



# **UK** Flowtechnik

Specialists in flow metering, pumps, couplings  
and process measurement equipment

## **PRODUCT DATASHEET**

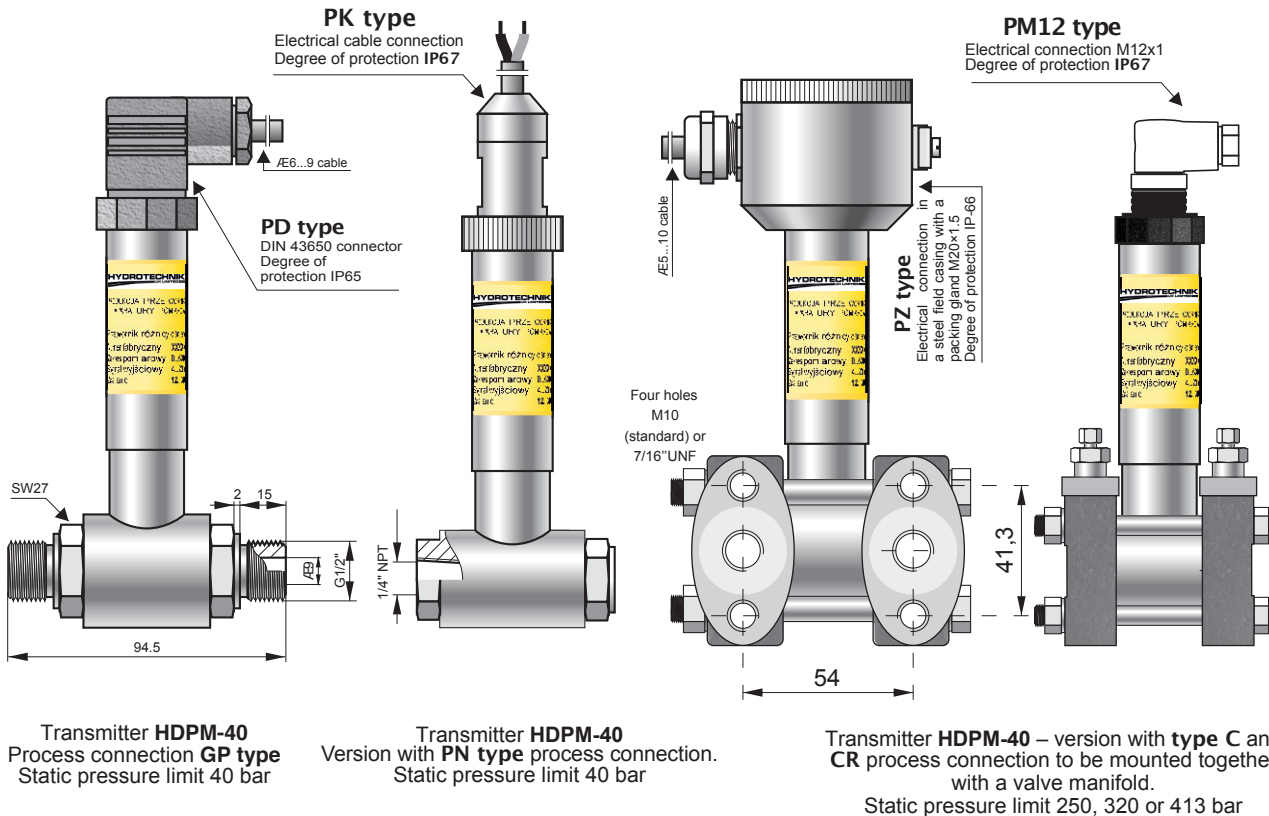
UK Flowtechnik Ltd  
1 Central Park  
Lenton Lane  
Nottingham  
NG7 2NR  
United Kingdom

Phone +44 (0) 11 59 01 71 11  
UK Free Phone 0800 4334 770  
Fax +44 (0) 11 59 86 88 75

[sales@ukflowtechnik.com](mailto:sales@ukflowtechnik.com)  
[www.ukflowtechnik.com](http://www.ukflowtechnik.com)

## DIFFERENTIAL PRESSURE TRANSMITTER HDPM-40

- ✓ Overloads up to 413 bar total static pressure
- ✓ Accuracy 0,25%
- ✓ Any range from 0...16 mbar up to 0...25 bar
- ✓ Intrinsic safety certificate (ATEX, IECEx)
- ✓ Marine certificate – DNV, BV



### Application

The HDPM-40 transmitter is applicable to the measurement of differential pressure of gases, vapours and liquids.

### Construction

The active element is a piezoresistance silicon sensor separated from the medium by separating diaphragm and a specially selected type of manometric fluid. The special design of the active sensing element ensures withstanding the pressure surges and overloads of up to 413bar. The electronics is placed in a casing with a degree of protection IP65, IP67, depending on the type of electrical connection applied.

### Calibration

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

### Installation

The transmitter with P type process connection is not heavy, so it can be installed directly onto impulse lines. For fitting in any desired position on a A25 pipe the Aplisens mounting bracket (FI25 mounting bracket, page IV/ 5) is recommended.

The version with C type process connection can be fitted directly to a 3- or 5-valve manifold. The factory-mounted transmitters with VM type valve manifold (page IV/ 2) are recommended. A transmitter without a valve manifold can be fitted in any position on a 2\" pipe or on a wall using the C-2\" mounting bracket (page IV/ 5).

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 an Aplisens diaphragm seal. The differential pressure transmitters with diaphragm seals are described in detail in the further part of the catalogue.

### Technical data

**Materials:**Wetted parts: type GP process conn. SS316L  
type P(H) process conn. SS316L or Hastelloy C276  
type C process conn. SS316L  
Diaphragm SS316L, Hastelloy C276, Au  
Casing SS304  
Option: SS316

**Hysteresis, repeatability** 0,05%  
**Thermal compensation range:** 0÷70 oC  
**Operating temperature range:** -25÷+80 oC  
**Medium temperature range:** -25÷120 oC (direct measurement)  
Over 120oC– measurement with use an impulse line or diaphragm seals

**CAUTION:** the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter.

## Technical data

Any measuring range 0...16 mbar ÷ 0...25 bar

	Measuring Range				
	25 mbar	100 mbar	1 bar	2 bar	25 bar
Overpressure Limit Static Pressure Limit (repeated, without hysteresis)	250 bar (option 413 bar) (40 bar for GP type process connection)				
Accuracy	0,4%	0,4%	0,25%		
Long term stability	0,6% / year	0,2% / year	0,1% / year		
Thermal error	Typically 0,6% / 10oC max 1% / 10oC	Typically 0,3% / 10oC max 0,4% / 10oC	Typically 0,2% / 10oC max 0,3% / 10oC		
Zero shift error for static pressure*	0,1% / 10 bar				

\* Zeroing the transmitter in conditions of static pressure can eliminate this error.

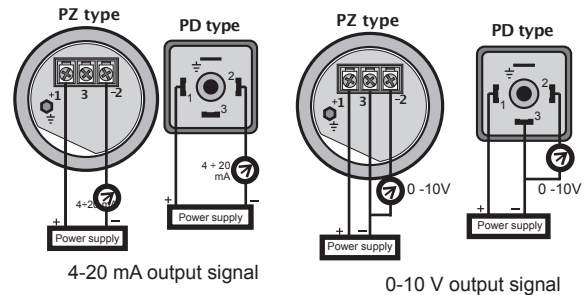
**Output signal** 4...20 mA, two wire transmission  
0...10 V, three wire transmission

### Power supply




**output 4...20 mA:** 8...36 VDC (Ex 9...28 VDC)  
version TR: 10,5...36 VDC  
(Ex 12...28 VDC)

**output 0...10 V:** 13...30 VDC

## Electrical diagrams



## Ordering procedure

Model	Code	Description
HDPM-40		Differential pressure transmitter
Versions, certificates	/Exia.....	<div> <div>                      I M1 Ex ia I Ma                      II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb I                      1D Ex ia IIIC T110°C Da                 </div> <div>                     Ex ia I Ma                      Ex ia IIC T4/T5/T6 Ga/Gb                      Ex ia IIIC T110°C Da                 </div> </div> <p>Only for transmitters with 4...20mA output For PM12, PKD version:</p> <ul style="list-style-type: none"> <li>•  II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb</li> <li>• <b>IECEEx</b> Ex ia IIC T4/T5/T6 Ga/Gb</li> </ul> <p>For ALW version:</p> <ul style="list-style-type: none"> <li>•  II 1/2G Ex ia IIC T4 Ga/Gb</li> <li>• <b>IECEEx</b> Ex ia IIC T4 Ga/Gb</li> </ul> <p>For ALM version: Exia not available</p>
	/Exia (IECEEx).....	
	/MR.....	
	/Tlen.....	
more than one option is available	/TR.....	Marine certificate – DNV, BV For oxygen service (sensor filled with Fluorolube fluid), only M and G1/2 connection Response time <30ms; only 4...20mA output
Measuring range	/...+... [required units]	Measuring range in relation to 4mA and 20mA (or 0 and 10V) output.
Analogue output signal	(without marking) /0+10V.....	4...20mA / power supply 10,5...36VDC (Ex 12...28VDC) 0...10VDC /power supply 13...30VDC
Measuring set range	/...+... [required units]	Calibrated range in relation to 4mA and 20mA (or 0V and 10V) output
Casing, electrical connection	/PD.....	Housing IP65 with DIN43650 connector
	/PZ.....	304SS housing, IP66, packing gland M20x1,5
	/PZ316.....	316SS housing, IP66, packing gland M20x1,5
	/PM12.....	304SS housing, IP67 with thread M12x1 and connector with cable (3 m in standard)
	/PK12.....	304SS housing, IP67, cable electrical connection (3 m of cable in standard)
	/ALW *.....	Aluminium housing, local display, IP65, DIN43650 connector
Process connections	/ALM *.....	Aluminium housing, local display, IP65, DIN43650 connector
	/C.....	Thread 1/4NPT F on the cover flanges cover flanges material SS316. Allows mounting with a valve manifold. Process connection of cover flange: M10 (option /C(7/16) - 7/16"UNF acc. to IEC 61518)
	/CR.....	C-type process connection rotated 90°
	/GP.....	Thread G1/2" BSP (male) Thread 1/4"NPT (female)
Material of diaphragms (refers only to C, CR, P, PN process connection)	(without marking).....	Diaphragms material SS316L
	/H.....	Diaphragms material Hastelloy C276
	/Au.....	(/P and /PN – all wetted parts in Hastelloy C276 on request) Gold plated diaphragms
Gasket (refers only to C, CR process connection)	(without marking).....	FPM Viton
	/NBR.....	NBR
	/PTFE.....	PTFE
	/C-2".....	Mounting bracket for 2" pipe (to C process conn.), mat. zincd steel
	/C-2"(SS).....	Mounting bracket for 2" pipe (to C process conn.), mat. Stainless Steel
	/F125.....	Mounting bracket for 1" pipe (to P process conn.), mat. Stainless Steel
	/RedSpaw P.....	Connector to weld impulse pipes dia. 12 and 14 mm, material 15HM(SO) or SS316(S). Only process connection GP type
	/RedSpaw C.....	Connector to weld impulse pipes dia. 12 and 14 mm, material 15HM. Only process connection C type.
	/Red d/P 1/2".....	Adapter for differential pressure transmitters with C type process connection, output thread 1/2NPT F. Material SS316L
Other specification	/.....	Description of required parameters