

## ► D12-IR N2O

### N2O fixed detector (nitrous oxide)



### Technical specifications

**Gases measured:** Nitrous oxide (N2O), carbon dioxide (CO2), methane (CH4), propane (C3H8) and many hydrocarbons.

**Sensor type:** Non-dispersive infrared (NDIR)

**Response time:** T50 = 10 seconds, T90 = 20 seconds

**Accuracy:** ± 2% of the measurement (for N2O)

**Repeatability:** ± 1 %

**Zero drift:** < 1 % of full scale per month, not cumulative

**Scale drift:** Depends on the environment, typically less than 1% per month

**Power supply:** 12–30 VDC / 250 mA maximum

**Output:** 4-20 mA, 600 ohms maximum at 24 VDC

**Display:** 96x32 graphic LCD with backlight

**Setting:** Non-intrusive (4 keys with magnetic switches)

**Available options:**

- MODBUS™ communication (1200-9600 – RS232 or RS485)
- HART™ communication (1200 baud modern interface)
- 3 NO or NC potential free relays card 5A/230 Vac ou 30 Vdc

**Operating conditions:**

- Temperature : -20 to +60°C
- Humidity 0 to 99% RH (non- condensing)

**Connection:** 2 x 3/4 NTP (delivered without cable gland)

**Weight:** 2,3 kg

**Certifications:**

- Class 1, Div. 1, Groups B, C, & D, T6
- ATEX II 2 G Ex db IIC T6 Gb
- IEC Ex db IIC T6 Gb
- 2011/65/EU – RoHS Directive
- 2014/30/EU – EMC Directive

### Product description

Based on the infrared absorption principle, the **D12-IR fixed N2O** detector offers many significant advantages for the detection of nitrous oxide in the chemical, pharmaceutical industry and the medical sector. It uses a compact IR sensor in a corrosion-resistant cast aluminium housing with sintered flame arrestors to meet hazardous area classification requirements. It is suitable for most industrial environments.

The **N2O D12-IR detector's** graphic LCD allows you to read gas concentrations, alarm indications, and complete device configuration. The non-intrusive interface keys are operated by a simple magnet, allowing a complete device configuration and calibration without having to open the housing, a real advantage in ATEX zones.

The **D12-IR fixed N2O detector** is a linear gas transmitter 4-20 mA output with measured values recorder. Many options are available to complete this device depending on the needs and applications: a 3-relay module (potentially free), digital communication board (HART or MODBUS protocol) for universal commands, or measurement logs download.

The **infrared gas detector D12-IR** is also available for the detection of carbon dioxide (CO2), methane (CH4), propane (C3H8), as well as many hydrocarbons. It is immune to poisons affecting catalytic sensors, insensitive to gas saturation, and can operate in an inert atmosphere. The CO2 and N2O versions are available in two measurement ranges to best fit the needs of the applications.

### ► Gas measurement range

Referral gas	Measurement range
Nitrous oxide	0-1000 ppm or 0-0.1/1%/vol. N2O
Carbon dioxide	0-1000/5000 ppm or 0-1/5%/vol. CO2
Methane	0-50/100% LEL or 0-100%/vol. CH4
Propane/Hydrocarbons*	0-20/100% LEL

#### \* List of target hydrocarbons with correlation factor:

Acetone, Chloromethane, Dichloromethane, Ethane, Ethanol, Ethyl acetate, Ethylene, Hexane, MEK, Methanol, n-Butanol, Ethylene oxide, Pentane, Propanol, Propylene, Toluene, Xylene

*Note: The hydrocarbon version of the D12-IR gas detector is based on propane as the reference gas with a correlation coefficient for each hydrocarbon stored in the device. It will not be discriminant but directly indicate the calculated value for the target gas.*