

LEL Amplifier

4-20mA Amplifier Source or Sink



Tamper proof construction
5 Year sensor life
RFI/EMI Resistant powder coated
protective case
MTBF 10 years on electronics
10-30VDC operation
4-20mA source or Sink output
Simple user calibration procedure
SAA certified Exd IIC T6 IP65
Amplifier part number 57-7056A
Sensor part number 61-0103
Order code: 65-5001A

GasTech Australia has used the latest low power switch mode technology for the detection of Combustible gas in LEL and 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 a 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.

Supplied as standard with the proven GasTech 61-0103 platinum twin coil 6V sensor which is highly immune to poisoning including H2S.

All components are low profile surface mount designed for ease of installation and years of trouble free operation.

Specifications

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
Weight	800g
Dimensions	160mm x 110mm x 80mm
Enclosure	IP66/IP67
Warranty	2 Years on electronics 1 year on sensor

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Calibration procedure



Calibration calculations

MV test point calculations measuring at TP1 and TP2.

$$4\text{mA} = 40\text{mV}$$

$$12\text{mA} = 120\text{mV}$$

$$20\text{mA} = 200\text{mV}$$

$$\frac{160\text{mV}}{\text{Full Range}} \times \text{Span gas} + 40 = \text{mV output}$$

$$\frac{160\text{mV}}{100\% \text{ LEL}} \times 50\% \text{ LEL} + 40 = 120\text{mV}$$

All Gastech Australia'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 part number 81-1106A or splash guard part number 35-5175

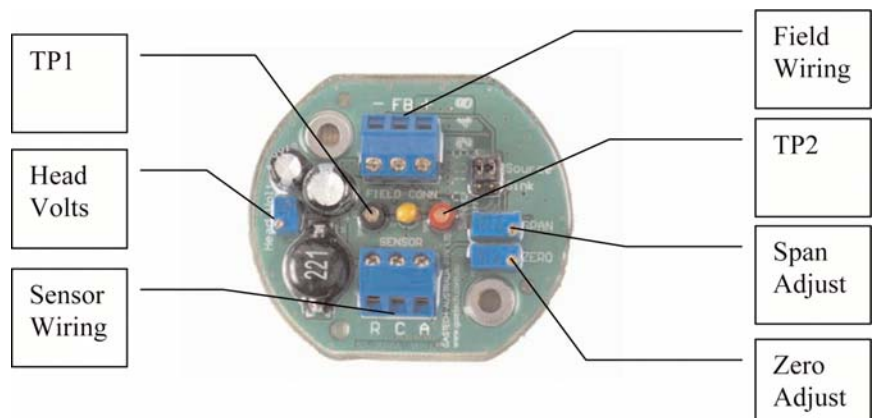
Calibration gas

Zero air gas part number 81-9987

Regulator, 1lpm part number 81-9998

Small screw driver

- 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) For the GasTech 61-0103 sensors the head voltage should be 6.0Vdc for Methane 5.5Vdc for all other hydrocarbons 5.0 for Hydrogen and Acetylene gases. Different sensors may have different operating voltages and incorrect head voltage settings can cause the sensor to fail.
- 4) Adjust P1 (Head Volt) pot to the required head voltage. The pot to the right 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



Distributed By

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