

Installation & User Manual



ATEX



IP65



IP65



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1. DIREX. Infrared detectors

DIREX are detectors using infrared technology for detection of carbon dioxide, N_2O , CO_2 , REFRIGERANTS, SF_6 and explosive gases the detection ranges available:

CO_2 de 0 al 2% vol.

N_2O de 0 a 1000ppm.

Gases explosivos de 0 al 100% L.I.E

Safety class A1 refrigerants and SF_6 , from 0 to 2000ppm.

Safety class A2 refrigerants from 0 to 100% L.F.L (Lower Flammability Limit)

Available formats

These detectors are available in two housings:



DIREX
IP65 housing



DIREX X
Exproof housing (ATEX)
Certificate **LOM08ATEX2059X**



DURTEX RS485
IP65 housing

And in two communication formats:

- **RS485** addressable, 4 wire connection, compatible with **DURGAS** control panels. Up to 16 detectors connected in parallel on the same loop.
- **4-20mA**, 3 wire connection, compatible with any system provided with this type of inputs. (not available for refrigerants)

Available gases

- Explosive gases: Methane, Natural Gas and Propane.
- Toxic gases: Carbon Dioxide CO_2 and Nitrogen oxide
- Refrigerants A1: R-507, R-125, R-404a, R-407a, R-407f, R-410a, R-449 R-417a, R-448a, R-227ea, R-1233zd, R-513a, R-422d, R-134a y R452a, others consult.
- Refrigerants A2: R-32, R-1234yf, R-1234ze, R-452b, R-454A, R-454B y R-454C, others consult.
- SF_6

Applications

Installations with presence of inhibitor or poisonous gases for catalytic detectors – pellistors. In atmospheres with no oxygen presence. At those installations with special conditions where maintenance operations must be reduced to the minimum.

Refrigeration installations in general, supermarket shelves, livestock installations, etc..

DIREX X –exproof detectors – has been designed for ambients where an explosive atmosphere is probable to occur due to vapours, gases, fogs or suspended dust, assuring a high protection level (Group of apparatus II – **ATEX** Directive Category 2)

Other features

- Optical indications for loop and sensor faults.
- Optional relay alarm output (**RS485**)
- Optional programmable relay alarm module (**4-20mA** exproof housing).
- The sensors used in the manufacture of this equipment have SIL2 certification.
- Sensors with more economical maintenance because they can be replaced, as they incorporate their calibration parameters memorised internally.

IMPORTANT:

DIREX detectors are calibrated at factory for the specific gas to detect therefore, gas type should be clearly indicated beforehand, when ordering these detectors.

2. DURTEX. Detectors using catalytic technology –pellistors

DURTEX are detectors for explosive gases using of catalytic technology (pellistor) for a detection range from 0 to 100% LEL. Silicon vapours resistant sensors (HDMS)

Available formats

Available in two different housings:



DURTEX HC
DURTEX HC PRO
Housing IP65



DURTEX X-HC PRO
Exproof (ATEX)
Certificate **LOM08ATEX2059X**

And in two communication formats:

- **RS485** addressable, 4 wire connection, compatible with **DURGAS** control panels. Up to 16 detectors can be connected in parallel on the same loop.
- **4-20mA**, 3 wire connection, compatible with any system provided with this type of inputs.

Available gases

- **DURTEX HC:** Available for natural gas-methane, butane-propane, and hydrogen.
- **DURTEX HC PRO & DURTEX X-HC PRO:** Available for methane – natural gas, hydrogen, butane, propane, heptane, hexane, pentane, methanol, styrene, ethane, ethanol, ethylene, propylene, acetone, ammonia, cyclohexane, cyclopentane, dioxane, butyl acetate, ethyl acetate, acetic acid, isobutyl alcohol, isopropilic alcohol, decane, benzene, iso-octane, methyl ethyl ketone (butanone), nonane, propanol, toluene, xylene, kerosene, propyl alcohol, methyl isobutyl ketone and acetylene. Other gases, consult.

Applications

DURTEX X-HC PRO –explosion proof detectors – has been designed for ambients where an explosive atmosphere is probable to occur due to vapours, gases, fogs or suspended dust, assuring a high protection level.
(Group of apparatus II – **ATEX** Directive Category 2)

Other features

- Optical indications for loop and sensor faults.
- Optional relay alarm output (**RS485**)
- Optional programmable relay alarm module (**4-20mA** explosion proof housing).

IMPORTANT:

DIREX detectors are calibrated at factory for the specific gas to detect therefore, gas type should be clearly indicated beforehand, when ordering these detectors.

Do not use these detectors in environments where there might be presence of hydrogen sulphide, fluorine, methyl chloride, trichloroethylene, sulphur dioxide, silicon vapours or sulphuric acid: the presence of these gases could either inhibit sensor's response or damage it.

3. RELAY MODULE (optional)

Detectors 4-20mA housing exproof (ATEX)



Switch off the detector before connecting this module to the main circuit board.

PROGRAMMABLE PARAMETERS:

| SW1 | ON position | OFF position | Programming |
|-----|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|
| 1 | Activated | Deactivated | Initial status: Idle mode relay ¹ |
| 2 | Instantaneous | Retarded | Relay disconnection type ² |
| 3 | 5min. retard | 15m retard | Relay disconnection retard ³ |
| 4 | EXP: Alarm 20% L.E.L. CO ₂ : 10.000ppm N ₂ O: 40ppm | EXP: Alarm 50% L.E.L. CO ₂ : 15.000ppm N ₂ O: 60ppm | Relay alarm activation level ⁴ |

¹ **Idle mode relay.** It allows to select an activated relay without alarm, or a deactivated relay. To be used with electrovalves it is recommended to activate in idle mode.

² **Relay disconnection type.** It allows to select the instantaneous disconnection of the relay once alarm condition is over or if retard selected is used.

³ **Relay disconnection retard.** It allows to select a retard or the instantaneous disconnection since the level selected has disappeared as an alarm condition. It has no effect if INSTANTANEOUS was previously selected.

⁴ **Relay alarm activation level.** It allows to select, in between two, the relay actuation level, local and independently.

PROGRAMMING DEFAULT:

Activated, instantaneous –no retard-
20% LEL alarm for explosive gases and 10.000ppm for CO₂ (TWA 100ppm Average 8 hours)

RS485 detectors:

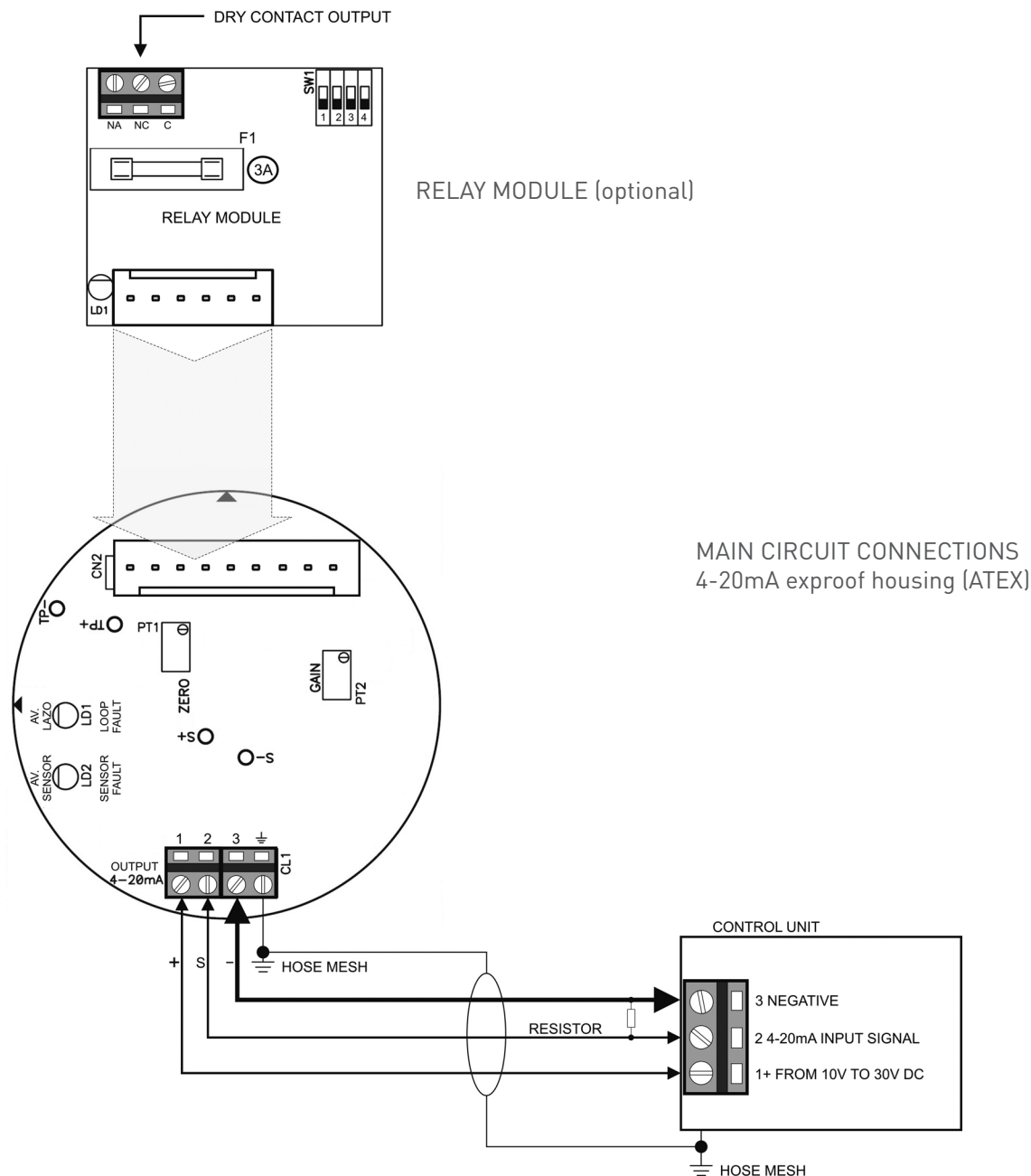
In these type of detectors parameters are programmed with default values.

- A1 and SF₆ Refrigerants: Alarm 600ppm
- A2 Refrigerants: Alarm 20% L.F.L.
- Nitrogen oxide, N₂O: Alarm 40ppm

4. CONNECTIONS

Install the detectors in places where gas tends to accumulate at 1.5 m over the horizontal points of gas consumption or smoke output avoiding air flows. Under no circumstances immerse the detector in water or any other liquid.

These detectors have been designed to operate in atmospheres with values lower than 100% L.E.L. of the gas it is calibrated for and with a normal oxygen presence.



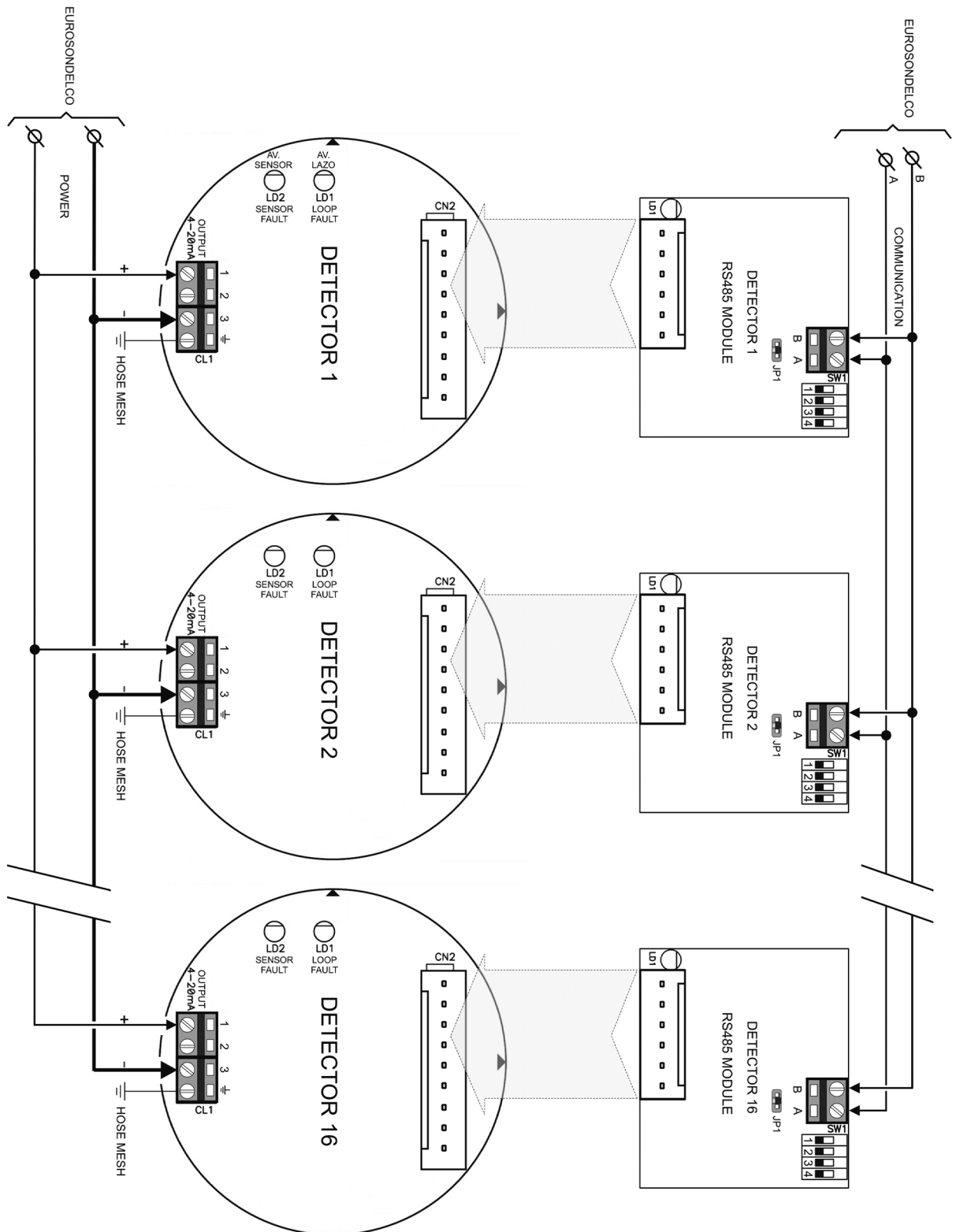
IMPORTANT: If the system where detectors are connected does not have 4-20mA inputs but 0-5V or 0-10V DC tension inputs, a resistance must be connected between the negative (-) and the S signal, on the receptor device. Resistance value will depend on the detector power tension accordingly to the following table:

| Detector Tension | Load resistance | Tension range (4-20mA) |
|----------------------|-----------------|------------------------|
| Between 10V & 18V DC | 250 Ω 1% | From 1V to 5V DC |
| Between 18V & 30V DC | 500 Ω 1% | From 2V to 10V DC |

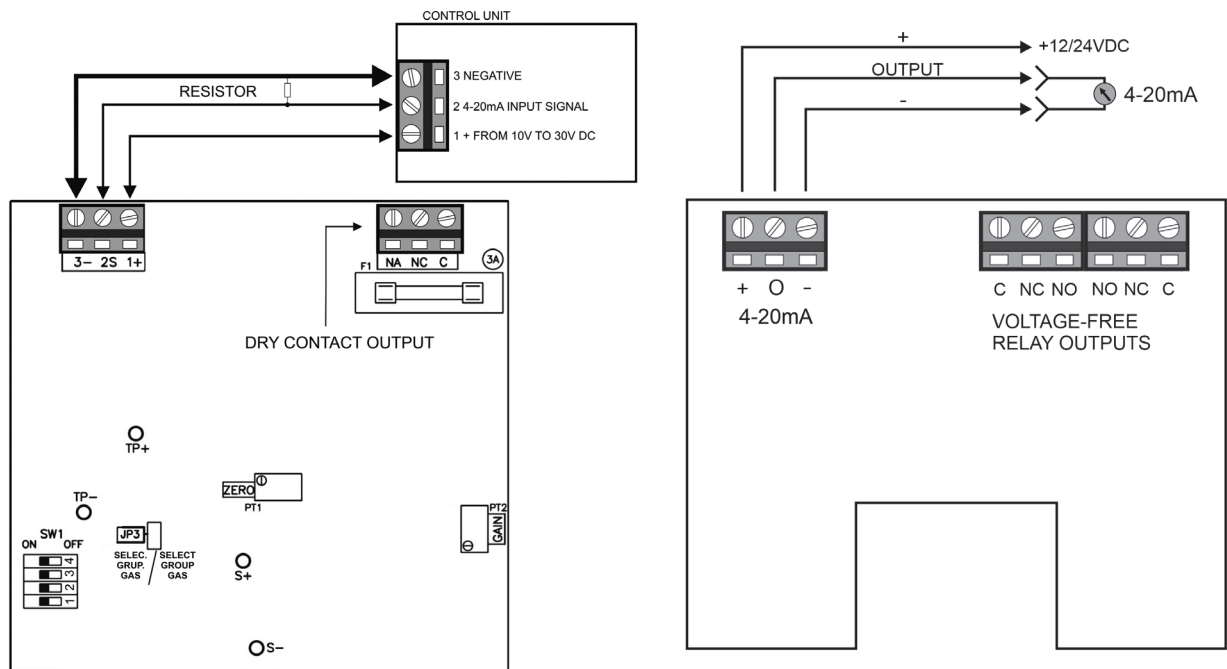
DETECTORS CONNECTIONS RS485 (ATEX exproof housing)



IMPORTANT – CABLE GLAND INSTRUCTIONS for ATEX detectors: the user should be sure the cable is well fixed. The minimum torque setting applicable to the cap is 20 Nm. Check cable entry tightness after any maintenance operation: thight the cap up again; If the cable has been moved. In case thighting was not possible, return the detector to factory for cable gland replacement.



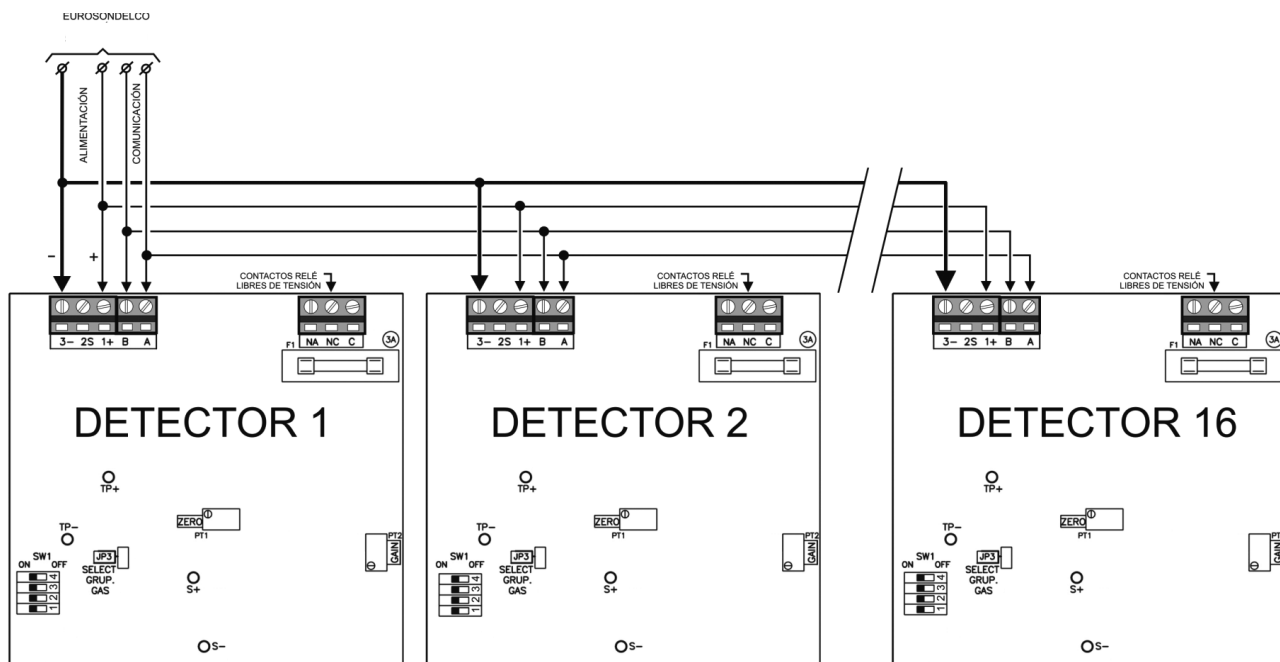
DETECTORS CONNECTIONS 4-20mA IP65



DURTEX

DIREX

DETECTORS CONNECTIONS RS485 IP65



5. RS485 DETECTORS ADDRESSING

Before connecting **DIREX** or **DURTEX** detectors to **DURGAS**, they must be addressed. If more than one detector is connected to the same loop, number all of them according to table 1.

Table 1 - NUMBERING DETECTORS USING SW1 (addressing):

| Detector N° | 1 | 2 | 3 | 4 |
|-------------|-----|-----|-----|-----|
| 01 | On | On | On | On |
| 02 | Off | On | On | On |
| 03 | On | Off | On | On |
| 04 | Off | Off | On | On |
| 05 | On | On | Off | On |
| 06 | Off | On | Off | On |
| 07 | On | Off | Off | On |
| 08 | Off | Off | Off | On |
| 09 | On | On | On | Off |
| 10 | Off | On | On | Off |
| 11 | On | Off | On | Off |
| 12 | Off | Off | On | Off |
| 13 | On | On | Off | Off |
| 14 | Off | On | Off | Off |
| 15 | On | Off | Off | Off |
| 16 | Off | Off | Off | Off |

Programming and gas group selection for detection

RS485 detectors connected to **DURGAS** are provided with a microprocessor for functioning control. This is a great advantage due that, through software and adequate algorithms, these detectors can be reprogrammed at installation for auto-calibration and sensitivity auto-adjust without using gas. In addition, it allows selecting among an extensive list of gases without ordering new detectors or storing detectors calibrated for different gases.



Exproof housing (ATEX)

Remove JP1 located at the vertical module with the detector powered. Watch carefully the LD1 LED blinking (see table 2 page 12).

When the number of LED blinking fits in with the gas group to be detected, place again JP1 jumper and watch that the corresponding LED confirms its memorized group position by the number of blinkings.

Note: If JP1 is removed and after 90s no group has been chosen, the last memorized group will be automatically chosen. Default programming is GR1.



IP65 housing

Remove JP3 located at the vertical module with the detector powered. Watch carefully the external LED blinking (see table 2 below).

When the number of LED blinking fits in with the gas group to be detected, place JP3 jumper again and watch that the corresponding LED confirms its memorized group position by the number of blinkings.

Note: If JP3 is removed and after 90s no group has been chosen, the last memorized group will be automatically chosen. Default programming is GR1.

Table 2

| | | |
|-----|-------|---------|
| GR1 | ☼ | 1 Blink |
| GR2 | ☼☼ | 2 Blink |
| GR3 | ☼☼☼ | 3 Blink |
| GR4 | ☼☼☼☼ | 4 Blink |
| GR5 | ☼☼☼☼☼ | 5 Blink |

Sensibility selection table for the gas group to be detected (Only pellistors)

DURTEX HC

| Group | Gas | Relative response | Installation height |
|-------|-------------|-------------------|----------------------|
| 1 | Methane | 100% | 30 cm from ceiling ▲ |
| | Hydrogen | | 30 cm from ceiling ▲ |
| | Natural gas | | 30 cm from ceiling ▲ |
| 2 | Butane | 55% | 30 cm from floor ▼ |
| | Propane | | 100 cm from floor ▼ |

DURTEX HC PRO & DURTEX X-HC PRO

| Group | Gas | Relative sensitivity | Installation height |
|-------|---------------------------|----------------------|----------------------|
| 1 | Methane | 100% | 30 cm from ceiling ▲ |
| | Hydrogen | | 30 cm from ceiling ▲ |
| | Ammonia | | 30 cm from ceiling ▼ |
| 2 | Ethane | 75% | 100 cm from floor ▼ |
| | Ethanol | | 100 cm from floor ▼ |
| | Ethylene | | 100 cm from floor ▼ |
| | Propane | | 100 cm from floor ▼ |
| | Propylene | | 100 cm from floor ▼ |
| | Cyclo-Pentane | | 30 cm from floor ▼ |
| | Methanol | | 100 cm from floor ▼ |
| 3 | Cyclo-Hexane | 60% | 30 cm from floor ▼ |
| | Dioxane | | 30 cm from floor ▼ |
| | Iso-Propyl Alcohol (IPA) | | 30 cm from floor ▼ |
| | Butane | | 30 cm from floor ▼ |
| | Hexane | | 30 cm from floor ▼ |
| | Pentane | | 30 cm from floor ▼ |
| | Propyl Alcohol | | 30 cm from floor ▼ |
| 4 | Butyl Acetate | 45% | 30 cm from floor ▼ |
| | Iso-Octane | | 30 cm from floor ▼ |
| | Heptane | | 30 cm from floor ▼ |
| | Toluene | | 30 cm from floor ▼ |
| | Xylene | | 30 cm from floor ▼ |
| | Kerosene | | 30 cm from floor ▼ |
| | Acetone | | 30 cm from floor ▼ |
| | Benzene | | 30 cm from floor ▼ |
| 5 | Acetic Acid | 25% | 30 cm from floor ▼ |
| | Decane | | 30 cm from floor ▼ |
| | Iso-Butyl Alcohol | | 30 cm from floor ▼ |
| | Nonane | | 30 cm from floor ▼ |
| | Styrene | | 30 cm from floor ▼ |
| | Propanol | | 30 cm from floor ▼ |
| | Iso-Butyl Methyl Ketone | | 30 cm from floor ▼ |
| | Ethyl Acetate | | 30 cm from floor ▼ |
| | Methyl Ethyl Ketone (MEK) | | 30 cm from floor ▼ |

Acetylene: Factory configuration only - exclusive model for this gas
 Installation height: 180 cm from floor

6. OPTICAL INDICATIONS: LEDs messages & functioning

RS485 format. Exproof ATEX housing & IP65



Internal LEDS and exproof housing –ATEX- and external in IP65 housing

LD1. Located at the vertical module –RS485 format-.

- Fast intermittent: at initialising and recognition of the loop by the module line
- Periodical intermittent: under normal functioning, the detector communicates correctly with the module line. Periodicity will correspond to the assigned number of the detector, between 1 and 16s.
- 6 blinking burst: fault loop indicates that A or B communication line are cut off.
- 1s interval ON/OFF: fault or cut in A and B communication lines. It informs that there has been no communication with the module line for the last 5 minutes.

4-20mA:

LD1. Located at the main module. It will lit up to indicate a fault loop.

LD2. Located at the main module. it will be lit up indicating a sensor fault. This condition will be also sent on digital format to its corresponding module line –in RS485 detectors-

4-20mA Format. IP65 Housing:












External LED

These detectors are equipped with a two-colour LED indicating the following status:

- Switched off: right functioning
- Red lit up: fault loop : (4-20mA)
- Amber lit up: sensor fault

RS485 format. Exproof ATEX housing & IP65



| LED STATUS | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1min. FROM CONNECTION |     |
| END OF STABILIZATION PERIOD |     |
| FAULT |  |

7. TEST & RECALIBRATION

All detectors manufactured by **DURAN ELECTRONICA** have been calibrated at factory with target gas. Therefore, **it is neither required, nor recommendable recalibration once installed.**

Infrared technology sensors can be replaced in the installation, as their internal memory incorporates the calibration parameters.

DURTEX X- HC PRO (exproof housing - ATEX-)



IMPORTANT: Do not open these detectors while powered.

No calibration adjustments are allowed at installation. Certification only covers the possibility of mandatory calibration at the installations of the manufacturer. It is recommendable to return the detectors to the manufacturer for checking once after 2 years for **DURTEX** and 3 years for **DIREX**.

4-20mA detectors

ZERO OUTPUT VERIFYING. 4mA, in absence of gas.

The detector should be operating for a minimum period of 1 hour, assuring that there is no other gases presence, which might be affecting to the detector.

If this condition is not fulfilled, the detector must be submitted to a concentration of pure nitrogen, with a 0.5l/min flow, by using the optional adaptor for at least 2 minutes, and proceed as indicated next:

1. Connect a measuring instrument between terminals 2 and 3 of the detector and the corresponding ones of the control panel or central control unit. The results obtained must be the following:

| Detector Tension | Load resistance | Zero tension (4mA) |
|----------------------|-----------------|--------------------|
| Between 10V & 18V DC | 250 Ω 1% | 1V |
| Between 18V & 30V DC | 500 Ω 1% | 2V |

RS485 detectors

Verify that the detector indicates 000% L.E.L. in the control unit display

DURTEX HC & HC PRO (IP65 housing)



4-20mA detectors & RS485 detectors
ZERO OUTPUT VERIFYING

Before proceeding the detector should be operating for 1 hour minimum in a clean ambient, being sure that there are no presence of gases affecting to the detector.

In case this condition is not fulfilled, the detector must be subjected to a concentration of pure nitrogen with a 0.5l/min flow for 2 minutes minimum. Then proceed as indicated next:

1. Connect a measuring instrument between S+ and S- terminals, and thus tension must be 000V DC. If it is necessary, make an adjustment with the ZERO potentiometer until obtaining that measurement.

CALIBRATION WITH GAS –RS485 detectors-

1. Set the detector for Group 1, as it is described on on page 12 (**DURTEX HC**) and 13 (**DURTEX HC PRO**) (gas group selection scheme non applicable to Acetylene)
2. Release a precise mixture of methane, at 2,5% v/v, equivalent to 50% LEL, with a 0,5l/min flow and adjust the GAIN potentiometer until the measuring instrument indicates 1.0V DC between TP+ and TP- terminals (12mA if measuring current between terminals 2 and 3 of the connection screw terminal in 4-20mA detectors).
3. Afterwards, do not forget to reprogram the detector again for the required gas group, as described on page 12 (**DURTEX HC**) and 13 (**DURTEX HC PRO**) (gas group selection scheme non applicable to Acetylene)

CALIBRATION WITH GAS - 4-20mA detectors-

Only applicable to detectors specially calibrated for methane detection. For other gases, due to their complexity and the need to use different correction factors for each gas, they will necessarily have to be sent to factory.

1. Insert CECALIBR adapter in the detector and release an accurate mixture of methane, at 2,5% v/v, equivalent to 50% LEL, with a 0,5l/min flow and adjust the GAIN potentiometer until measuring instrument indicates 1.0V DC between TP+ and TP- terminals. (12mA if operating with current between terminals 2 and 3 of connectors in 4-20mA detectors).

IMPORTANT NOTICE:

Procedures described above ARE NOT APPLICABLE TO **DIREX**, due that ZERO and GAIN parameters have been previously memorized in a Eprom, inside the sensor, by computerized procedures.

8. TECHNICAL CHARACTERISTICS

| | DURTEX (pellistors) | DIREX (Infrared) |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology | Catalytic sensor and microprocessor | Infrared double wave length sensor, with thermal compensation and microprocessor |
| Power supply | 10V to 30V DC | 10V to 30V DC |
| Max. consumption | 95mA to 12V DC / 141mA with activate relay | 60mA to 12V DC in models 4-20mA / ± 47 mA with activate relay |
| Max. consumption Pro. version | 75mA to 12V DC / 125mA with activate relay | |
| Loop max. resistance | 250 Ω (4-20mA) | 250 Ω (4-20mA) |
| Max current output | 21.3 mA (Tip) (4-20mA) | 21.3 mA (Tip) (4-20mA) |
| Fault loop current | < 2mA (4-20mA) | < 2mA (4-20mA) |
| Exp gases measurement range | 0-100% LEL (5% vol. methane), linear in full scale | 0-100% LEL (5% vol. methane), linear in full scale |
| CO₂ measurement range | -non applicable- | 0-20.000 ppm (0-2% vol) – linear in full scale |
| Measurement Range for N₂O | -non applicable- | 0-1000ppm (0-1% v/v) - linear full scale |
| A1 refrigerants and SF₆ | -non applicable- | 0-2000ppm |
| A2 refrigerants | -non applicable- | 0-100% L.F.L. (Lower flammability limit.) |
| Resolution | $\pm 1\%$ L.E.L. of the measuring range | EXP > 0.5% L.E.L.CO ₂ > 1,2% measuring range >2% linear in full scale >1% refrigerants and SF ₆ |
| Zero deviation | ± 7 mV/year (DURTEX HC PRO & DURTEX X HC PRO) ± 10 mV/year (DURTEX HC) | EXP: Máx. 3% L.I.E./year at 20°C CO ₂ : $\pm 0,7\%$ /year / N ₂ O: $\pm 1\%$ año and $\pm 0.7\%$ /year refrigerants and SF ₆ |
| Spam deviation | $\pm 9\%$ L.E.L year (DURTEX HC PRO & DURTEX X HC PRO) $\pm 10\%$ L.E.L year (DURTEX HC) | EXP: $\pm 3\%$ L.E.L./year at 20°C CO ₂ : $\pm 0,7\%$ F.S./year / N ₂ O: $\pm 1\%$ año and $\pm 0.5\%$ /year refrigerants and SF ₆ |
| Stabilization time | < 15 minutes -all specifications- | < 30 minutes -all specifications- |
| Resistance to H₂S | Short time exposures | Yes totally immune |
| Response time T50/T90 | 3s / 8s resp.(DURTEX HC PRO & X-HC PRO) 6s / 10s resp.(DURTEX HC) | <15s / 30s. respectively EXP/CO ₂ /N ₂ O / refrigerants and SF ₆ |
| Useful life (MTBF) | 4 years approximately | > 5 years |
| Maintenance period | Annual – recommended- or pursuant to current standards | 3 years –recommended-or pursuant to current standards |
| Temperature range | -10°C to +50°C (DURTEX HC & DURTEX HC PRO) -20°C to +70°C (DURTEX X HC PRO) | -20°C to +50°C (DIREX & DIREX X) |
| Humidity range | 0 to 90% HR without condensation | 0 to 95% HR without condensation |
| Atmospheric pressure limit | 80 to 110 kPa (0.8 to 1.1 bar) | 80 to 110 kPa (0.8 to 1.1 bar) |
| RS485 Connections | 4 wires | 4 wires |
| 4-20mA Connections | 3 wires + earthed mesh | 3 wires + earthed mesh |
| Fault & sensor loop optical indications | Internal –Exproof housing (ATEX) External- IP65 models | Internal –Exproof housing (ATEX) External -IP65 models |
| Communication status optical indications | Internal – RS485 & Exproof housing (ATEX) External - IP65 models | Internal –RS485 & Exproof housing (ATEX) External -IP65 models |
| Local relay programmable alarm module (optional) | 4-20mA models | 4-20mA models |
| EXP Coverage area | 16 m ² approx. | 16 m ² approx. |
| CO₂ Coverage area/ N₂O | Non applicable | 75 m ² approx. / 30 m ² approx |
| Installation height for CO₂ / N₂O | Non applicable | 75cm-100cm from floor / 30-50 cm floor approx. |
| Protection grade | IP65 (all models) | IP65 (all models) |
| IP65 box material | Makrolon & ABS | Makrolon & ABS |
| Exproof ATEX box material/head | Aluminum / Stainless steel | Aluminum / Stainless steel |
| Cable Diameter | 10,1-13mm ² | 10,1-13mm ² |
| Cable Type (RS485) | *4 wires: 2 x 1,5mm & 2 x 0,25mm \varnothing | 4 wires: 2 x 1,5mm & 2 x 0,25mm \varnothing |
| Cable Type (4-20mA) | *Shield 3 x 1,5mm \varnothing | Shield 3 x 1,5mm \varnothing |
| Installation Max distance | * 300/400m (4-20mA) *1000m RS485 | 300/400m (4-20mA) 1000m RS485 |
| Dimensions (mm) & weight (gr) IP65 | 120x160x60 / 288 | 120x160x60 / 288 |
| Dimensions (mm) & weight (gr) ATEX | 155x180x110 / 1.700 Aprox. | 155x180x110 / 1.700 Aprox. |

* Diameter of the supply cables and maximum distances vary depending on the quality of the cable being used, the distribution of detectors throughout total cable length and supply tension, in the case of 4-20mA detectors.

**For the refrigerants, protect all possible sources of leaks, connections, elbows, gas inlets/outlets, valves, welds, compressors, etc.

Installation height and coverage apply the local regulations in force in each case.

9. INFORMATION ABOUT ATEX MARKING



CE marking in conformity with Directive 2014/34/EU (ATEX).
(the number 0163 corresponds to the Notified Body, in this case the J.M.Madariaga Official Laboratory – LOM).



II 2G Ex db IIC T6 Gb

Materials with “d” enclosure protection (flameproof) for use in explosive gas atmospheres and with a “high” level of protection (Gb).



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

Materials with “d” enclosure protection (flameproof) for use in explosive gas atmospheres and with a “high” level of protection (Gb).

Materials with “t” enclosure protection for use in explosive dust atmospheres and with a “high” level of protection (Db).

LOM 08ATEX2059 X

EU Type Examination Certificate

10. GUARANTEE

DIREX, DIREX X, DURTEX HC, DURTEX HC PRO and DURTEX X-HC PRO detectors are guaranteed against any manufacturing defect for a 1 year period after the acquisition of the equipment. If, during this period of time, any anomaly was detected, please inform your provider or installer.

Guarantee covers the full repair of the equipment which **DURAN ELECTRÓNICA** Technical Department considers to be defective, with the purpose of bringing them back to their normal use. This warranty will be valid as long as the equipment has been installed by a competent person, and always following the specifications contained in this manual. Negligent installation or use will exempt **DURAN ELECTRÓNICA** from any responsibility from damages caused to objects and/or people, and from the fulfillment of the terms of this warranty. In case of improper handling, or not respecting the conditions, characteristics and observations described in this manual, **DURAN ELECTRÓNICA** will not hold itself responsible for damages caused by improper use of this product.

Guarantee does not include: installations, periodic tests and maintenance, damages caused by inadequate handling, inappropriate use, negligence, overload, inadequate power or equipment abandonment, tension deviations, defective installations and all other external causes, repairs or amendments made by personnel not authorized by **DURAN ELECTRÓNICA** and transportation costs of the equipments.

DURAN ELECTRÓNICA reserves the right to carry out improvements or to include modifications the equipment without prior notice.

11. EU DECLARATION OF CONFORMITY

DURAN ELECTRÓNICA, S. L.U.
Tomás Bretón, 50 - 28045 MADRID (Spain)

Declares the conformity of gas detector models DIREX X and DURTEX X-HC PRO with the dispositions contained in the following European Parliament and Council directives:

2014/30/EU Electromagnetic compatibility

2014/34/EU Equipment and protective systems intended for use in potentially explosive atmospheres

conformity assumed in relation to the following standards:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014

Regulatory marking: Ex db IIC T6 Gb
Ex tb IIIC T85 °C Db

EU Type examination certificate number **LOM 08ATEX2059 X**, Supplement 3

Product Quality assurance notification number: **LOM 08ATEX9073**

Issued by notified body number 0163: Laboratorio Oficial J. M. Madariaga (LOM)

C/ Eric Kandel, nº 1 28906 Getafe - MADRID (Spain), that authorizes the legal marking to be affixed on the product.



II 2G



II 2G
II 2D

The **LOM 08ATEX2059 X** certificate does not cover that indicated in the letter (b), paragraph 1, article 1 of the 2014/34/EU directive related to safety, controlling and regulating devices, nor the Essential Health and Safety Requirements indicated in the paragraphs 1.5.5, 1.5.6 and 1.5.7 of the Annex II of the Directive 2014/34/EU related to devices with a measuring function.

This declaration of conformity is issued under the sole responsibility of DURAN ELECTRONICA, S.L.U.

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