

# IR DIREX

Detectores for explosive gases & CO<sub>2</sub>  
using infrared technology



DIREX is a registered trademark of DURAN ELECTRONICA



**DURAN**<sup>®</sup>  
Electrónica

DURAN ELECTRONICA. Tomás Bretón, 50 – 28045 MADRID – Spain  
[www.duranelectronica.com](http://www.duranelectronica.com) – [duran@duranelectronica.com](mailto:duran@duranelectronica.com)  
I-DURTEX-v10



FS82426

# Infrared exproof detector for explosive gases & CO<sub>2</sub>



## DIREX

Infrared detector for explosive gases and carbon dioxide CO<sub>2</sub>



## DIREX X

Detector for explosive gases and CO<sub>2</sub> using infrared technology, with flameproof housing for use in explosive gas atmospheres and offering a high level of protection.

There is a version of the detector, also ATEX certified, offering a high level of protection and destined to be used, also, in explosive dust atmospheres.

LOM08ATEX2059X

CE 0163

Ex II 2 G Ex db IIC T6 Gb

Ex II 2 G Ex db IIC T6 Gb  
II 2 D Ex tb IIIC T85°C Db

Calibrated at factory with target gas.

Do not need to be recalibrated during initial Startup of the installation

2



## Where should I install infrared detectors?

At those installations with emissions from inhibitant or poisonous gases, which can poison pellistors. These gases **DO NOT AFFECT DIREX.**

In atmospheres with no oxygen presence. Unlike pellistors, **DIREX does not need oxygen for its functioning.**

With infrared detection, as opposed to other technologies, the presence of gas does not diminish the useful life of the sensor. **DIREX is not affected by the presence of gas.**

At those installations with special conditions where maintenance operations must be reduced to the minimum. **DIREX only requires to be checked once every 3 years.**

# Characteristics

---

## 2 housing formats:

**IP65** – polycarbonate box – DIREX  
**Flameproof housing.** DIREX X

## 2 communication formats:

**RS485C** addressable, 4 wire connection, compatible with EUROSONDELCO and DURGAS control units. Up to 16 detectors can be installed in parallel in the same loop.

**4-20mA**, 3 wire connection, compatible with any system provided with these type of inputs.

**Detection range** from 0 to 100% L.E.L. (explosives) and 0 to 2% vol (CO<sub>2</sub>)

**Optical indications** from loops and sensor fault.

Internal LED with **DIREX X**(Flameproof housing)  
External LED with **DIREX**

**Optional programmable alarm relay module** (4-20mA).

**Optional relay output** (RS485C)



**IP65**  
polycarbonate-



**Exproof housing**  
LOM08ATEX2059X

# Characteristics

**Low consumption (60mA to 12V)**, which allows more detectors in one loop and a larger loop length, without using auxiliary power supply.

**Wide voltage range (10V to 30V DC)**.

**Detector with sintered filter (DIREX X)**.

**Reusable adaptor, which makes maintenance costs considerably lower (DIREX X)**.

**Protection grade: IP65**

**Calibrated at factory with target gas. Do not need to be recalibrated during initial Startup of the installation**



**Reliable detection  
with no interferences  
of inhibitor or  
poisonous gases**





**IR DIREX**

**advanced solution for CO<sub>2</sub>  
and explosive gases  
detection**

## Installation

### Cabling:

RS485C: 4 wires. 2 x 1,5mm 2 x 0,25mm  $\emptyset$   
4-20mA: 3 wires. Shield cable, 3 x 1,5mm  $\emptyset$

**Cable diameter:** 10,1-13mm<sup>2</sup>

### Maximum distance:

RS485C: 1000m. approx.  
4-20mA: 350m. approx.

**Coverage area:** 16m<sup>2</sup> approx. (Exp) and 75m<sup>2</sup> approx. (CO<sub>2</sub>)

**Installation height:** depending on the gas to detect (consult)

## Verifying & maintenance

Useful life at normal working conditions: up to 6 years.

Periodical checking every 3 years.

They do not require to be recalibrated at installation again. They have already been calibrated at factory with target gas.



**DIREX**



**DIREX X  
LOM08ATEX2059X**

## Optional relay module (4-20mA) & relay output (RS485C)



**All 4-20mA models:** alarm relay module (2 levels), programmable by the user.

**All RS485C models:** alarm relay output (1 level) with fixed factory parameters.



The optional relay output or module must be requested when placing the order, with the exception of **DIREX X** in 4-20mA, which can be requested at any moment.

LOM08ATEX2059X

CE 0163

Ex II 2 G Ex db IIC T6 Gb

Ex II 2 G Ex db IIC T6 Gb  
II 2 D Ex tb IIIC T85°C Db

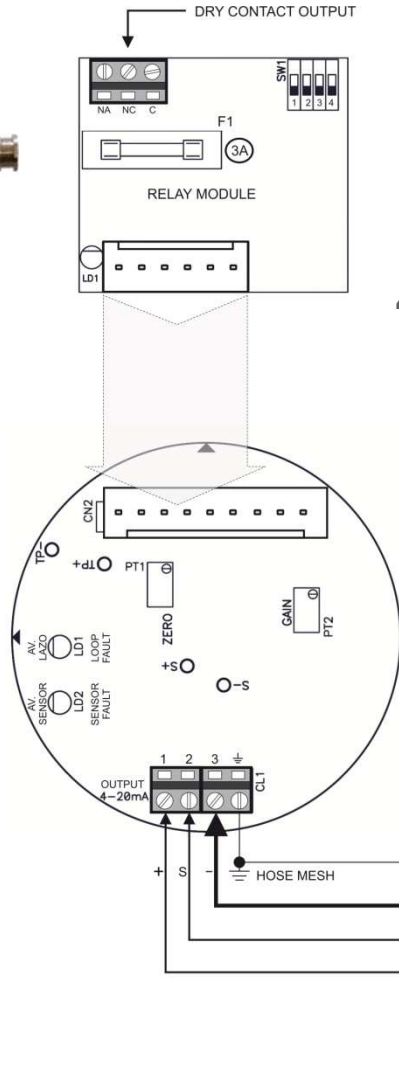
# DIREX X



## Optional relay module (4-20mA) and relay output (RS485C)



DIREX X  
LOM08ATEX2059X



### DEFAULT PARAMETERS

Activated, instantaneous – no retard -  
Alarm at 20% L.E.L. for explosive gases or 10.000ppm for CO<sub>2</sub>

### 4-20mA format: RELAY MODULE

#### PROGRAMMABLE PARAMETERS

**Initial idle status:** activated relay without an alarm or deactivated relay.  
**Relay disconnection type.** Instantaneous or retarded relay disconnection.  
**Relay disconnection retard.** Selection of retard or instantaneous disconnection.  
**Alarm level for relay activation.** It allows to choose between 2 actuation levels: 20% or 50% L.E.L. for explosive gases.  
10.000ppm or 15.000ppm for CO<sub>2</sub>

### RS485C format: RELAY OUTPUT

Programmed at factory with default parameters.





# IR DIREX

Infrared flameproof detector for explosive gases & CO<sub>2</sub>



**DURAN**<sup>®</sup>  
Electrónica

DURAN ELECTRONICA. Tomás Bretón, 50 – 28045 MADRID – Spain  
[www.duranelectronica.com](http://www.duranelectronica.com) – [duran@duranelectronica.com](mailto:duran@duranelectronica.com)  
I-DURTEX-v10



FS82426