

# Dräger Polytron IR N<sub>2</sub>O Fixed Gas Detector

Dräger Polytron IR N<sub>2</sub>O is a gas detector for continuous monitoring of nitrous oxide (dinitrogen monoxide) in the ambient air. It offers all benefits of fail-safe IR measurement technology for applications in rough environments. The transmitter uses microprocessor technology to convert the signal to a 4 to 20-mA analog output.



The unit is designed for one-man calibration and offers a variety of diagnostics and self test features. The configuration and calibration of the transmitter is menu guided and easy to perform, using the built-in push buttons.

## FEATURES AND BENEFITS

- Minimum maintenance required
- Fast and accurate response
- Linear output signal nearly independent of temperature and humidity
- Adjustable measurement ranges between 0 to 300 ppm and 0 to 1000 ppm
- Robust splash-water proof housing

## DIFFERENT VERSIONS

The transmitter is available in two versions: Either the standard version with LC display and keypad, or without LC-display and keypad and providing a plug connector instead to connect a hand-held terminal. With this maintenance and calibration can easily be performed even if the transmitter is hard to access.

## NO CROSS-SENSITIVITIES

The infrared measuring principle is based on a N<sub>2</sub>O-characteristic measuring wavelength so that the transmitter has very low cross-sensitivities to other gases such as NO, NO<sub>2</sub>, SO<sub>2</sub>, CO or water vapor. Especially CO<sub>2</sub>-concentrations up to 1 % by vol will increase zero-reading not more than 30 ppm.

## PREVENTIVE MAINTENANCE

Without loss of measuring quality the Dräger Polytron IR N<sub>2</sub>O transmits a warning signal if the optical system is prone to get dirty and thus potentially will lose sensitivity. The warning signal is configurable and enables the user promptly to start counter measures to keep the system's availability high.

## SYSTEMS SOLUTIONS

The shock-resistant enclosure is made of conductive, glass fibre reinforced polyester. Combined with a suitable 4 to 20 mA controller the Dräger Polytron IR N<sub>2</sub>O transmitter satisfies the customers' needs for maximum safety and system availability.



**Dräger Polytron IR N<sub>2</sub>O**  
Standard version with LC display and keypad.



**Dräger Polytron IR N<sub>2</sub>O NDH**  
Version without LC-display and keypad, with plug connector for hand-held terminal.

## TECHNICAL DATA

Type	Transmitter with infrared sensor technology								
Gases	Nitrous oxide (Dinitrogen monoxide, N <sub>2</sub> O) in ambient air								
Measuring range (full scale value)	Configurable between 300 ppm and 1000 ppm								
Power supply	13 to 30 V DC (nominal 24 V DC), < 4 W								
Output signals	<table border="0"> <tr> <td>Operation</td> <td>4 to 20 mA</td> </tr> <tr> <td>Maintenance signal</td> <td>2/5 mA, 1 Hz modulation, or 3 mA constant, configurable</td> </tr> <tr> <td>Warning signal</td> <td>2/5 mA, 1 Hz modulation, or 2 mA every 10 s, or 2 mA constant, configurable</td> </tr> <tr> <td>Fault signal</td> <td>&lt; 3 mA or 1 mA, configurable</td> </tr> </table>	Operation	4 to 20 mA	Maintenance signal	2/5 mA, 1 Hz modulation, or 3 mA constant, configurable	Warning signal	2/5 mA, 1 Hz modulation, or 2 mA every 10 s, or 2 mA constant, configurable	Fault signal	< 3 mA or 1 mA, configurable
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Measuring line	3-core, shielded, core cross section 0.5 to 1.5 mm <sup>2</sup> , outer diameter 6 to 12 mm								
Maximum cable length (at 24 V)	2000 m for 3 x 1.5 mm <sup>2</sup> ; 1500 m for 3 x 1.0 mm <sup>2</sup> ; 1000 m for 3 x 0.75 mm <sup>2</sup>								
Response time t <sub>90</sub> at 25 °C	< 10 s w/o dust-filter, 55 s with dust-filter								
Ambient conditions	<table border="0"> <tr> <td>Temperature</td> <td>- 20 to + 65 °C / - 4 to + 150 °F</td> </tr> <tr> <td>Pressure</td> <td>700 to 1300 hPa / 23.6 to 32.5 inch Hg</td> </tr> <tr> <td>Humidity</td> <td>0 to 95 % R.H.</td> </tr> </table>	Temperature	- 20 to + 65 °C / - 4 to + 150 °F	Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg	Humidity	0 to 95 % R.H.		
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Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg								
Humidity	0 to 95 % R.H.								
Enclosure	IP 65, glass fibre reinforced polyester (GRP)								
Size (W x H x D)	145 x 225 x 90 mm / 5.7" x 6.4" x 3.6" (incl. sensor and cable gland)								
Weight	Approx. 1.9 kg								
Approvals	CE-marking Electromagnetic compatibility (directive 89/336/EEC)								

## ORDER INFORMATION

Dräger Polytron IR N <sub>2</sub> O, with display and keypad	83 16 044
Dräger Polytron IR N <sub>2</sub> O NDH, w/o display and keypad, with plug connector for hand-held terminal	83 16 045
Hand-held terminal	83 12 580

### HEADQUARTERS:

Dräger Safety AG & Co. KGaA  
Revalstrasse 1  
23560 Lübeck, Germany

[www.draeger.com](http://www.draeger.com)

### SYSTEM CENTERS:

#### P. R. CHINA

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