Features

- Integrated thermister for accurate temperature compensation
- EEPROM programmed with sensor specific performance characteristics

Performance Characteristics

Nominal Range	0-5% vol. CO_2
MTBF	>5 years
Minimum Resolution	0.005% CO_2 at zero, 0.15% CO_2 at range
Accuracy (-20°C to +50°C)	Within ±(0.1% vol CO_2 + 4% of concentration)
Temperature Range	-20°C to +50°C
Pressure Range	700 to 1300mBar with compensation
T_{90} Response Time	<35 seconds
Relative Humidity Range	0-99% RH (non-condensing)
Long Term Zero Drift	<80ppm CO_2 per month
Repeatability	
Zero	<±0.003% CO_2
5% CO_2	<±0.075% CO_2
Warranty Period	12 months from date of despatch

N.B. All performance data is based on conditions at 20°C 50% RH and 1013 mBar, operated using CTL evaluation electronics.

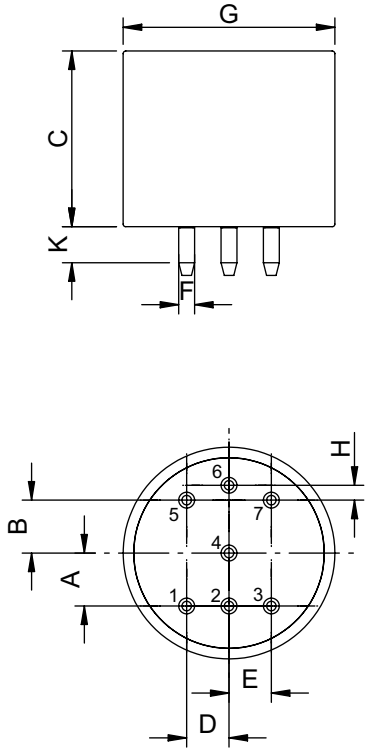
Physical Characteristics

Weight	23g
Position Sensitivity	None
Recommended Storage Temperature	-20°C to +50°C

Electrical Characteristics

Supply voltage	3-5V DC, 3.3V to utlise EEPROM cal.
Power consumption	<100mW at 3.3V
Recomended lamp frequency	2Hz, 50% duty cycle
Warm up time	<10 Sec

Outline Dimensions



Symbol	mm (nominal)
A	5.0
B	5.0
C	16.6
D	4.0
E	4.0
F	1.5 +/-0.05
G	20.0
H	1.4
K	4.7

Pin	Function
1	Lamp return
2	Lamp +5V
3	+5V pryo supply
4	Detector output
5	Reference output
6	Thermistor output
7	0V pryo supply

NB: 1. Label adds additional 0.2mm to IRceL diameter.
2. Allow 1mm additional height in instrument for potting meniscus.

IMPORTANT NOTE: Connection should be made via PCB sockets only. Soldering to the pins will seriously damage your sensor.

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Product Approval

Approval Body: UNDERWRITERS LABORATORIES INC®

Test Standard: UL913
CSA.C22.2 No 157

Product Categories: Class 1, Division 1, Groups A, B, C, D

File Number: E180262

Approval Body: SIRA CERTIFICATION SERVICE

Test Standard: EN 50014:1997 (amendments A1 & A2)
EN 50018:2000
EN 50281-1-1:1998

Product Categories: EExdI/IIC T4 (T_{amb} -20°C to +55°C), Ex II2GD/IM2, CE 0518

Certificate Number: Sira 04ATEX1084X

Instructions specific to hazardous area installations (reference European ATEX Directive 94 / 9/ EC, Annex II, 1.0.6.)

The following instructions apply to equipment covered by certificate number Sira 04ATEX1084X;

1. The equipment may be used with flammable gases and vapours with apparatus groups IIA, IIB and IIC and with temperature classifications T1, T2, T3 and T4.

2. The equipment is certified for use in ambient temperatures of -20ºC to +55ºC.

3. The equipment has not been assessed as a safety related device (as referred to by Directive 94 / 9 / EC Annex II, clause 1.5).

4. Installation of the equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice (e.g. EN 60079-14)

5. Inspection and maintenance of this equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice (e.g. EN 60079-17).

6. Repair of this equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice (e.g. EN 60079-19).

7. Special conditions for safe use

7.1. The IRceL is designed to be connected to a gas detector which shall provide an intrinsically safe supply and having a maximum output power (P_0) not greater than 1.0 watt.

7.2. Because the IRceL has not been proven to withstand the impact and drop tests prescribed in EN 50014:1997 clause 23.4.3, additional protection shall be provided to ensure that it cannot be subjected to such mechanical stresses.

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8. The certification of this equipment relies upon the following materials used in its construction;

Enclosure material: either 303 stainless steel, which contains less than 6% magnesium
or 304 stainless steel, which contains less than 6% magnesium

Flame arrester: 316 stainless steel mesh

Cement: CW2248/HY956EN

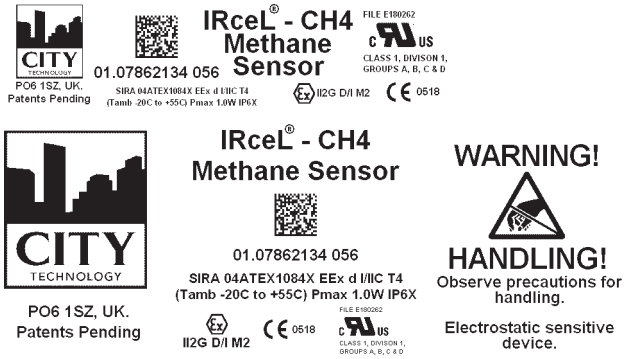
Manufacturer	Ciba-Geigy
Type of compound	Epoxy resin
Colour	Beige (natural)
Filler type and %	55.2% trihydrated Al_2O_3
Other additives	8.3%
Surface treatments	None
Temperature index	170°C
City Tech reference	RM 497

If the equipment is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.

Aggressive substances: e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

Suitable precautions: regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.

9. The IRceL is available in several formats depending upon the optical filter and components employed. The Certification marking is shown below using the IRceL CH4 label as an example:



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