

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

Dräger Polytron IR CO<sub>2</sub> is a gas detector for continuous monitoring of carbon dioxide. 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. With the ATEX-approval (device category II 2G acc. to 94/9/EC) the Dräger Polytron IR CO<sub>2</sub> is suitable for use in potentially explosive atmospheres zone 1 and zone 2.

## FEATURES AND BENEFITS

- Minimum maintenance required
- Fast and accurate response
- Linear output signal nearly independent of temperature and humidity
- Adjustable measurement ranges from 2000 ppm up to 30% by vol.
- Ex-approved version: intrinsic safe concept – no heavy flameproof enclosure

## DIFFERENT VERSIONS

The transmitter is available in three versions: Either the standard version with LC display and keypad, or without display and keypad to be connected to a fix installed remote display unit, or with a plug connector to be connected to a hand-held terminal. With this maintenance and calibration

can easily be performed even if the transmitter is hard to access.

## COMPREHENSIVE EXPLOSION PROTECTION

The explosion-approved versions of Dräger Polytron IR CO<sub>2</sub> are certified acc. to the directive 94/9/EC (ATEX 95) and marked by II 2G, indicating that they are suitable to be operated in zones 1 and 2.

## PREVENTIVE MAINTENANCE

Without loss of measuring quality the Dräger Polytron IR CO<sub>2</sub> 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 (EEx e) is made of conductive, glass fibre reinforced polyester. Combined with a suitable 4 to 20 mA controller the Dräger Polytron IR CO<sub>2</sub> transmitter satisfies the customers' needs for maximum safety and system availability.



ST-5650-2004

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



ST-4811-2005

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

## TECHNICAL DATA

Type	Transmitter with infrared sensor technology	
Gases	Carbon dioxide (CO <sub>2</sub> ) in ambient air	
Measuring range (full scale value)	Configurable between 2000 and 9990 ppm, or between 1 and 30 % by vol.	
Power supply	13 to 30 V DC (nominal 24 V DC), < 2 W	
Output signals	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
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 (at 25 °C / 77 °F)	t50 < 15 s, t90 < 35 s	
Ambient conditions	Temperature	- 20 to + 65 °C / - 4 to + 150 °F (- 40 °C / - 40 °F on request)
	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	140 x 160 x 90 mm / 5.6" x 6.4" x 3.6" (w x h x d, incl. sensor and cable gland)	
Weight	ca. 1.9 kg, remote display unit 1.0 kg	
Approvals	Ex-approved version	II 2G EEx me [ib] d IIB+H2 T4, - 40 °C ≤ Ta ≤ + 65 °C (- 40 °F ≤ Ta ≤ + 150 °F)
	CE-marking	Electromagnetic compatibility (directive 89/336/EEC)

## ORDER INFORMATION

Dräger Polytron IR CO <sub>2</sub> , with display and keypad, not ex-approved	83 16 037
Dräger Polytron IR CO <sub>2</sub> NDF, w/o display and keypad, with cable inlet for remote display unit, not ex-approved	83 16 038
Dräger Polytron IR CO <sub>2</sub> NDH, w/o display and keypad, with plug connector for hand-held terminal, not ex-approved	83 16 039
Dräger Polytron IR CO <sub>2</sub> EEx, with display and keypad, ex-approved	83 16 041
Dräger Polytron IR CO <sub>2</sub> NDF EEx, w/o display and keypad, with cable inlet for remote display unit, ex-approved	83 16 042
Dräger Polytron IR CO <sub>2</sub> NDH EEx, w/o display and keypad, with plug connector for hand-held terminal, ex-approved	83 16 043
Remote display unit IR CO <sub>2</sub>	83 16 040
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

Beijing Fortune Draeger  
Safety Equipment Co., Ltd.  
Yu An Lu A 22, B Area  
Beijing Tianzhu Airport  
Industrial Zone  
Houshayu Shunyi District  
Beijing 101300  
Tel +86 10 80 49 80 00  
Fax +86 10 80 49 80 05

#### GERMANY

Dräger Safety AG & Co. KGaA  
Revalstrasse 1  
23560 Lübeck  
Tel +49 451 882-2794  
Fax +49 451 882-4991

#### FRANCE

Dräger Safety France SAS  
3c route de la Fédération, BP 80141  
67025 Strasbourg Cedex 1  
Tel +33 3 88 40 59 29  
Fax +33 3 88 40 76 67

#### SINGAPORE

Draeger Safety Asia Pte. Ltd.  
67, Ayer Rajah Crescent # 06 03  
139950 Singapore  
Tel +65 68 72 92 88  
Fax +65 67 73 20 33

#### UNITED KINGDOM

Draeger Safety UK Ltd.  
Blyth Riverside Business Park  
Blyth, Northumberland NE24 4RG  
Tel +44 1670 352 891  
Fax +44 1670 544 475

#### USA

Draeger Safety, Inc.  
505 Julie Rivers, Suite 150  
Sugar Land, TX 77478  
Tel +1 281 498 10 82  
Fax +1 281 498 51 90