

Exproof detectors for explosive gases and CO<sub>2</sub> using infrared technology

Available formats

- RS485C addressable 4 wires connection, compatible with EUROSONDELCO & SIEMENS CC62P 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 (RS485C)

Optional programmable alarm relay module (4-20mA)



	Explosive gases	CO <sub>2</sub>
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, butane, propane, propylene and ethylene oxide. For other gases, please consult availability.

Toxic gases: CO<sub>2</sub>

## APPLICATIONS

Detection of explosive gases and CO<sub>2</sub>

- 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 INSTALLATIONS

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

Coverage area is 16m<sup>2</sup> for explosive gases and 75m<sup>2</sup> for CO<sub>2</sub>.

Recommended height of installation

- 30 cm from ceiling: Methane, natural gas
- 30 cm from floor: Butane, propane, ethylene oxide and propylene
- 75/100 cm from floor: CO<sub>2</sub>

## 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.

## TECHNICAL CHARACTERISTICS

Technology	Double wavelength infrared sensor with thermal compensation and microprocessor	Humidity range	0 to 95% HR with no condensation
Voltage supply	From 10V to 30V DC	Atmospheric pressure limit	1 Atm $\pm$ 10%
Maximum consumption	2.8mA at 12V DC	Connections 4-20mA	3 wires + earth ground mesh
Max. loop resistance (4-20mA)	250 $\Omega$	Connections RS485C	4 wires
Max.current output (4-20mA)	21.3 mA (Tip)	Loop & sensor fault optical indicator	Internal
Fault loop current (4-20mA)	< 2mA	Communications state optical indicator	Internal
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 programming. Starting programming: idle mode relay
Measurement range for CO <sub>2</sub>	0-20.000 ppm (0-2% v.v.) - linear full scale-	Coverage area	Exp 16 m <sup>2</sup> approx CO <sub>2</sub> 75 m <sup>2</sup> approx.
Resolution	Exp >0,5% L.E.L. CO <sub>2</sub> >1.2% of measurement range	Protection grade	IP65
Zero deviation	EXP: 3% LEL max. per year / 20°C CO <sub>2</sub> : $\pm$ 0.7% year	Box material	Aluminium.
Spam deviation	EXP: $\pm$ 3% L.E.L./ year at 20°C CO <sub>2</sub> : $\pm$ 0.7% bottom of scale / year	Stopping plugs material	LOM 03ATEX3035U
Stabilization time	< 30 min -all specifications-	Cable entry	LCIE97ATEX6006X
Response time T50/T90	< 15s & 30s. respectively	Cable diameter	6-10mm <sup>2</sup>
Useful life (MTBF)	> 6 years	Cable type (4-20mA)	Shield cable 3 x 1,5mm $\emptyset$
Maintenance periods	Every 3 years - recommended-	Cable type (RS485C)	4 wires 2 x 1,5mm - 2 x 0,25mm $\emptyset$
Temperature range	-20°C to +50°C	Installation max. distance	650m (RS485C) 300m (4-20mA)
		Dimensions (mm)	162 x 150 x 90
		Weight (gr)	1392 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.

Do not forget to add the name of the gas to be detected at the code

### DIREX X (Metallic housing) RS485C detectors

CODE	DESCRIPTION
DIRYXC02	Exproof RS485C detector for CO <sub>2</sub> by infrared
DIRYXC02r	Exproof RS485C detector for CO <sub>2</sub> by infrared provided of relay output
DIRYX-HC	Exproof RS485C detector for explosive gases by infrared
DIRYX-HCr	Exproof RS485C detector for explosive gases by infrared provided of relay output

### DIREX X (Metallic housing) 4-20mA detectors

CODE	DESCRIPTION
DIRY4XC02	Exproof 4-20mA detector for CO <sub>2</sub> by infrared
DIRY4XC02r	Exproof 4-20mA detector for CO <sub>2</sub> by infrared provided of relay output
DIRY4X-HC	Exproof 4-20mA detector for explosive gases by infrared
DIRY4X-HCr	Exproof 4-20mA detector for explosive gases by infrared provided of relay output

I-fichadirex-v01



ISO 9001:2000

C/ Tomás Bretón, 50  
28045 MADRID, Spain  
TEL: + 34 91 528 93 75 · FAX: +34 91 527 58 19  
durán@duranelectronica.com · www.duranelectronica.com



**DURAN**  
electrónica®