PF4

THE INTELLIGENT TRANSMITTER

FOR DIFFERENTIAL-PRESSURE AND TEMPERATURE MEASUREMENT

- High-precision measurement and long-term stability
- Fast response time and low hysteresis
- Analog signals freely configurable
- Integrated relay switch contact
- Large overload range
- Expandable with HygroClip2 sensor or analogue inputs
- High immunity to dust and humidity in the medium

rotronic

PF4

BE PRECISE:
THE MAIN ADVANTAGES AT A GLANCE.

The new PF4 series is the latest development from ROTRONIC. The thermal measurement technique enables top-precision measurements in the smallest of spaces. This differential-pressure transmitter gives ROTRONIC customers a device to measure a further important parameter in addition to devices for humidity, temperature and CO_2 measurement. With the optional connector for HygroClip2 probe, analog input or temperature sensor, the device is widely supported for the most diverse applications.
ROTRONIC stands for unparalleled accuracy and long-term stability. The new differential pressure series meets these requirements with a long-term stability of <0.3 %/year and an accuracy of ±1.0 % of full scale.

Functional Display
- Display of the current measured values
- Menu for configuration of all device settings

Field-Tested Housing
- Robust industrial housing
- IP65

Integrated Sensor Technology
- Thermal sensor for smallest measured values
- Large overload range of 2,000 mbar
- Fast sensor response time of 1-2 ms
- Electronic sampling rate of 0.25 s
- High accuracy ±1.0 % of full scale
- Very low air flow of 120 - 180 µl/min

Power Supply / Outputs
- 15...40 VDC / 14...28 VAC
- 2 analog outputs, freely selectable and scalable
- Digital Ethernet interface (option)
- Configuration of the device during use thanks to a combination of digital interface and analog outputs

APPLICATIONS

The ROTRONIC differential-pressure transmitters are ideal for clean rooms, operating rooms and applications where even minor differences in pressure can have a big effect. With its thermal mass flow measurement, the PF4 boasts very high long-term stability and is very sensitive to pressure. The additional temperature measurement is probably the most required measurement parameter, especially in the pharmaceutical and food industries.

With its digital interface, the device offers direct integration in the HW4 software. HW4 provides a complete monitoring solution fully compliant to FDA 21 CFR Part 11 regulations.

HW4 Monitoring

Pressure hose
AC6001

ACCESSORIES FOR PF4 TRANSMITTERS

Standard Humiditiy-/Temperature probe

HygroClip2 probe: HC2-S
Accuracy: ±0.8 %RH, ±0.1 K, at 23 °C ±5 K
Range of application: -50...100 °C, 0...100 %RH

Fixed Probe for Air Measurement

Fixed temperature probe AC1909
Probe: 100 x 4 mm, DIN 1.4401
Range of application: -50...200 °C, τ90: 20 s

Industrial Humiditiy-/Temperature probe

HygroClip2 probe: HC2-IC
Accuracy: ±0.8 %RH, ±0.1 K, at 23 °C ±5 K
Range of application: -100...200 °C[1], 0...100 %RH

Cable Probe

Thermoplastic cable AC1904, 2 m
Probe: 100 x 4 mm, waterproof, DIN 1.4301
Range of application: -50...110 °C, τ90: 185 / 20 s

TECHNICAL INFORMATION

Adjustment

One of the most important adjustment points in differential-pressure measurement is zeroing. The PF4 offers easy zeroing at the press of a button and additionally adjustment of the measurement range with reference-value input.

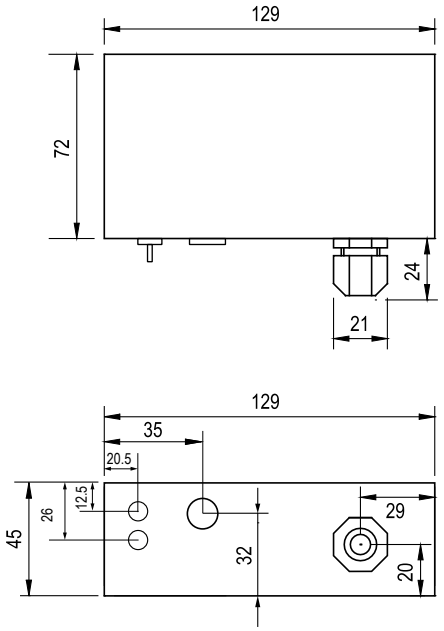
Output Signal

The analog output signal is freely scalable and configurable with the software. This means you can assign the limit values to the signal freely as needed and also define the type of output signal freely (0...1 V / 0...5 V / 0...10 V / 0...20 mA / 4...20 mA).

Alarms

The PF4 has an internal relay that can be configured easily with the HW4 software. Time delay, maximum duty cycle and automatic resetting of the relay are easy to set. All alarm possibilities of the HW4 software are available to you in the known and proven ROTRONIC functionality.

Dimensions



General	
Measurement range	-25...+25 Pa / -50...+50 Pa -100...+100 Pa / -250...+250 Pa -500...+500 Pa -100...200 °C (probe-dependent) 0...100 %RH (with HC2)
Accuracy	±1.0 % of full scale @ 23 °C ±3 K
Inputs	Differential pressure, hose connections, 4 mm internal diameter Optional: HygroClip2 / analog input 1 Pt100 connection, 4-wire
Outputs	Voltage, current, digital (optional)
Alarm function	Configurable relay, HW4
Technical Data	
Power supply	15...40 VDC / 14...28 VAC
Current consumption	‹70 mA / ‹150 mA (with Ethernet)
Range of application electronics	0...70 °C / 0...90 %rh 0...60 °C / 0...90 %rh with display
Functions	
Configurable response time	0 s...30 min
Interface	Ethernet (optional)
Service interface	UART (internal in device)
Adjustment differential pressure	Zero point, 1 reference point
Temperature adjustment	Single-point
Measurement Parameters/Output Signals	
Response time sensor τ63	‹10 ms (only sensor element)
Long-term stability sensor	Typically ‹0.3 %/ year
Pressure dependency	0.1 %/hPa
Air flow	120 - 180 µl/min
Pressure resistance	2 bar (2,000 hPa)
Output signal	0...1 V / 0...5 V / 0...10 V 0...20 mA / 4...20 mA
Accuracy analog output	±10 mV (voltage output) ±20 µA (current output)
Switch output	1 relay Time delay, duty cycle, resetting configurable
Switching capacity	‹50 VAC / ‹75 VDC / ‹1 A
Housing / Conformities	
FDA/GAMP conformity	FDA 21 CFR Part 11 / GAMP 5
CE/EMC conformity	2014/30/EU
Housing material	ABS
Dimensions	129 x 72 x 45 mm
IP protection	IP65
Weight	240 g
Connections	1 x M16, terminal