H_2S
Baseline Offset (Clean Air)	±1 mV
Response Time (T_{90})	<30 Seconds at 20°C
Resolution	0.5 ppm
Zero Shift (-20°C to +40°C)	<3 ppm equivalent
Repeatability	1% of signal
Linearity	Linear

ELECTRICAL

Power Supply Required	7 to 18 VDC single-ended or ±3.5 to ±9 VDC dual
Power Consumption	250 µA @ 9 VDC
Calibration	Via built-in span and zero potentiometers (Refer to OP14)

MECHANICAL

Weight	38 g (with connector)
Body Material	20% glass filled polypropylene
Position Sensitivty	None

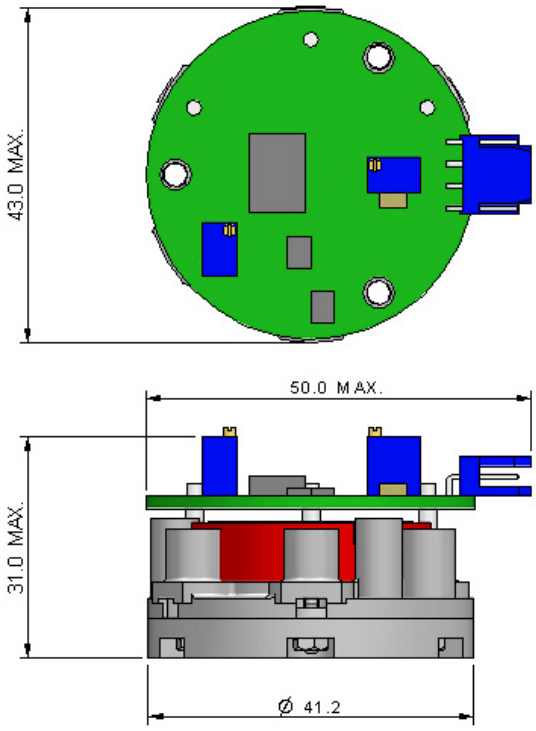
ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Temperature Compensation	None
Operating Pressure Range	Atmospheric ± 10%
Pressure Coefficient	0.020 ± 0.008% signal/mBar
Operating Humidity Range	15 to 90% RH non-condensing

LIFETIME

Long Term Sensitivity Drift	<5% signal loss/year
Expected Operating Life	Three years in air
Storage Life	6 months in CTL container
Standard Warranty	12 months from date of despatch

Product Dimensions



All dimensions in mm
All tolerances ±0.15 mm unless otherwise stated

IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar. For further information on the operation and calibration of City Technology mV output sensors, please refer to OP14.

RANGES AVAILABLE

3ME/F is available with the following precalibrated sensitivities.

Sensitivity	Order Code
1 mV/ppm	MBE60-014
10 mV/ppm	MBE60-024

City Technology Limited
City Technology Centre, Walton Road, Portsmouth, Hampshire PO6 1SZ UK
Tel +44 23 9232 5511 Fax +44 23 9238 6611

www.citytech.com

Poisoning

CiTiceLs are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapours is avoided, both during storage, fitting into instruments and operation.
When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted. Do not glue directly on or near the CiTiceL as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react. The figures are expressed as a percentage of the primary sensitivity (i.e. CO = 100%).

Gas	Concentration Used (ppm)	3ME/F (%)
Hydrogen Sulfide, H_2S	15	~ 7
Sulfur Dioxide, SO_2	5	0
Nitric Oxide, NO	35	<10
Nitrogen Dioxide, NO_2	5	0
Chlorine, Cl_2	1	0
Hydrogen, H_2	100	<60
Hydrogen Cyanide, HCN	10	0
Hydrogen Chloride, HCl	5	0
Ethylene, C_2H_4	100	<75

SAFETY NOTE
This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.

City Technology Limited
City Technology Centre, Walton Road, Portsmouth, Hampshire PO6 1SZ UK
Tel +44 23 9232 5511 Fax +44 23 9238 6611

www.citytech.com