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Operating Instructions

PUM01 / PUM02 / PUM03

Pressure Transmitter

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1 Introduction

Series PUM01-03 pressure transmitter are noted for their reliable function and easy operation. To obtain the greatest benefit from this device, please observe the following cautionary statement:

Persons who are responsible for setting up or operating this device must be sure to read the and understand the operating instructions and the safety information pertaining to it.

2 Safety Information

2.1 General Instructions

To ensure safe operation, the device must only be operated according to the information in the operating instructions. When the device is in use, the regulations and safety standards applicable to the specific application must also be observed. This statement also applies to the use of accessories.

2.2 Proper Usage

Series PUM01-03 pressure transmitters are designed to transform a pressure into an electrical output signal. Any application extending beyond this specific intended use does not constitute proper usage.

Series PUM01-03 pressure transmitters must not be employed as the sole means of avoiding hazardous conditions in machinery and installations.

The machinery and installations must be designed in such a manner that faulty conditions and malfunctions will not present hazardous situations for operating personnel.

2.3 Qualified Personnel

Series PUM01-03 must only be used by qualified, knowledgeable personnel trained in correct use of these devices. Qualified personnel are those persons familiar with setting up and assembling these devices, placing them in service and operating them. In addition, such personnel must also be qualified to perform the work associated with the application for which the device is being used.

3 Functional Description

The pressure is sensed in the transmitter by means of a piezo-resistive cell or a thin-film cell. The resulting resistance signal, varying with the pressure, is converted by an amplifier to a current or voltage signal.

4 Installation Instructions

4.1 General Information

The actual operating pressure and temperature of the installation must not exceed the maximum values specified. The pressure ports must only be opened with the system depressurized. Please note that in a given system, the component with the lowest maximum pressure rating will determine the maximum permissible operating pressure for the entire system.

4.2 Pressure Transmitter (high-pressure version)

For the proper tightening torques, please refer to the documentation from the supplier of your high-pressure piping.

5 Electrical Connection

For the pin assignment, please refer to the label on the transmitter.

6 Care and Maintenance

PKP pressure transmitters are maintenance-free.
Recommended recalibration interval: 1 year

PUM01

Pressure Transmitter for OEM Applications

- **Compact construction**
- **Integrated amplifier**
- **Economical operation**
- **Compatible with a wide range of media**



Description:

Model series PUM01 pressure transmitters are among the finest pressure sensors available. Their economical price makes them particularly suitable for OEM applications. Depending on the pressure range, the PUM01 measures the applied pressure by means of a piezo-resistive cell or a thin-film cell. The combination of these two technologies covers all DIN measuring ranges from 0 to 1000 bar. The pressure-dependent resistance signal transmitted by these cells is converted by an amplifier to a current signal or voltage signal. The transmitter can be configured to output either a current signal of 4 to 20 mA in two-wire circuitry or a voltage signal of 0 to 10 V in three-wire circuitry. Other output signals are available upon request.

Fields of Application:

PUM01 pressure transmitters are used to measure the pressure of liquid or gaseous media when the process does not need to meet especially high standards of accuracy but must be able to provide good reproducibility. All transmitter parts coming in contact with the pressurized media are made of stainless steel. This construction allows it to be used with a wide variety of media. For media that are particularly difficult to handle (caustic, corrosive), we recommend installing the PUM01 with a diaphragm seal (commercially available models available upon request). PUM01 devices can handle high overloads, are unaffected by corrosion, mechanical vibration, mechanical shock and temperature and have long-term stability. These combined characteristics allow them to be reliably used in numerous industrial applications.

Designs:

PUM01 pressure transmitter

Output signal: possible output signals are: Current signal of 4 to 20 mA in two-wire circuitry or voltage signal of 0 to 10 V in three-wire circuitry

Calibration: If desired, these devices can be calibrated up to a measuring range of from 0 to 10 bar at absolute pressure.

Electrical connection: standard DIN EN 175301-803 plug connector, model A with cable box. Permanently attached connection cable optional, standard length of 1m

Electrical Specifications:

Supply voltage: 10 to 30 VDC with current output
14 to 30 VDC with voltage output

Power consumption, max.: 20 mA

Output: voltage output load ≥ 5 kOhm
current output load $\leq (U-10V)/0.02A$

Interference emission: as per EN 61326

Noise Immunity: as per EN 61326

Protection type: IP65 EN 60 529/IEC 529

Electrical protection types: incorrect polarity, overvoltage, and short-circuit protection

Technical Details:

Process connection: G1/4 B male thread

Parts in contact with media: stainless steel 1.4571 and 1.4542

Max. pressure: 3.5 times the upper range value with measuring range ≤ 10 bar
2 times the upper range value with measuring range ≤ 600 bar
1.5 times the upper range value with measuring range ≤ 1000 bar
Vacuum-proof

Max. media temp.: -40 to +100°C

Max. ambient temp.: -30 to +80°C

Max. storage temp.: -30 to +100°C

Compensated range: 0 to 80°C

Housing: stainless steel, European standard no. 1.4301

Weight: approx. 0.15 kg

Accuracy: class 1.0

Reproducibility: $< \pm 0.2\%$ f. s.

Response time: ≤ 1 ms
(between 10% to 90% f.s.)

Ordering Code:

Order number: PUM01. 2. 1. 2. R79

Pressure transmitter for OEM applications

Output signal:

1 = 4 to 20 mA, 2-wire
2 = 0 to 10 V, 3-wire

Calibration

1 = Relative pressure
2 = Absolute pressure

Electrical connection:

1 = Plug connector

Measuring range:

R = relative

A = absolute

R65 = 0 - 0,25 bar*

R66 = 0 - 0,4 bar*

R67 = 0 - 0,6 bar*

R69 = 0 - 1 bar

R70 = 0 - 1,6 bar

R72 = 0 - 2,5 bar

R73 = 0 - 4 bar

R74 = 0 - 6 bar

R75 = 0 - 10 bar

R76 = 0 - 16 bar

R78 = 0 - 25 bar

R79 = 0 - 40 bar

R80 = 0 - 60 bar

R81 = 0 - 100 bar

R82 = 0 - 160 bar

R84 = 0 - 250 bar

R86 = 0 - 400 bar

R87 = 0 - 600 bar

R88 = 0 - 1000 bar

A69 = 0 - 1 bar

A70 = 0 - 1,6 bar

A72 = 0 - 2,5 bar

A73 = 0 - 4 bar

A74 = 0 - 6 bar

A75 = 0 - 10 bar

*with Hirschmann mini plug connector

