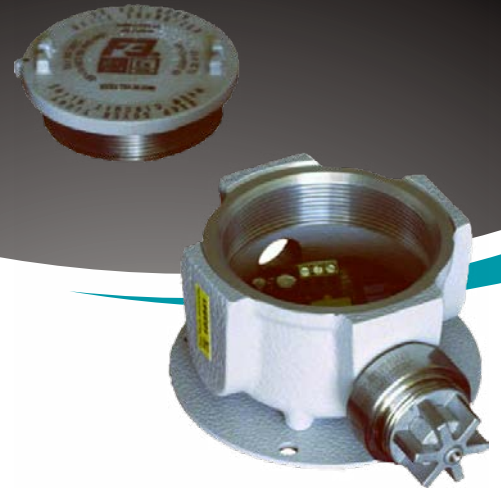


B-GUARD CAT

Catalytic Sensor, Amplifier and Housing



GasTech has used the latest low power switch mode technology for the detection of Combustible gas in LEL or ppm levels.

This unique amplifier has a built in capabilities to be either a 4-20mA Source or sink, simply by the positioning of 2 jumpers. It has an adjustable head voltage operation from 1.4Vdc to 14Vdc, which will cover the full range of low voltage and high voltage sensors. It is also designed for set gain control for extra low sensitivity for ppm detection.

The use of a precise amplifier and precise offset voltage allows this to be one of the most stable amplifiers on the market today.

Advanced calibration minimises interference between zero and span adjustment, which enables quicker and more accurate calibrations.

All components are low profile surface mount in resin potted PCB, designed for ease of installation and years of trouble free operation.

KEY FEATURES

- Tamper proof construction
- 5 Year sensor life
- RFI/EMI Resistant powder coat-ed protective case
- MTBF 10 years on electronics
- 1.4-14Vdc operation
- 4-20mA source or Sink output
- Simple user calibration procedure

SPECIFICATIONS

Specifications subject to change without notice

Analog Output	4-20mA
Input Power	10-30VDC
Head volts	1.4-14VDC
Response Time	90% full response in less than 40 seconds
Operating Temperature	-20°C to +60°C
Humidity Range	10-95% non condensing
Accuracy	±2% of reading

Repeatability	1% of reading
Drift	Less than 5% signal loss per year
Certification	IEC Ex IIC 85°C s
Weight	1200g
Dimensions	160mm x 110mm x 80mm
Enclosure	<ul style="list-style-type: none"> • IP66/IP67
Warranty	<ul style="list-style-type: none"> • 2 Years on electronics 1 year on sensor

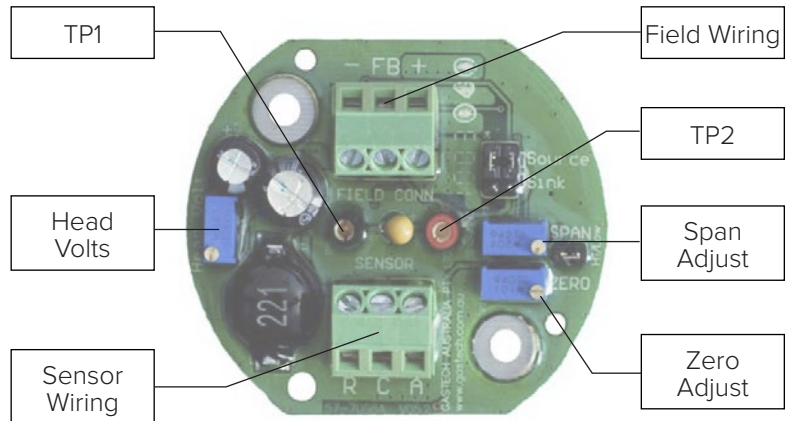
LEL AMPLIFIER

CALIBRATION PROCEDURE

All Gastech's amplifiers are designed to make calibration as simple and easy as possible and are designed so that no special tools are required.

Requirement for calibration:

- Standard Multimeter capable of measuring in mV
- Calibration cup/Splash guard part number 81-0303-01
- Calibration gas
- Zero air gas part number 81-9987
- Regulator, 1Lpm part number 81-9998
- Small screw driver



CALIBRATION CALCULATIONS

Millivolt test point calculations measuring at TP1 and TP2.

4mA = 40mV

12mA = 120mV

20mA = 200mV

$$\left(\frac{\text{Span Gas}}{\text{Full Range}} \right) \times 160\text{mV} + 40\text{mV} = \text{mV output}$$

Example using 50%LEL Span gas on a sensor full range 100%LEL

$$\left(\frac{50\% \text{ LEL}}{100\% \text{ LEL}} \right) \times 160\text{mV} + 40\text{mV} = 120\text{mV Output}$$

1. Power up the amplifier with the sensors connected for at least 1 hour to fully stabilised.
2. Measure the voltage between Active (A) and the Reference (R) wires on the sensor terminal block.
3. Gastech sensors: 61-0303 sensors head voltage 2.5Vdc
61-0203 sensors head voltage 2.4Vdc
61-0103 sensors head voltage 6Vdc
4. Adjust P1 (Head Volt) pot to the required head voltage. The pot to the left of the field connection terminal strip pot by itself.
5. Plug multimeter into TP1 and TP2 with the meter set to measure mV (0 to 200mV)
6. Apply zero air gas to the sensor and wait 30 seconds for the reading to stabilise.
7. Adjust P2 (Zero) pot till you obtain 40mV on the multimeter.
8. Apply Span gas to the sensor and wait 30 seconds for the reading to stabilise.
9. Adjust P3 (Span) pot till you obtain the desired output See Calibration Calculations
10. Repeat set 6 to confirm Zero setting



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