Combined Pressure Transmitter PDP

As of 08-03-2017

Combined pressure sensors of the PDP series allow simultaneous measurement of differential and static absolute pressure or gauge pressure.

- Combined measuring of differential and static pressure
- Differential pressure ranges from 1 up to 20 mbar
- Static pressure ranges from 70 mbar up to 7 bar
- Bi-directional differential pressure measurement (optionally)
- Voltage output, Current output or RS485 Interface
- Networking with up to 32 transmitters (RS485)

Technical Description

PDPs are qualified in particular for flow measurement in combination with Laminar Flow Elements or other effective differential pressure methods. During calibration of the PDP sensors a regression polynomial is calculated. This is used to compensate the remaining linearity deviations of the Controller S320 enhancing accuracy to ±0,1 % F.S, minimum 0,5 Pa.

Specifications

Sensor Type and Measuring Range

Differential:	1 / 2 / 10 / 20 mbar
Gauge:	0,07 / 0,35 / 1 / 2 / 4 / 7 bar
Absolute:	1 / 2 / 4 / 7 bar

Linearity Deviation

Differential Pressure Sens.:	typ. ±0,5 % F.S.
Gauge Pressure Sensors:	typ. ±0,1 % F.S.
Absolute Pressure Sensors:	typ. ±0,1 % F.S.

Repeatability: ±0.05 % F.S., Hysteresis: ±0.05 % F.S.

Temperature Conditions

Storage:	-20 .. +60 °C
Operating:	0 .. +50 °C

Media Compatibility

Clean, dry, non-condensing, non-corrosive and non-inflammable gases and air.

Overrange Limits

Differential Pressure Sensors: 6 bar static or when pressurized on high side only and 5 times the upper range limit when pressurized on low side only.
Gauge/Absolute Pressure Sensors: twice the upper range limit, max. 6 bar.

Enclosure

Dimensions	Clip-on H.:	66 x 116 x 56 mm (HxWxD)
	Flange H.:	66 x 140 x 56 mm (HxWxD)
Material	Housing:	Aluminium
Weight	Total:	≈ 550 g

Ingress Protection: IP 54

Process Connections

Clip-on Housing: 2 x 1/4" NPT**f**, nickel-plated brass
Flange Housing: 2 x G 1/4"**f**, nickel-plated brass

Electrical Connections (Outputs)

2 x Voltage (-2 .. +2 V) **or**	7-pole pins for V70 (m)
2 x Current (4 .. 20 mA) **or**	5-pole pins for V50 (m)
1 x Serial Data (RS485)	8-pole pins for V80 (m)

Power Supply

24 VDC (19 to 29 VDC), approx. 30 mA (RS485: ≈ 50 mA)
Supply with connection cable with jack socket.

Special Features

Response Behaviour (analogue)

T90: approx. 5 ms according to pneumatic connection.

Measuring Time (RS485)

Integration Interval: 10 ms to 100 ms are selectable.

Ordering Information

Part No. Structure: PDP*aaabbc-de*

aaa	**Measuring Range Static Pressure**	
000	- .. -	Without static pressure
001	0 .. 70 mbar	Gauge pressure
003	0 .. 350 mbar	Gauge pressure
010	0 .. 1000 mbar	Gauge or absolute pressure
020	0 .. 2000 mbar	Gauge or absolute pressure
040	0 .. 4000 mbar	Gauge or absolute pressure
070	0 .. 7000 mbar	Gauge or absolute pressure

bb	**Measuring Range Differential Pressure**	
01	0 .. 1 mbar	Differential pressure
02	0 .. 2 mbar	Differential pressure
10	0 .. 10 mbar	Differential pressure
20	0 .. 20 mbar	Differential pressure

c	**Sensor Equipment**
R	Differential and gauge sensor
A	Differential and absolute sensor
D	Differential sensor **only**

d	**Housing Option**
A	Clip-on housing (cf. picture)
F	Flange housing (for panel mounting)

e	**Output Option**	**Signal**
U	Voltage:	0 .. 1,6 V, 4-wire, R_L > 100 kΩ
N	Current:	4 .. 20 mA, 4-wire, R_L < 500 Ω
S	Data:	Serial interface (RS485)

Only the output options U & S allow also bidirectional differential pressure measurement (±1 / ±2 / ±10 / ±20 mbar).
Special adjustment and calibration on request.

Accessories	**Part No.**
PDP-SVK Pneumatic quick connect coupling DN5 x 1/4"NPTa	PDP-21KA-AN13-MPNS-01
PDP-SVN Pneumatic-quick-connector DN5 x G1/4"a	PDP-21SF-AW13-MXN

Cable for PDP Sensor 2,5m long*	**Part No.**
Current output: V50 coupling and V50 connector	LTG-PDPI-40KV50-025P-40SV50
Voltage output: V70 coupling and V70 connector	LTG-PDPU-40KV70-025P-40SV70
Voltage output: V70 coupling and 2x4-pin MC4 connector for slot card	LTG-PDPU-40KV70-025P-00MC24

*Replace 025 by 050 or 100 to get a 5/10 m long cable.
Additional accessories or services on request.

TetraTec Instruments GmbH
Gewerbestr. 8, 71144 Steinenbronn, Germany
Phone: +49 (0)7157/5387-0, Fax: +49 (0)7157/5387-10
Email: info@tetratec.de, www.tetratec.de