

Technical Datasheet



D Series

Compact Pressure Transmitter

Model: DPCE-28

Key Features

- Compact design and robust construction.
- 4-20mA two-wire or 0-10 V output.
- Any range from 0/25 mbar up to 0/1000 bar.
- Gold plated diaphragm.
- Hastelloy C276 wetted parts option.



Product applications

The DPCE-28 D-Series is suitable for a wide range of applications for measuring:

- Pressure (Gauge, vacuum & absolute)
- Level

The choice of models available ensures that the DPCE-28 D-Series is suitable for use in:

- Corrosive atmospheres
- Resistant to chemical attack

Series Overview

- The D-Series pressure, differential pressure and temperature transmitters offer customers cost-effective and accurate solutions to their individual process requirements.
- Available with a wide range of process connections and easily configurable via the D-Soft software, the D-Series can be used for a variety of applications when pressure, differential pressure, temperature, level or flow measurements are needed.

Other products in the series include:

- DPRE-28 Differential Pressure Transmitter



How can we help you?

Delta Controls' offers fast, efficient and knowledgeable support when and where you need it. Please visit our web site at www.delta-controls.com to find your local support centre or call us on:

+44 (0) 1252 729140

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Application & Construction

The DPCE-28 Pressure Transmitters are suitable for measurement of the pressure, underpressure and absolute pressure of gases, vapours and liquids. The active sensing element is a piezoresistive silicon sensor separated from the medium by a diaphragm and by a specifically selected type of manometric liquid. The electronics is placed in a casing with a degree of protection from IP 65 to IP 68, depending on the type of electrical connection applied.

Calibration

Potentiometers can be used to shift the zero position and the range by up to $\pm 10\%$, without altering the settings.

Installation

The transmitter is not heavy, so it can be installed on the installation without additional mounting bracket. When the pressure of steam or other hot media is measured, a siphon or impulse line should be used. The needle valve placed upstream the transmitter simplifies installation process and enables the zero point adjustment or the transmitter replacement.

When the special process connections are required for the measurement of levels and pressures (e.g. at food and chemical industries), the transmitter is provided with a Delta diaphragm seal. Installing accessories and a full scope of diaphragm seals are described in detail in the further part of the catalogue.

Measuring Ranges

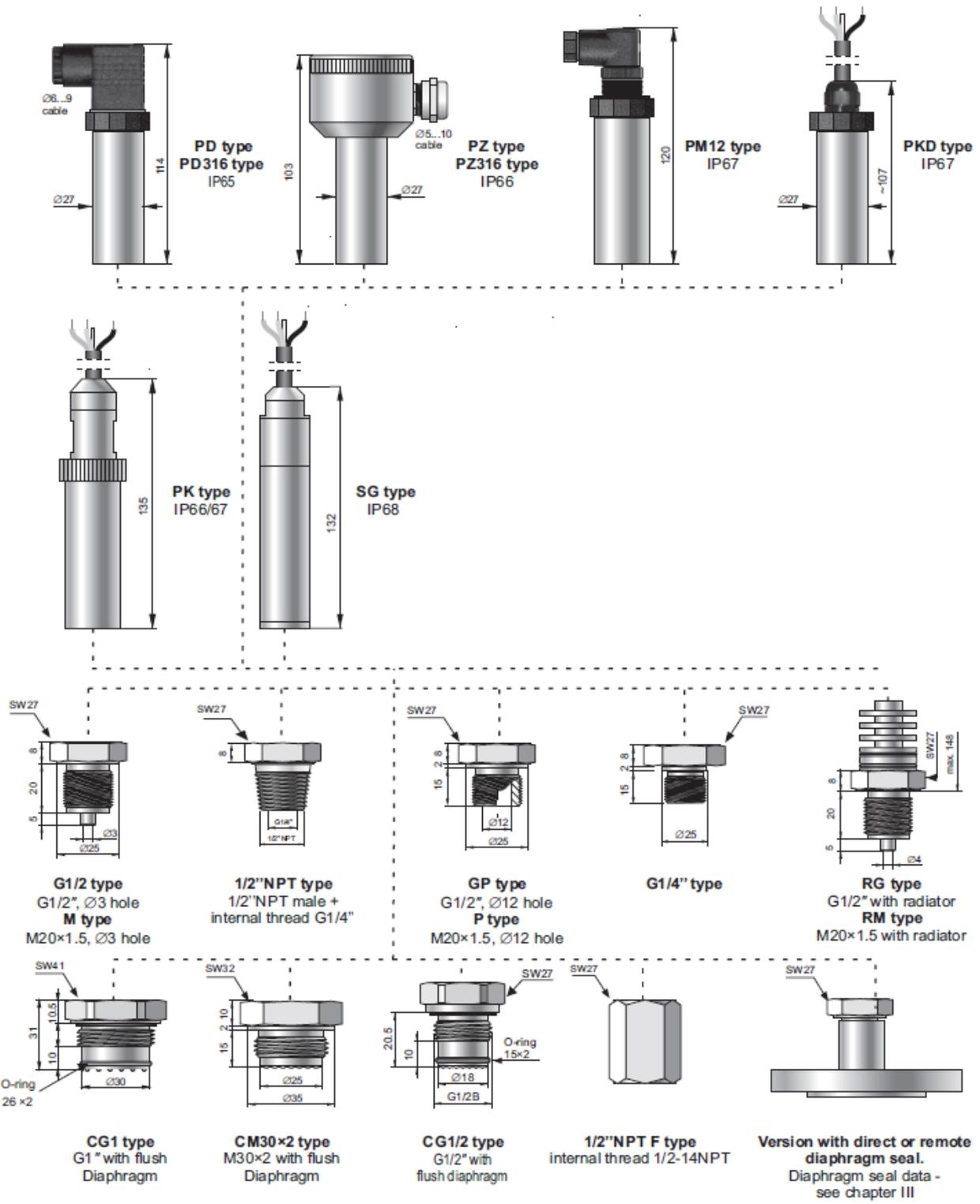
Any measuring range 0...25 mbar + 0...1000 bar (over pressure, under pressure); 400 mbar + 80 bar (absolute pressure)

	Measuring range			
	25 mbar	100 mbar	400 mbar	0...1 bar + 1000 bar
Overpressure Limit (repeated, without hysteresis)	1 bar	1 bar	2,5 bar	4 x range; max 1200 bar
Damaging Overpressure	2 bar	2 bar	2,5 bar	8 x range; max 2000 bar
Accuracy	0,6%	0,3%	0,2% (0,16% - special version)	
Long term stability	0,6% / year	0,2% / year	0,1% / year	
Thermal error	Typically 0,5% / 10°C Max 0,6% / 10°C	Typically 0,3% / 10°C Max 0,4% / 10°C		Typically 0,2% / 10°C Max 0,3% / 10°C

Technical Data

Hysteresis, repeatability	0,05%	Output signal	4...20 mA, two wire transmission
Response time	<120ms Version TR: <30ms	Material of wetted parts	0...10V 316Lss, Hastelloy C 276, Au
Thermal compensation range	-10...80°C	Material of casing	304ss, 316Lss
Operating temperature range (ambient temp.)	-40...80°C	Power supply	output 4..20mA 8...36 V DC version TR, 10,5...36 V DC output 0..10V 13...30 VDC
Medium temperature range	-40...130°C	Error due to supply voltage changes	0,005%/ V
over 130°C – measurement with use an impulse line or diaphragm seals		Load resistance	$R[\Omega] \leq \frac{(U_{sup}[V]-8V)}{0,02A}$
CAUTION: the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter			

Dimensions



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How to Order

Model	Code	Description
DPCE-28		Pressure transmitter
Versions more than one option is available	/Tlen..... /H..... /D..... /0,16%..... /TR.....	For oxygen service (sensor filled with Fluorolube fluid), only M and G1/2 connection Version with high overload capacity and integrated circuit offering excess voltage protection Version with hydraulic gland for high-pressure hydraulic systems Accuracy <0,16% (available for ranges >400mbar) Response time <30ms; only 4...20mA output
Measuring range	/...+... (required units)	Measuring range
Analogue output signal	(without marking) /0+10V..... /0+2,5V..... /0+3,3V..... /0+5V..... /0,5+4,5V.....	4...20mA / power supply 8...36VDC (Ex 9...28VDC) 0...10VDC /power supply 13...30VDC 0...2,5VDC / power supply 3,3VDC 0...3,3VDC / power supply 4,5VDC 0...5VDC / power supply 8...14VDC 0,5...4,5VDC / power supply 8...14VDC
Casing, electrical connection	/PD..... /PD316..... /PZ..... /PZ316..... /PM12..... /PK..... /PKD..... /SG..... /SGM.....	304SS housing, IP65, DIN43650 connector 316SS housing, IP65, DIN43650 connector 304SS housing, IP66, packing gland M20x1,5 316SS housing, IP66, packing gland M20x1,5 Housing IP67 with thread M12x1 and connector 304SS housing, IP66/67, cable electrical connection (3 m of cable in standard) 304SS housing, IP67, cable electrical connection (3 m of cable in standard) 316LSS housing, IP68, cable electrical connection (3 m of cable in standard) 316LSS housing, IP68, cable electrical connection (3 m of cable in standard)
Process connections	/M..... /M(Au)..... /G1/2..... /G1/2(Au)..... /G1/4..... /P..... /P(Hastelloy)..... /GP..... /GP(Hastelloy)..... /CM30x2..... /CM30x2(Hastelloy)..... /CG1"..... /CG1"(Hastelloy)..... /CG1/2"..... /RM..... /RG..... /1/2"NPTM..... /1/2"NPTF..... /code of diaphragm seal.....	Thread M20x1,5 (male) with Ø3 hole, wetted parts SS316L Thread M20x1,5 (male) with Ø3 hole, gold plated diaphragm (range no. 1, 2, 3, 4) Thread G1/2" (male) with Ø3 hole, wetted parts SS316L Thread G1/2" (male) with Ø3 hole, gold plated diaphragm (range no. 1, 2, 3, 4) Thread G1/4" (male), wetted parts SS316L (Pressure limits: min. 10mbar / max. 400bar) Thread M20x1,5 (male) with Ø12 hole, wetted parts SS316L Thread M20x1,5 (male) with Ø12 hole, wetted parts Hastelloy C 276 Thread G1/2" (male) with Ø12 hole, wetted parts SS316L Thread G1/2" (male) with Ø12 hole, wetted parts Hastelloy C 276 Thread M30x2 with flush diaphragm, wetted parts SS316L (Pressure limits: min. 0,1bar / max. 70bar) Thread M30x2 with flush diaphragm, wetted parts Hastelloy C 276 (Pressure limits: min. 0,1bar / max. 70bar) Thread G1" with flush diaphragm, wetted parts SS316L (Pressure limits: min. 0,1bar / max. 70bar) Thread G1" with flush diaphragm, wetted parts Hastelloy C 276 (Pressure limits: min. 0,1bar / max. 70bar) Thread G1/2" with flush diaphragm, wetted parts SS316L (Pressure limits: min. 2,5bar / max. 300bar) Thread M20x1,5 with radiator, wetted parts SS316L (Pressure limits: min. 160mbar / max. 40bar, max. temperature up to 170°C) Thread G1/2" with radiator, wetted parts SS316L (Pressure limits: min. 160mbar / max. 40bar, max. temperature up to 170°C) Thread 1/2"NPT Male, wetted parts SS316L Thread M20x1,5 with adapter to 1/2"NPT Female, wetted parts SS316L Diaphragm seal (see chapter of diaphragm seals)
Accessories	/MT.....	Stainless Steel Tag plate mounted on wire
Other specification	/.....	Description of required parameters (e.g. non-standard pr. connection G3/4", M22x1,5)

Example: Pressure transmitter, range 0 ... 1 bar absolute pressure, inverted output (20..4mA), housing PK with cable L=10m, process connection G1/2"

DPCE-28/1±0 bar ABS/PK/K=10m/G1/2

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