

# 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
- Selectable units
- High immunity to dust and humidity in the medium



## 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<sub>2</sub> measurement. With the optional temperature probe, the device is suitable for a wide range of applications. ROTRONIC stands for unparalleled accuracy and long-term stability. The new differential pressure series meets these requirements with a long-term stability of  $\lt 0.3$  %/year and an accuracy of  $\pm 1.0$  % 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  $\pm 1.0$  % of full scale
- Very low air flow of 120 - 180  $\mu\text{l}/\text{min}$

### 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



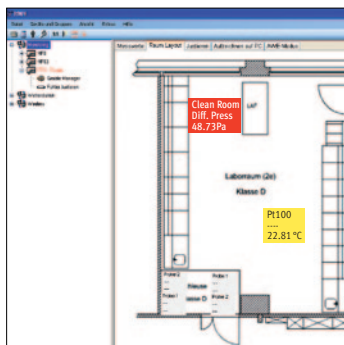
You need more information (special applications, order codes, etc.) in order to choose the right probe?  
You can find a complete, up-to-date overview on the internet at [www.rotronic.com](http://www.rotronic.com).

## 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

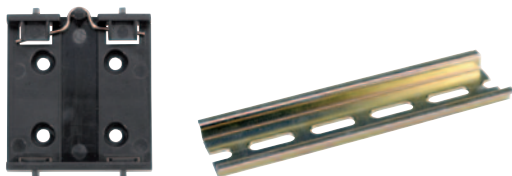
### Fixed Probe for Air Measurement

Fixed temperature probe AC1909  
Probe 100 x 4 mm, DIN 1.4401  
Range of application -50...200 °C,  $\tau_{90}$ : 20 s



### Mounting Kit for DIN Top-Hat Rails

DIN top-hat rail adapter AC5002  
Top-hat rail 120 mm long AC5002 DIN120



### Cable Probe

Thermoplastic cable AC1904, 2 m  
Probe 100 x 4 mm, waterproof, DIN 1.4301  
Range of application -50...110 °C,  $\tau_{90}$ : 185 / 20 s



### Service Cable

Service cable AC3006 / AC3009

### Extension Cable

Pt100 extension cable AC1607/5

## 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.

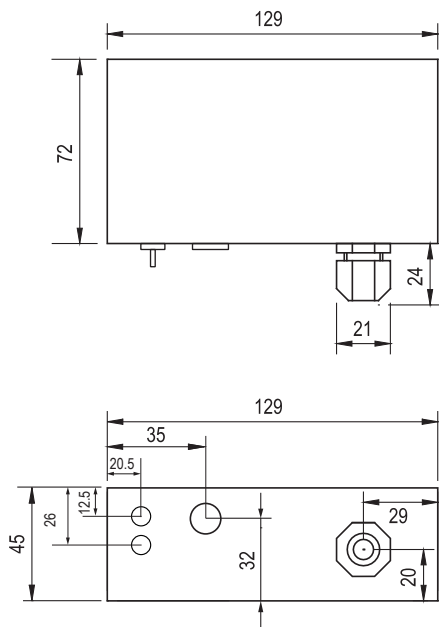
### Output Signal

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)
Accuracy	±1.0 % of full scale @ 23 °C ±3 K
Inputs	1 Pt100 connection, 4-wire Differential pressure, hose connections, 4 mm internal diameter
Outputs	Voltage, current, digital (optional)
Alarm function	Configurable relay, HW4
<b>Technical Data</b>	
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 $\tau_{63}$	<10 ms (only sensor element)
Long-term stability sensor	<0.3 %/ year
Pressure dependency	0.1 %/hPa
Air flow	120 - 180 $\mu$ l/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 $\mu$ A (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	2004/108/EC
Housing material	ABS
Dimensions	129 x 72 x 45 mm
IP protection	IP65
Weight	240 g
Connections	1 x M16, terminal

Opt immediately for the PF4 with integrated differential-pressure sensor for your differential-pressure measurements. You can find detailed information on our temperature probes at [www.rotronic.com](http://www.rotronic.com). We will also be glad to advise you on the telephone or in our showroom.

ROTRONIC AG, Grindelstrasse 6, CH - 8303 Bassersdorf, Tel. +41 44 838 11 11, Fax +41 44 836 44 24, [www.rotronic.ch](http://www.rotronic.ch)  
 ROTRONIC Instruments (UK) Ltd, Crompton Fields, Crompton Way, Crawley, West Sussex, RH10 9EE, UK, Phone +44 (0)1293 571000, Fax +44 (0)1293 571008, [www.rotronic.co.uk](http://www.rotronic.co.uk)  
 ROTRONIC Instrument Corp, 135 Engineers Road, Hauppauge, NY 11788, USA, Phone, +1 631 427-3898, Fax, +1 631 427-3902, [www.rotronic-usa.com](http://www.rotronic-usa.com)

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