Gasguard 2

AMPCONTROL

TECHNICAL DATASHEET

GG2 DETECTOR NDIR CH_4 & CO_2

Non-Dispersive Infrared Methane and Carbon Dioxide Gas Sensors

Summary

The Non-dispersive Infrared (NDIR) CH_4 and CO_2 models of the GG2 Detector are intrinsically safe sensors for monitoring the atmospheric concentration of Methane (CH_4) or Carbon Dioxide (CO_2) gas. The stainless steel housing is robust, corrosion resistant and fit for purpose. Power and communications is facilitated through the low profile connector, allowing for quick plug and play connections to compatible models, such as the GG2 Display. When mated, the enclosure and electrical connections achieve an ingress protection rating of IP66. The gas inlet achieves IP54 and is designed with a fast responding, three-dimensional hydrophobic barrier that minimises the potential for blockages.

The sensor operates on the infrared gas absorption principle. An infrared light source illuminates the sensor through a gas pathway with an optical filter that selects the appropriate wavelength for the gas being detected; the presence of this gas reduces the amount of infrared energy reaching the detector. This difference in infrared energy with and without gas is used to measure the amount of gas present, and is converted to a digital value by the integrated sensor electronics. The sensor conditioning is fully self-contained and stores all necessary compensating and calibration information to provide a linear temperature compensated output.

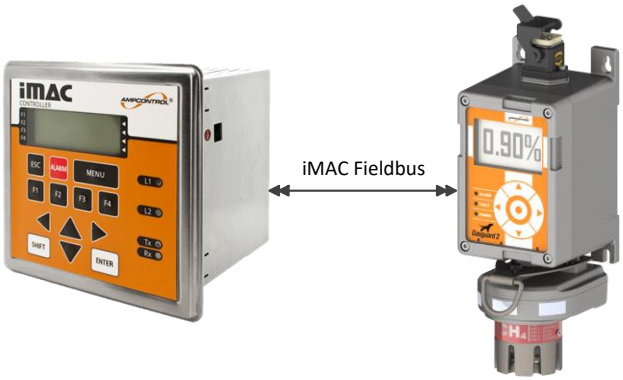
Non-dispersive Infrared sensors are more suited than catalytic sensors for installations where the detector may experience high levels of or long exposure to certain compounds such as halides, sulphur compounds, leaded petrol, silanes, silicates and other products with silicon.

An optional Remote Cable Assembly is available for mounting GG2 Detectors up to 10 metres from the GG2 Display.

Features

- Intrinsically Safe Ex ia I Ma
- Tested to the performance requirements of AS 4641 and AS/NZS 60079.29.1
- Robust stainless steel construction for group 1 mining applications
- Failsafe architecture and digital interface with extensive self-diagnostic routines
- Temperature compensated
- Economical
- Interfaces directly to the GG2 Display Module providing a LCD display and support for 4-20mA, iMAC and RS485 communication
- Detachable for quick replacement minimising downtime for routine maintenance

Example System Overview (iMAC Communication)



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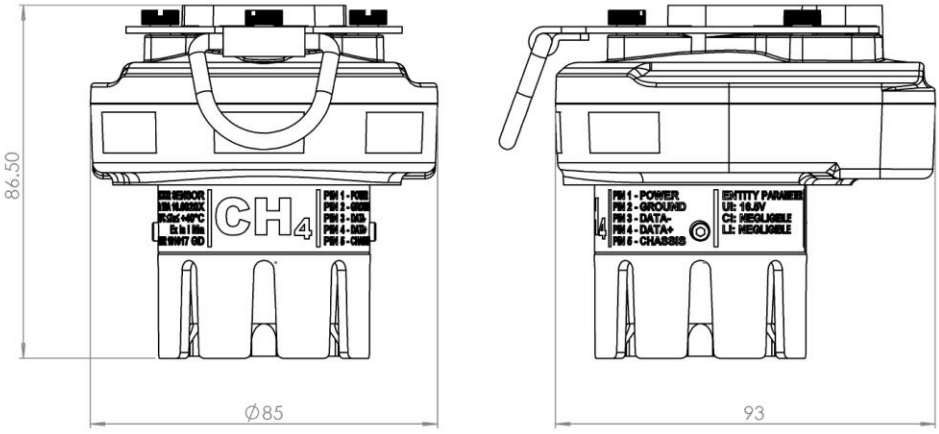
Approximate Dimensions



Specifications

	CH_4	CO_2
Electrical		
Supply Voltage	10 - 16.5VDC	
Power Consumption (max)	0.1W	
Mechanical and Environmental		
Dimensions (H x W x D)	86.5mm x 85mm x 93mm	
Weight	1kg	
IP Rating	IP54	
Operating Temperature	-20°C to +40°C	
Humidity Range	15% to 90% r.h. non-condensing	
Pressure Range	±20kPa	
Response Time (t90) via diffusion	<30s	<60s
Warm-Up Time	<5mins (60 seconds typical depending on ambient temperature)	
Stabilisation time (for calibration adjustments)	3mins	
Sensor Unit		
Detection Method	Non-dispersive infrared	
Calibrated Range	0-5% v/v	0-2% 0-5%
Accuracy	±0.1% v/v or ±5% or indication	±0.05 v/v over the range 0% to 0.5% 10% of applied test gas over the range 0.5% to 2.5% ±0.25 v/v over the range 2.5% to 5%
Drift	±0.1% v/v or ±5% or indication over 3 months	±0.05 v/v % v/v or ±5% of indication[1] over 3 months
Repeatability	±0.1% v/v or ±5% or indication	±0.05 v/v
Sensing Element Life	>5 years	
Resolution	<0.01% v/v[2]	
Certification		
IECEx	IECEx TRA 16.0020X	
DPI	MDR 0001030 GD	
Find Out More		
For more information on this product, contact Ampcontrol Customer Service on +61 1300 267 373 or *customerservice@ampcontrolgroup.com* or visit the Ampcontrol website: www.ampcontrolgroup.com		

Equipment List

Customised gas panels and systems are also available as well as sample draw panels. These can be designed specifically to your gas sensing needs.

Refer to **GG2B026 GG2 Monitoring Solution Technical Datasheet** for a detailed equipment list.