



Gas Detector **GD10 Detector with Weather House**

Part no. 4249, 4254-ME, 4254-P

G014190

System: CGD50/500

General Description

The GD10 gas detector is a point detector for gas concentration monitoring in potentially hazardous environments. In this version GD10 is equipped with a weather house for mounting in the potentially hazardous area.

The GD10 is based on infrared absorption. Solid state design improves reliability, long-term stability and accuracy in continuous measurement of gas concentrations in ambient air.

Compared with catalytic sensors the GD10 has the following advantages:


- High reliability and long term stability results in low test frequency and no calibration costs
- Automatic self test (i.e. test of optical and electronic functions)
Dirty optics and fault conditions are reported to the control system
- Failure will not give gas alarm
- Presence of oxygen is not required for correct measurement
- No calibration or maintenance required during equipment lifetime
- Immunity to poisoning from H₂S, silicone and other agents
- No saturation effects from high gas concentrations
- The gas flow rate has no influence on accuracy
- Easily retrofitted into existing systems

4249	Carbon dioxide 0-10 000 ppm
4254-ME	Methane 0-100% LEL
4254-P	Propane 0-100% LEL

Special duct mounting brackets are available upon request, part. no. 4241.

Data

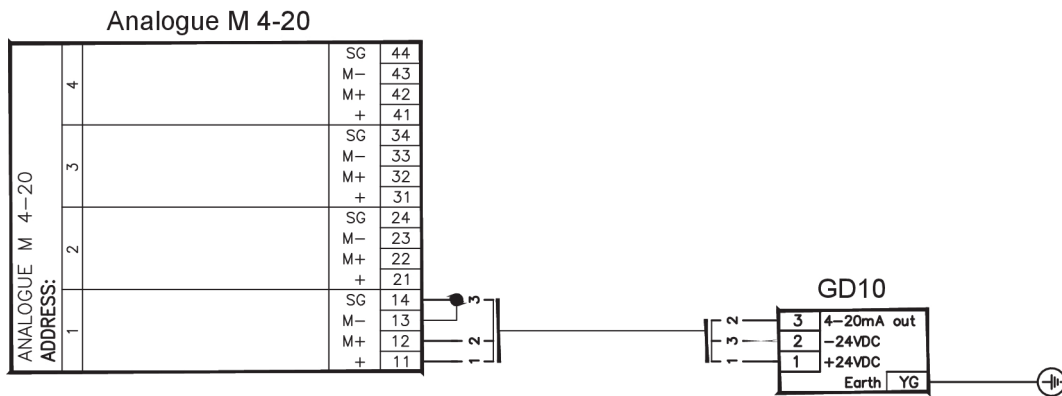
Detection method	IR-absorption, dual wavelength, dual path
Gases detected	Hydrocarbons, CO ₂
Nominal supply voltage	24 V DC
Operating voltage range	18-32 V DC
Start-up current	0.3 A for 0.3 s.
Power consumption	~3.5 W
Electrical connection	3 wires (0.5 mm ² - 2.5 mm ²)
Operating temperature range	-40 °C to +55 °C (-40 °F to +158 °F)
Storage temperature range	-40 °C to +65 °C (-40 °F to +149 °F)
Ambient humidity	0 to 100% RH (non-condensing)
Material	Stainless steel SIS2343
Colour	Black/silver
Weight	2.9 kg ± 5%
Cable inlet	M20
Ingress protection	IP66 DIN 40050
Ex proof housing main compartment	EExd IIC T6
Ex proof housing terminal compartment	EExe

Accuracy standard	Better than $\pm 3\%$ of full scale at 0-50% reading Better than $\pm 5\%$ of full scale at 50-100% reading	IECEX Ex de	Certificate No: IECEX NEM 07.0006 Certified according to: IEC 60079-0: 2011 IEC 60079-1 : 2007-04 IEC 60079-7 : 2006-07 Ex de IIC T5/T6 Gb $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}/65^{\circ}\text{C}$
Response time standard	T90 Methane = 1.4 s. T90 other gases = 6.0 s.		
Expected lifetime	15 years		
ATEX Ex de	Certificate No: INERIS 20ATEX0028X Certified according to: EN 60079-29-1: 2016 EN 50271: 2018  II 2G Ex de IIC T5/T6Gb $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}/65^{\circ}\text{C}$		

Mounting

Mount the detector in a horizontal position.

Connections

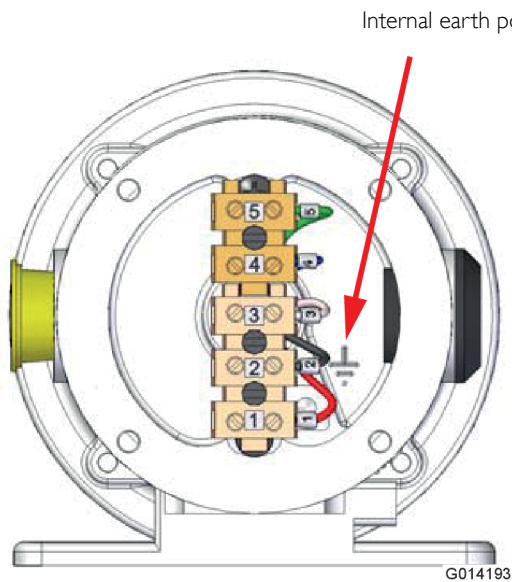


G014189

The terminal compartment is accessible by removing the circular terminal cover. (Loosen the four M5 bolts).

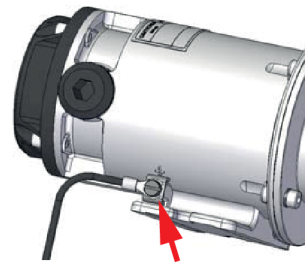
The terminal compartment, including the terminals for electrical connection, is shown below.

The installation wiring enters the terminal compartment via a single M20 Exe cable gland, which can be mounted on either side of the compartment. The unused entry is blanked with an Exe cover:



G014193

- Terminal 5 Factory use only
- Terminal 4 Factory use only
- Terminal 3 4-20 mA output
- Terminal 2 24 V return (0 V)
- Terminal 1 +24 V DC



G014194

External earth point



CAUTION!

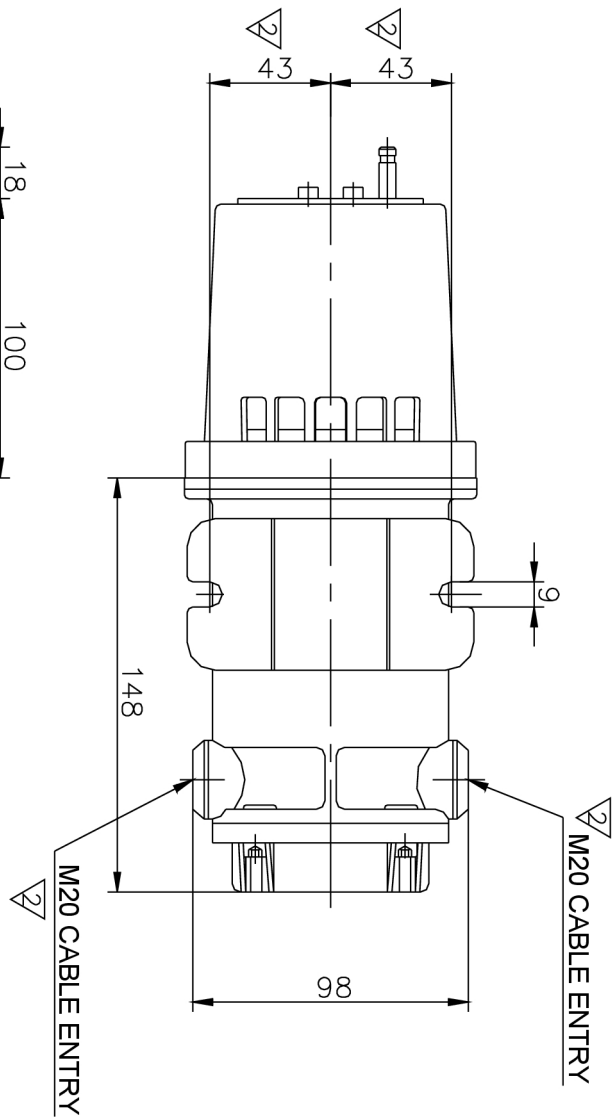
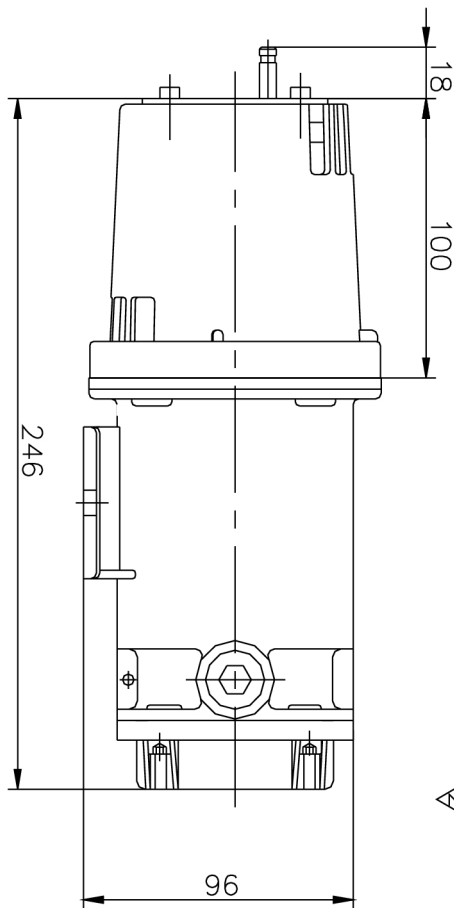
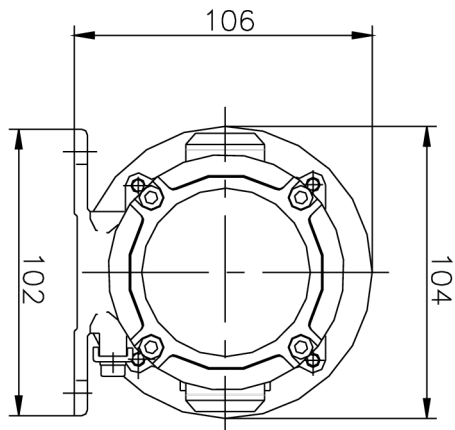
The detector housing must be connected to local ground via the external earth point. The wire should be minimum 4 mm² (8 AWG) and as short as possible.

The shield of the cable should be connected to instrument earth in the central control module, and is normally not terminated at the detector:

Exception: If extra RFI protection is required, and the installations grounding principles/regulations allows it, the shield is terminated to local ground via the internal earth point at the detector:

On UL variants, the terminal compartment is not used. Cables are instead led out of a bushing, and each cable termination is numbered as above.

Dimensions (mm)



G014191