# Dräger Polytron® Pulsar 2
# Detection of flammable gases and vapours

The Dräger Polytron Pulsar 2 is the latest infrared technology in open path gas detection. Equipped with all the same functions as the standard Dräger Pulsar, Pulsar 2 is fitted with an ABS moulded cover and is supplied with either a junction box or certified connector to provide complete flexibility during installation.

ABS moulded cover

Lens protection cover

D-85830-2013

# Benefits

### Easy adjustment and commissioning

Designed for one man installation and commissioning through use of a hand-held terminal the Pulsar 2 transmitter and receiver can be accurately aligned, gas level zeroed and commissioned with maximum efficiency. The factory calibration of the Polytron Pulsar 2 makes manual setting and test gas superfluous.

### System stability

The detector is designed so that no fault remains undetected. During normal operation, the output signal is between 4 to 20 mA, depending on the measured gas concentration. A signal of < 1 mA represents a fault due to a constant beam block or hardware failure requiring immediate attention. However, a signal of 2 mA identifies a beam block and will go to fault if this persists for more than 60 minutes. The Pulsar will also output a 3.5 mA signal to indicate pre-warning where the optics may be dirty or miss-aligned. During the period which the Pulsar displays 'Pre-warning' it will still detect gas allowing the customer to schedule maintenance on the detector therefore reducing down time. With no unrevealed faults, the Pulsar 2 is SIL 2 capable.

### In-built database

The receiver logs records and details a report of the last seven working days and a summary of the last 32 weeks. These reports contain important information such as measuring values, i.e. 'beam block', gas readings, warning signals, signal strength, adjustments, supply voltage and operating temperature.

### Extensive access to data from safe areas

The optional Polytron Pulsar Software can provide easy access to configuration, current measured values and the internal data-logger from a non-hazardous area through Digital Communication. For large and complex installations, the Pulsar software can allow integration of several devices via the AI5000. Up to 32 AI500's can be multi dropped; therefore allowing access to up to 128 pulsars - useful for planning service and maintenance measures.

### High performance

The Pulsar receiver communicates to the transmitter via a digital link which allows the receiver to identify and adjust to fluctuating environmental conditions. The microprocessor built into the receiver unit instructs the transmitter unit to increase the flash rate for increased performance and accuracy. The Pulsar is immune to influences such as sunlight, gas flares, arc welding or resonance effects due to vibrations of rotating parts, as well as to environmental influences such as mist, drizzle or snow. The flash rate is also increased upon the detection of gas to ensure both accuracy and fast response.

### Heated optics

Regulated internal lens heaters protect against build up of ice and snow under adverse weather conditions. They also prevent condensation on the lenses eliminating interference with the measurement function.

# Benefits

### HART-communication

The HART-Communication of the Polytron Pulsar allows for digital communication between the explosion-proof and the secure areas. Without additional cabling, you can obtain real-time access to the status of individual detectors and to the configuration and historical data of each device.

### Worldwide Approvals

The Polytron Pulsar Duct Mount holds a performance approval from FM, and global product approvals including ATEX, IECEx, CSA and UL.

# System Components



### Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and therefore highly expandable analysis system for monitoring various gases and vapours. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 also features exceptional reliability and efficiency. An additional benefit is the backward compatibility with the REGARD®.

D-6806-2016



### Dräger REGARD®-1

The Dräger REGARD®-1 is a standalone, self contained single channel control system for the detection of Toxic, Oxygen and Ex hazards. The control system is fully configurable for a single input from either a 4 to 20 mA transmitter or a Dräger Polytron® SE Ex measuring head.

ST-335-2004

## System Components



D-27777-2009

### Dräger REGARD® 3900

The Dräger REGARD® 3900 is a standalone, self contained control system for the detection of Toxic, Oxygen and Ex hazards. The control system is fully configurable between 1 and 16 channels, depending upon the type and quantity of input/output boards installed.

## Accessories



ST-977-2001

### Alignment and test kit

Alignment kit with hand held terminal, gas test cards and software with case. For alignment and function test.
Order No.: 23 50 325



ST3531-2003

### AI500 digital interface

Digital interface for remote access to up to four Pulsars.
Order no: 23 50 306

# Related Products



D-49077-2012

## Dräger Flame 5000

The Dräger Flame 5000 is an imaging based explosion proof flame detector. This visual flame detection system uses digital image processing and advanced algorithms to process and interpret flame characteristics. This principle offers an extended field of view and fewer false alarms. Each detector is equipped with a colour CCTV camera.



ST-11659-2007

## Dräger PIR 7000

The Dräger PIR 7000 is an explosion proof point infrared gas detector for continuous monitoring of flammable gases and vapours. With its stainless steel SS 316L enclosure and drift-free optics this detector is built for the harshest industrial environments, e.g. offshore installations.



D-14979-2010

## Dräger Polytron® 5700 IR

The Dräger Polytron® 5700 IR is a cost effective explosion-proof transmitter for the detection of flammable gases in the lower explosive limit (LEL). It uses a high performance infrared Dräger PIR 7000 sensor that will quickly detect most common hydrocarbon gases. A 3-wire 4 to 20-mA analogue output with relays makes it compatible with most control systems.



ST-8821-2005

## DrägerSensor® IR

Upgrade from catalytic bead to infrared technology with ease using the DrägerSensor® IR. The Sensor IR can replace catalytic ex-sensors (pellistors) from the majority of manufacturers without replacing controllers, cables, junction boxes or control systems.

# Technical Data

| | | |
|---|---|---|
| Type | Explosion proof Open Path gas detector utilizing dual wavelength infrared absorption technic | |
| Gases | Wide range of hydrocarbons including the alkane series from methane to hexane, propylene, ethanol and methanol | |
| Range | From 0 to 4 up to 0 to 8 LEL*m | |
| Factory calibration | Methane or propane, selectable. Other hydrocarbon gases on request | |
| Operating distance | 4 to 60 m, 30 to 120 m or 100 to 200 m, 13 to 197 ft, 98 to 394 ft or 328 to 656 ft separation of transmitter and receiver | |
| Signal output | Analog | Measuring 4 to 20 mA |
| | Pre-warning | 3.5 mA, dirty optics or misalignment |
| | Beam block | 2 mA |
| | Fault | <1 mA |
| | Digital | HART |
| Supply Voltage | ATEX | 18 to 30 VDC |
| | UL, CSA | 18 to 27 VDC |
| Power Consumption | Max. 0.95 A @ 24 V, with full heating and all source lamps operating | |
| Response time $t_{95}$ | <2 s | |
| Ambient conditions | Temperature | -40 to +60 ℃, -40 to +140 ℉ |
| | Pressure | 800 to 1,100 hPa, 23.6 to 32.5 inch Hg |
| | Humidity | 0 to 100 %RH, non-condensing |
| Enclosure | IP66, stainless steel | |
| Size (W x H x D, approx.) | 260 x 340 x 220 mm, 10.25" x 13.3" x 8.5", each | |
| Weight (approx.) | 6 kg, 12.2 lbs, each | |
| Approvals | ATEX | II 2GD Ex d [ia] IIC T6/T5, -40 to +40 / +60 ℃ |
| | IECEx | Ex d [ia] IIC T6/T5, -40 to +40 / +60 ℃ |
| | FM/ANSI | FM ANSI/FM 6325, ANSI/ISA-12. 13-04 |
| | DNV | A-12526 |
| | IEC 60079-29-4 | Tested by FM Approvals |
| | UL | Class I, Div 1, Group C, D |
| | CSA, NRTL/C | Class I, Div 1, Group C, D |

# Ordering Information

Dräger Polytron® Pulsar 2 – variations by max. operating range and approval – transmitter and receiver, each fitted with an ABS moulded cover.
Supplied with EEx e junction box or EEx d certified plug and socket.

| Dräger Polytron® Pulsar 2 Accessories | Part number |
|---|---|
| Junction Box Dräger Polytron® Pulsar 2 ATEX | 23 50 298 |
| AI500 Digital Interface Unit for Dräger Polytron® Pulsar 2 | 23 50 306 |
| Dräger Polytron® Pulsar 2 Remote Junction Box/HHT Kit | 23 50 322 |
| Dräger Polytron® Pulsar 2 Alignment Kit, ATEX/CSA | 23 50 325 |
| Adapter AI500 to HHT or PC | 23 50 326 |
| Dräger Polytron® Pulsar 2 PC Software with cable (supports Pulsar, AI500 and HHT) | 23 50 327 |
| Attenuator plate AP800 | 23 50 339 |
| ABS Moulded Cover | 23 50 510 |

# Ordering Information

| Dräger Polytron® Pulsar 2 with ABS moulded cover and Ex e certified junction box | Part number |
| --- | --- |
| Dräger Polytron® Pulsar 2 ATEX 4–120 m (RX only Ethylene) | 23 50 340 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (RX only Ethylene) | 23 50 341 |
| Dräger Polytron® Pulsar 2 ATEX 4–60 m (TX only) | 23 50 499 |
| Dräger Polytron® Pulsar 2 ATEX 30–120 m (TX only) | 23 50 500 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (TX only) | 23 50 501 |
| Dräger Polytron® Pulsar 2 ATEX 4–120 m (RX only) | 23 50 502 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (RX only) | 23 50 503 |

| Dräger Polytron® Pulsar 2 with ABS moulded cover and Ex d certified plug and socket connectors | Part number |
| --- | --- |
| Dräger Polytron® Pulsar 2 ATEX 4–120 m (RX only Ethylene) | 23 50 342 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (RX only Ethylene) | 23 50 343 |
| Dräger Polytron® Pulsar 2 ATEX 4–60 m (TX only) | 23 50 504 |
| Dräger Polytron® Pulsar 2 ATEX 30–120 m (TX only) | 23 50 506 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (TX only) | 23 50 507 |
| Dräger Polytron® Pulsar 2 ATEX 4–120 m (RX only) | 23 50 508 |
| Dräger Polytron® Pulsar 2 ATEX 100–200 m (RX only) | 23 50 509 |

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