DURAN® electrónica

IR DIREX IP65

Infrared detector for explosive gases & CO_2

CE

Detectors for explosive gases and CO_2 using infrared technology

Available formats

- RS485 addressable 4 wires connection, compatible with EUROSONDELCO **&** DURGAS control units. They can be installed in parallel, and up to 16 detectors in the same loop.

- 4-20mA 3 wires connection, compatible with any system provided of 4-20mA inputs.

Optical indicators for loop and sensor fault
Optional alarm output relay (RS485)
Optional programmable alarm relay module (4-20mA)

	Explosive gases	CO_2
Range	0-100% L.E.L.	0-2% vol (0-20.000ppm)
Resolution	>0,5% L.E.L.	>1.2% of measurement range

AVAILABLE GASES

Explosive gases: Methane, Natural Gas and Propane.

Toxic gases: Carbon Dioxide CO_2.

APPLICATIONS

Detection of explosive gases and CO_2

- Installations with presence of inhibitors or poisonous gases for catalytic detectors – pellistors –
- In atmospheres with lack of oxygen.
- Those installations where maintenance operations must be reduced to the minimum.

PLACE / HEIGHT OF INSTALLATION

In those areas where the gas is accumulated, at 1,5 meters away from gas appliances and avoiding air flows.

Coverage area is $16m^2$ for explosive gases and $75 m^2$ for CO_2.

Recommended height of installation:
- 30 cm from ceiling: Methane, Natural Gas.
- 100 cm from floor: Propane.
- 75/100 cm from floor: CO_2

MAINTENANCE

DIREX detectors have been calibrated at factory with target gas therefore do not need to be calibrated at installation again.

Check DIREX detectors at least once per 3 years, and follow the instructions of the installation manual for testing and recalibrating operations if required.

WARNING

Use wire hose of the correct section for the cable input.
Do not immerse the detector in water or any other liquid.
Do not drill detector box otherwise it will lose its protection grade (IP65)

TECHNICAL CHARACTERISTICS

Technology	Double wavelength infrared sensor with thermal compensation and microprocessor	Temperature range	-20ºC to +50ºC
		Humidity range	0 to 95% HR with no condensation
Voltage supply	From 10V to 30V DC	Atmospheric pressure limit	80 to 110 kPa (0.8 to 1.1 bar)
Maximum consumption	60mA at 12V DC	Connections 4-20mA	3 wires + earth ground mesh
Max. loop resistance (4-20mA)	250Ω	Connections RS485	4 wires
Max.current output (4-20mA)	21.3 mA (Tip)	Loop & sensor fault optical indicator	By local LED (4-20mA)
Fault loop current (4-20mA)	< 2mA	Communications state optical indicator	Digital (RS485)
Measurement range for explosive gases	0-100% L.E.L. (5% vol. Methane) –linear full scale–	Optional programmable alarm relay (4-20mA)	2 programmable alarm levels, instantaneous/delayed disconnection with disconnection retard program. Starting programming: idle mode relay.
Measurement range for CO_2	0-20.000 ppm (0-2% v/v) –linear full scale–		
Resolution	EXP >0,5% L.E.L CO_2 >1.2% of measurement range	Coverage area	EXP 16 m^2 approx. CO_2 75 m^2 approx.
Zero deviation	EXP: 3% LEL max./year at 20ºC CO_2: $\pm$0.7% /year	Protection grade	IP65
		Box material	Makrolon & ABS
Span deviation	EXP: $\pm$ 3% LE.L./ year at 20ºC CO_2: $\pm$0.7% F.S. / year	Cable diameter	6-10mm^2
		Cable type (4-20mA)	Shield cable 3 x 1,5mm ø
Stabilization time	< 30 min –all specifications–	Cable type (RS485)	4 wires 2 x 1,5mm - 2 x 0,25mm ø
Response time T50/T90	< 15s & 30s respectively	Installation max. distance	1.000m (RS485) 300/400m (4-20mA)
Useful life (MTBF)	> 6 years		
Maintenance periods	Every 3 years – recommended–	Dimensions (mm)	120 x 160 x 60
		Weight (gr)	288 approx.

GUARANTEE

DIREX detectors are guaranteed against any manufacturing defect for 1 year from the date of purchase. Guarantee conditions are gathered in the installation manual of the detector.

ORDERING INFORMATION

When placing the order please be sure about the correct product code according to the description and, check that it complies with your requirements.
In the case of explosive gas detection (HC), remember to indicate also the gas to be detected (Methane, Propane or Natural Gas).

RS485 Detectors

CODE	DESCRIPTION
DIRYCO2	Detector RS485 for CO_2 by infrared -IP65-
DIRYCO2r	Detector RS485 for CO_2 by infrared provided of relay output -IP65-
DIRY-HC	Detector RS485 for explosive gases by infrared -IP65-
DIRY-HCr	Detector RS485 for explosive gases by infrared provided of relay output -IP65-

4-20mA Detectors

CODE	DESCRIPTION
DIRY4CO2	Detector 4-20mA for CO_2 by infrared -IP65-
DIRY4CO2r	Detector 4-20mA for CO_2 by infrared provided of relay output -IP65-
DIRY4-HC	Detector 4-20mA for explosive gases by infrared -IP65-
DIRY4-HCr	Detector 4-20mA for explosive gases by infrared provided of relay output -IP65-

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