

# Pedak

## De luchtdrukverschiltransmitter met IP65 rating



# Differential pressure transmitter P-series with IP65



## General description

The differential pressure transmitters of the P-series are used to measure differential pressure, overpressure and vacuum. They provide up to 8 pressure ranges and 2 output signals, which are easily selectable by jumper or rotary selector switch.

## Applications

Monitoring of gaseous, non-combustible and non-aggressive media.

## Possible usage areas are:

- Building automation and air conditioning systems
- Overpressure measurement in clean rooms and laboratories
- Measurement of constant pressure in VAV applications
- Dynamic filter and ventilator monitoring

## Output signal selection

The output signal of the 3-wire version can be changed between 0 ... 10 Volt and 4 ... 20 mA by removing a jumper.

## Configurable response time

The response time of the output signal can be configured using a jumper. If the jumper is in place the response time is slow (factory setting), which is useful for suppressing brief pressure peaks. If the application requires a fast response time the jumper must be removed.

## Volume flow measurement

The shape of the output signal can be switched from linear to square root using a jumper in order to measure the volume flow via a differential pressure.

## Switching output (optional, not available with 2 wire version)

To give a switch signal at an user defined pressure level the transmitter has an adjustable transistor switching output (NPN NO) with a maximum switching capacity of 30 VDC/100 mA. NPN NC or PNP NO / NC on request.

## Display (optional, not available with 2-wire version)

In addition to the analogue output signal the pressure value can be read out on a red LED-display in Pascal or other pressure units.

## Measuring method

Piezoresistive pressure transducer.

## Mounting position

Can be mounted in any position. The zero offset calibration eliminates any possible position error.

# Overview on technical data

Series	P-Series
Electrical connection	<b>3-wire</b>
Measuring method	Piezoresistive pressure transducer
Supply voltage	18...30 VAC / VDC
Output signal selectable	with jumper
Output signal 0 ... 10 V	■
Output signal 4 ... 20 mA	■
Output signal 0 ... 5 V	□
Output signal 0 ... 20 mA	□
LED display, red, 4 digits	□
Switching output for max 30 VDC / 100 mA	□
Output signal selection from linear to square root	■
max. current draw without display VDC / VAC	75 / 180 mA
max. current draw with display VDC / VAC	100 / 230 mA
Load for 4 ... 20 mA output	20 ... 500 Ω
Load for 0 ... 10 V output	≥ 1kΩ (≤ 10 mA)
Pressure medium	Air and non-combustible and non-aggressive gases
Configuration of pressure range	with jumper
max. number of pressure range	2
only one customized pressure range	□
Manuel offset compensation	-
Automated offset compensation	■
Working and storage temperature	-10 ... +50°C
Linearity (incl. hysteresis and repeatability)	≤ ±0.5% FS, min. ±1 Pa
Uncertainty (Total Error Band w/o long-term and temperature effects)	±1% FS, min. ±1 Pa
Humidity	0 ... 95% rel, non-condensing
Response time 0.2 s and 1 s (standard)	■
Process connection P1 and P2	Hose connection with 4 / 6 mm outer diameter
Electrical connection	Plug-in terminals for wires and strands up to 1.5 mm <sup>2</sup> or circular connector M12 / 4-pole
Housing material	ABS
Housing dimensions	approx. 81 x 83 x 41 mm
Weight	approx. 140 gr
Cable conduit	Cap nut conduit AF15 made of polyamide
Protection class acc. to EN 60529	IP65
CE Conformance acc. to EN 61326	■
RoHS Conformance acc. to 2011/65/EU	■

Accuracy specifications according to EN 60770 based on the pressure measurement at 23 °C

■ standard equipment

□ optional equipment

# Differential pressure transmitter P-Series

## with automated offset compensation and 2 pressure ranges

### Pressure ranges

Model	Range 1	Range 2	Overload capacity	Bursting pressure	Additional uncertainty with temperature [% FS/10K]
P.3E3	-25 ... 0 ... +25 Pa	-	60 kPa	100 kPa	± 0.7
P.3X3	-50 ... 0 ... +50 Pa	-	60 kPa	100 kPa	± 0.5
P.3W3	-100 ... 0 ... +100 Pa	-	60 kPa	100 kPa	± 0.3
P.303	0 ... 25 Pa	0 ... 50 Pa	60 kPa	100 kPa	± 0.7
P.313	0 ... 50 Pa	0 ... 100 Pa	60 kPa	100 kPa	± 0.5
P.323	0 ... 100 Pa	0 ... 250 Pa	60 kPa	100 kPa	± 0.3
P.333	0 ... 250 Pa	0 ... 500 Pa	60 kPa	100 kPa	n.r.
P.343	0 ... 500 Pa	0 ... 1000 Pa	75 kPa	125 kPa	n.r.
P.353	0 ... 1 kPa	0 ... 2.5 kPa	85 kPa	135 kPa	n.r.
P.373	0 ... 5 kPa	0 ... 10 kPa	85 kPa	135 kPa	n.r.
P.393	0 ... 25 kPa	0 ... 50 kPa	200 kPa	400 kPa	n.r.

Further pressure ranges on request.

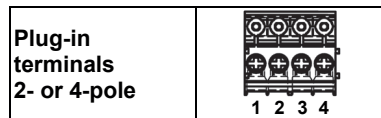
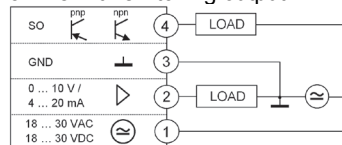
### Order matrix

Configurable pressure range	<b>- 25 ... 0 ... +25 Pa</b> <b>- 50 ... 0 ... +50 Pa</b> <b>- 100 ... 0 ... +100 Pa</b> <b>0 ... 25 Pa ( 0.25 mbar)</b> <b>0 ... 50 Pa ( 0.5 mbar)</b> <b>0 ... 100 Pa ( 1.0 mbar)</b> <b>0 ... 250 Pa ( 2.5 mbar)</b> <b>0 ... 500 Pa ( 5.0 mbar)</b> <b>0 ... 1 kPa ( 10 mbar)</b> <b>0 ... 5 kPa ( 50 mbar)</b> <b>0 ... 25 kPa (250 mbar)</b>	<b>(-0.25 ... 0 ... +0.25 mbar)</b> <b>(-0.5 ... 0 ... +0.5 mbar)</b> <b>(-1.0 ... 0 ... +1.0 mbar)</b> <b>0 ... 50 Pa ( 0.5 mbar)</b> <b>0 ... 100 Pa ( 1.0 mbar)</b> <b>0 ... 250 Pa ( 2.5 mbar)</b> <b>0 ... 500 Pa ( 5.0 mbar)</b> <b>0 ... 1000 Pa ( 10 mbar)</b> <b>0 ... 2.5 kPa ( 25 mbar)</b> <b>0 ... 10 kPa (100 mbar)</b> <b>0 ... 50 kPa (500 mbar)</b>	P-Series.	E	X				
Pressure unit	mbar	Pa						1	
Output signal and version	<b>0 ... 10 V</b> or 4 ... 20 mA, 3-wire, with switching output <b>0 ... 10 V</b> or 4 ... 20 mA, 3-wire, without switching output <b>4 ... 20 mA</b> or 0 ... 10 V, 3-wire, with switching output <b>4 ... 20 mA</b> or 0 ... 10 V, 3-wire, without switching output							3	1
Display	no display with LED-display, 4 digits								7
Electrical connection	via plug-in terminals via circular connector M12 / 4-pole								3
									D
									0
									1
									4b
									8b

Factory settings printed in bold type.

### Terminal assignments

#### 3-wire with switching output

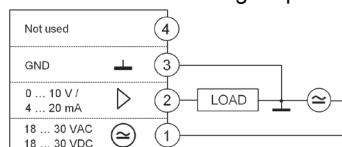


4	Switching output (SO)
3	Ground (GND)
2	Output signal (0...10 V / 4...20 mA)
1	Supply voltage (18...30 VAC / VDC)



2	Switching output (SO)
3	Ground (GND)
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#### 3-wire without switching output

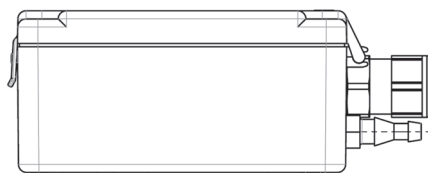
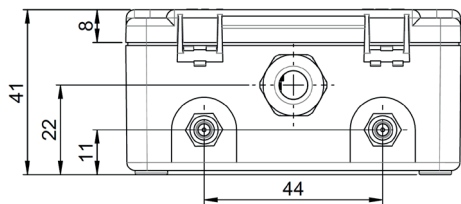


4	Not used
3	Ground (GND)
2	Output signal (0...10 V / 4...20 mA)
1	Supply voltage (18...30 VAC / VDC)

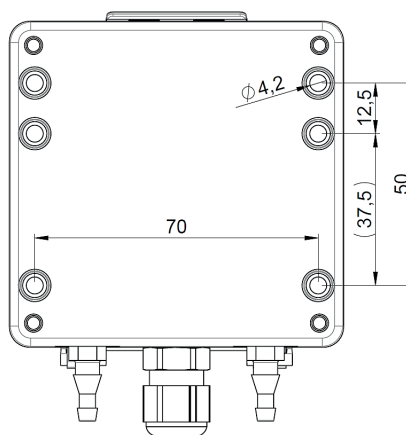
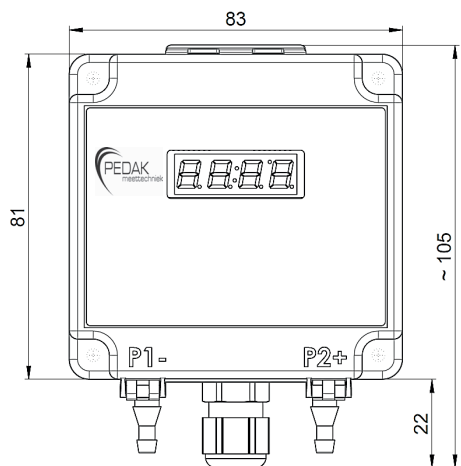
2	Not used
3	Ground (GND)
4	Output signal (0...10 V / 4...20 mA)
1	Supply voltage (18...30 VAC / VDC)

# Dimensional Drawings

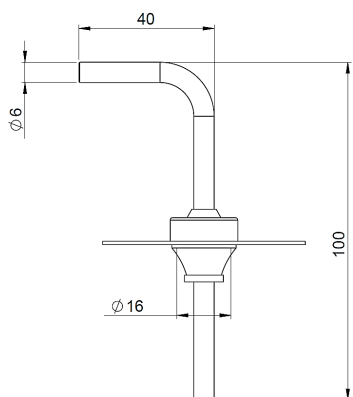
P-Series with cap nut conduit AF15



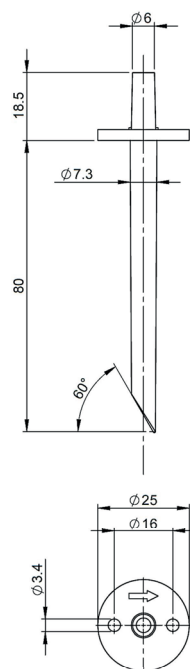
Drilling template



ASD06



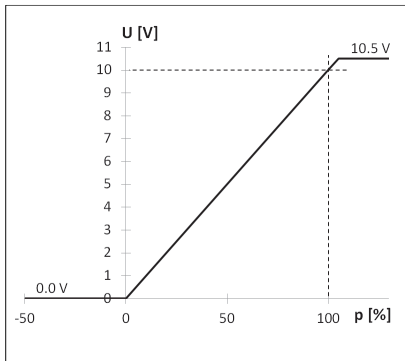
ASD06M1



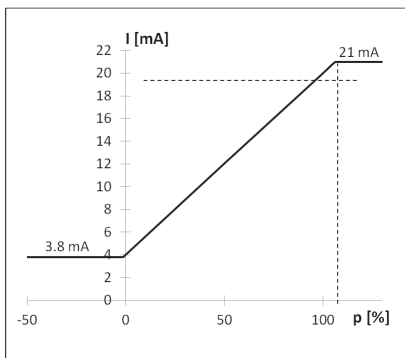
## Analog output signal

Linear (Jumper 3 closed)

0 – 10 V

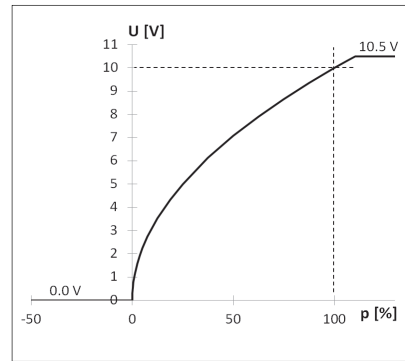


4 – 20 mA

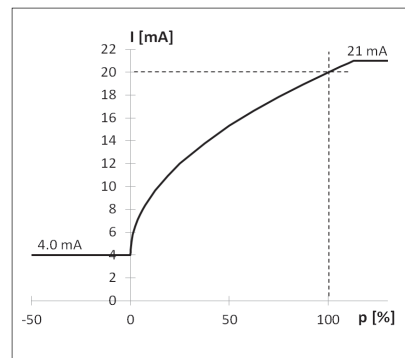


Square root (Jumper 3 open)

0 – 10 V



4 – 20 mA



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