Dräger PEX 1000

The Dräger PEX 1000 is a converter that transforms mV signals from the Dräger Polytron SE Ex sensor head into mA signals. The PEX 1000 then transmits the mA signals to a control unit (for example, one of the models in the Dräger REGARD range). Along with the Polytron SE Ex, the PEX 1000 meets the requirements for primary explosion protection.

Dräger

Technology for Life

Benefits

The ultimate monitoring combo

The Dräger PEX 1000 establishes the connection between the Polytron SE Ex sensor head and the control unit. The sensor head is installed inside an explosive atmosphere (Ex zone) and monitors it for ignitable hydrocarbon concentrations. It transmits its readings via mV signals. The PEX 1000, which is installed outside the explosive atmosphere, transforms mV into standardised mA signals. It then transmits those signals to the control unit (for example, the Dräger REGARD 2410). If concentrations exceed a preset threshold, the control unit initiates the right countermeasures to ventilate and extract contaminated air from the area.

Quick, easy setup

The PEX 1000 connects to the control unit and the Polytron SE Ex via a 3-core signal cable. The length of the cable covers a range of 500 metres. The device easily adapts to existing installations. It can be seamlessly integrated into or retrofitted to existing gas detection systems.

Easy to use

The PEX 1000 is very user-friendly and easy to handle. You can perform maintenance and calibration directly on the device using just two buttons and a two-digit display.

Measuring suitability test

While secondary explosion protection aims to limit the hazard, primary explosion protection actively prevents the formation of hazardous explosive atmospheres. Along with the Polytron SE Ex and a control unit such as the Dräger REGARD 2410, the PEX 1000 fulfils all primary explosion protection requirements and is tested in compliance with EN 60 079-29-1 standards.

Automatic zero-point calibration

Generally, the output signal of catalytic sensors slowly changes, regardless of environmental influences. This signal drift is caused by the ageing processes of the pellistors. Another typical signal change in catalytic sensors is periodic fluctuations that occur in a day-night rhythm. These fluctuations occur because the influence of changing environmental conditions (especially temperature and humidity) can only be compensated for with limited accuracy. Starting with software version 2.5, the PEX 1000 transmitter features automatic zero-point calibration (Autozero). This can partially correct zero-point deviations due to long-term drift of the sensor and environmental influences related to the time of day, and improve the quality of the reading. The correction rate and the absolute limitation of the automatic zero-point calibration are based on the tolerances defined by EN/IEC 60079-29-1 standards. Automatic zero-point calibration is part of the EN 60079-29-1 measuring suitability test and is deactivated at the factory.

System Components

D-1923-2022

Dräger Polytron SE Ex

The Dräger Polytron SE Ex ... DQ sensing heads are gas detectors for the continuous monitoring of flammable gases and vapours in the ambient air. Measurement is based on the heat of reaction principle where a chemical reaction takes place in a catalytic bead (also known as a pellistor) inside the sensor.

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Catalytic Bead DrägerSensor

The DrägerSensor ... DQ detects flammable gases and vapours such as hydrogen. Due to the double-detector compensation method, the catalytic sensor is particularly long-term stable. The wire mesh at the gas inlet serves as a flame barrier. So it ensures explosion protection at the same time short response time.

Technical Data

Supply voltage	12 to 30 V DC (nominally 24 V DC), max. 110 mA at 24 V
Output signals	Measuring mode: 4 to 20 mA maintenance: 3.4 mA fault: < 1.2 mA
Signal cable	3-core, shielded, conductor cross-section 0.75 to 1.5 mm^2, outer diameter 7 to 12 mm
Max. cable length	2,400 m for 3 x 1.5 mm^2 1,600 m for 3 x 1.0 mm^2 1,200 m for 3 x 0.75 mm^2
Ambient conditions	Temperature -20 to +50 °C Pressure 700 to 1,300 hPa Humidity 5 to 95% RH
Housing material	ABS
Housing protective rating	IP54
Size (W x H x D)	approx. 70 x 61 x 90 mm
Weight	approx. 200 g
Suitability test	EN 60079-29-1 standard

Ordering Information

Product name	
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