



G014190

System: CGD50/500, CGS50/500

Gas Detector

GD10P

Part no. See ordering information

General Description

The GD10P gas detector is a point detector for gas concentration monitoring in potentially hazardous environments.

The GD10P comes in two versions; one equipped with a weather house for mounting in the potentially hazardous area and one with flowhouse, normally fitted inside a gas sampling unit.

The GD10P 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 GD10P 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




NOTE!

For use in hazardous areas, see the GD10P Optical Gas Detection, Operating Manual (document number DOC-010285).

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)
Pressure coefficient	1% FS per 10 mbar
Pressure	Metrologic performances 1013 hpa +/-10% Mechanical max pressure: 4 Bar
Cable terminals	3 wires, 0.5-1.5 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	IECEx Ex de	Certificate No: IECEx PRE 19.0015X
Ingress protection	IP66 DIN 40050		Certified according to: IEC 60079-0:2017
Ex proof housing main compartment	EExd IIC T6		IEC 60079-1:2014
Ex proof housing terminal compartment	EExe		IEC 60079-7:2015
Accuracy standard	Better than $\pm 3\%$ of full scale at 0-50% reading Better than $\pm 5\%$ of full scale at 50-100% reading		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 $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}/65^{\circ}\text{C}$		

Ordering Information

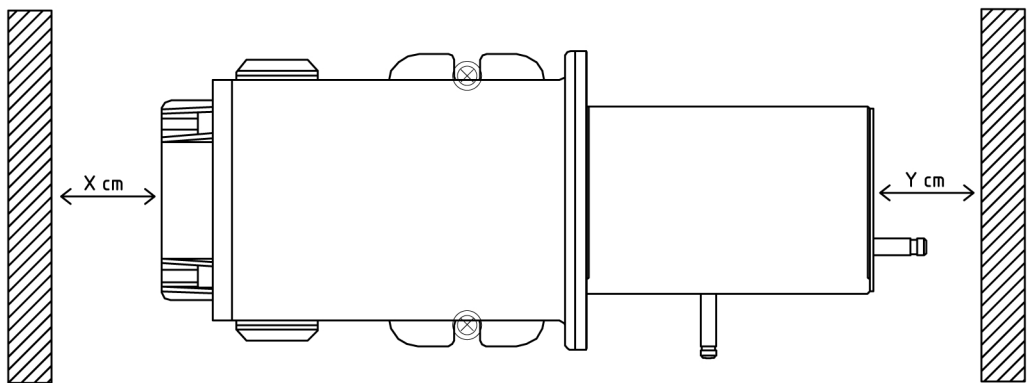
Gas detectors	Description	Part no.
GD10P-IR, WH, CO ₂ , 0-10 000PPM	GD10P-IR, CO ₂ (CARBON DIOXIDE), WEATHER HOUSE, 4-20 HART, 0-10 000PPM	004249
GD10P-IR, FH, C ₃ H ₈ , 0-100%LEL	GD10P-IR, C ₃ H ₈ (PROPANE), FLOW HOUSE, 4-20 HART, 0-100%LEL	004253
GD10P-IR, FH, CH ₄ , 0-100%LEL	GD10P-IR, CH ₄ (METHANE), FLOW HOUSE, 4-20 HART, 0-100%LEL	004253-ME
GD10P-IR, FH, CH ₄ , 0-100%LEL, REF	GD10P-IR, CH ₄ (METHANE), FLOW HOUSE, 4-20 HART, 0-100%LEL, REF	004253-ME-R
GD10P-IR, FH, C ₃ H ₈ , 0-100%LEL, REF	GD10P-IR, C ₃ H ₈ (PROPANE), FLOW HOUSE, 4-20 HART, 0-100%LEL, REF	004253-R
GD10P-IR, WH, CH ₄ , 0-100%LEL	GD10P-IR, CH ₄ (METHANE), WEATHER HOUSE, 4-20 HART, 0-100%LEL	004254-ME
GD10P-IR, WH, CH ₄ , 0-100%LEL, REF	GD10P-IR, CH ₄ (METHANE), WEATHER HOUSE, 4-20 HART, 0-100%LEL, REF	004254-ME-R
GD10P-IR, WH, C ₃ H ₈ , 0-100%LEL	GD10P-IR, C ₃ H ₈ (PROPANE), WEATHER HOUSE, 4-20 HART, 0-100%LEL	004254-P
GD10P-IR, WH, CH ₄ , 0-100%VOL	GD10P-IR, CH ₄ (METHANE), WEATHER HOUSE, 4-20 HART, 0-100%VOL	5100976-00A
GD10P-IR, WH, C ₂ H ₆ , 0-100%LEL	GD10P-IR, C ₂ H ₆ (ETHANE), WEATHER HOUSE, 4-20 HART, 0-100%LEL	5101802-00
GD10P-IR, WH, C ₂ H ₄ , 0-100%LEL	GD10P-IR, C ₂ H ₄ (ETHYLENE), WEATHER HOUSE, 4-20 HART, 0-100%LEL	5101804-00
GD10P-IR, WH, CH ₃ OH, 0-100%LEL	GD10P-IR, CH ₃ OH(Methanol), WEATHER HOUSE, 4-20 HART, 0-100%LEL	5101805-00
GD10P-IR, FH, C ₃ H ₈ , 0-100%VOL	GD10P-IR, C ₃ H ₈ (PROPANE), FLOW HOUSE, 4-20 HART, 0-100%VOL	5101806-00

Accessories

Accessories		
5100790-00A	GD10P SAMPLE FLOW HOUSING	
5200831-00A	GD10P GAS TEST SOCKET	
004241	GD10P DUCT MOUNTING FLANGE KIT	
5100978-00A	GD10P MOSQUITO SET ASSY	
5100979-00A	GD10P SUN SHADE ASSY	
5100977-00A	GD10P SUN SHADE FOR PIPE MOUNT	
5101803-00A	GD10P PIPE MOUNTING PLATE FOR POLE	

Mounting

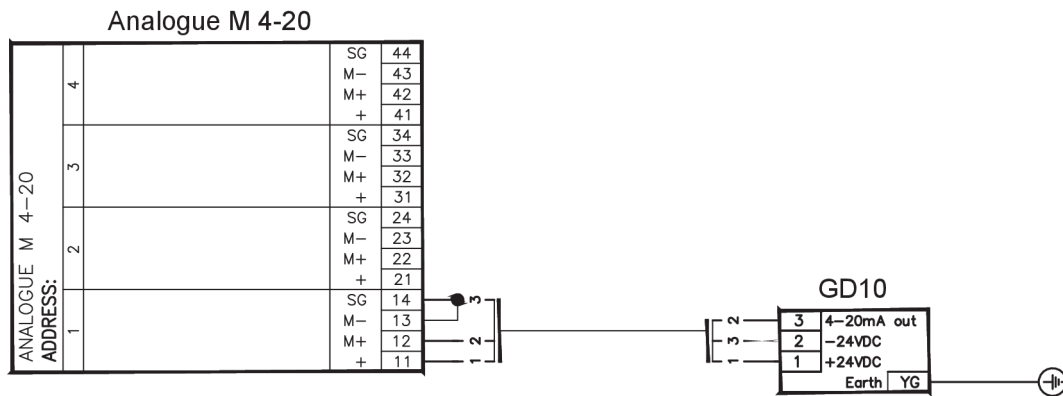
Mount the detector in a horizontal position.



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- X 9 cm
- Y 20 cm

Connections

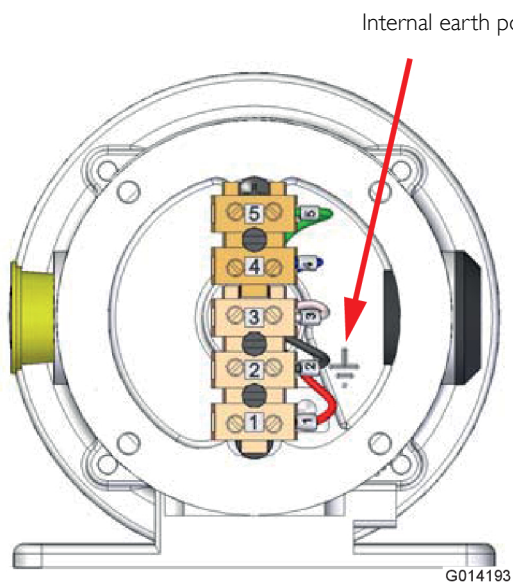


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The terminal compartment is accessible by removing the circular terminal cover. (Loosen the four M5 bolts).

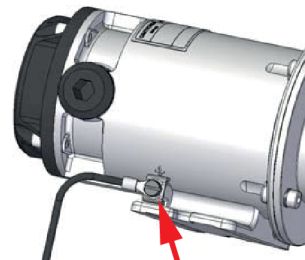
The terminal compartment, including the terminals for electrical connection, is shown below.

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:



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- 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



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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.

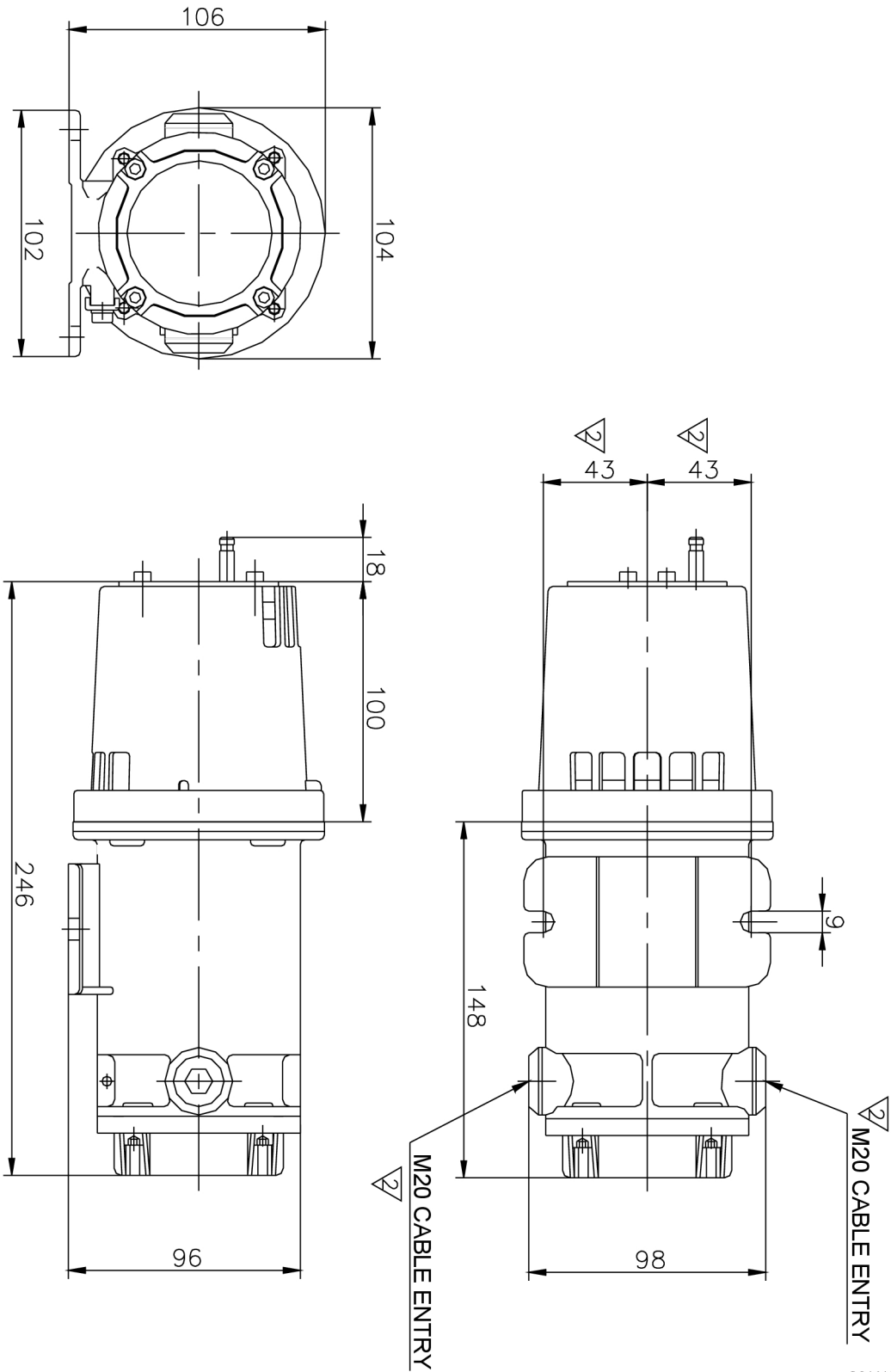
The shield of the cable should be connected to instrument earth in the central control module, and is normally not terminated at the detector.

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.

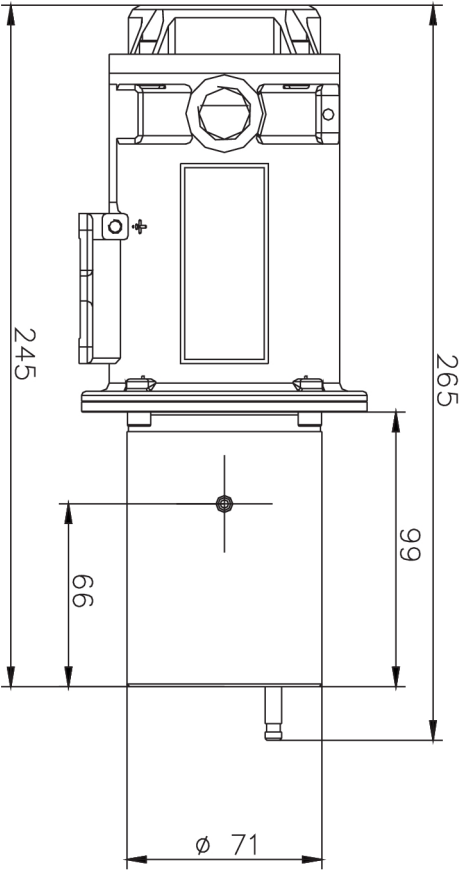
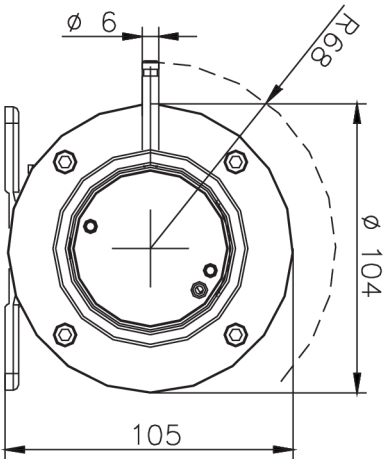
Dimensions (mm)

Detector with weatherhouse



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Detector with flowhouse



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