Capsule Gauge for Low Pressure

With integrated pressure transmitter DMU, model DIGPTM
Pressure ranges 0 – 2.5 mbar to 0 – 600 mbar

KPCh 100 – 3 with DIGPTM

Applications

Capsule gauges for low pressure with integrated ALL-IN-ONE precision transmitter are used to measure and monitor gaseous, non-aggressive media.
The possibility of digital crosslinking via RS-485 interface, the 4…20 mA analogue output or the use of the two integrated switching outputs extend the application areas of the combined device for the solution of various MSR applications.
In addition to the electronic remote data transmission of the measured values, the classic mechanical display of the device provides a fast on-site indication of the measurand. At the same time it is a redundant measuring method to the transmitter.
Both switching outputs are freely adjustable regarding their switching function, switch points and switching hysteresis via USSCOM software. Furthermore, it has a software low-pass, which efficiently suppresses pulsation of the medium.
Active temperature compensation guarantees the compliance with the error class in the entire rated temperature range without any additional errors.
The USSCOM software is also used to display the measured pressure and temperature values of up to 254 crosslinked transmitters on one PC.

- Reference and test device
- Process gas supply
- Leak test
- Environmental technology
- Pressure switch
- Ventilation technology
- Combustion controller
- Research
- Analysis technology

Standard Versions DIGPTM

Measuring Cell/Sensor
Piezoresistive full bridge

Pressure Ranges/Overload Capability

Span (mbar)	Measurement accuracy (% FS)	Overload limit (mbar)
2.5	1.0	3.25
6	0.5	7.8
16	0.25	20.8
40	0.25	52
100	0.25	130
250	0.25	325
600	0.25	780

Burst pressure: min. 5 times PN

Output signal

Supply voltage	Load impedance
4…20 mA 2-wire digital RS-485	12…24 V DC (±25 %)	$R_B \leq \frac{U_B - 8\ V}{0.023\ A}$

2 independent, freely programmable switching outputs (PNP switch with NC function) for ohmic, capacitive and inductive load each 0.2 A, short-circuit proof, voltage drop (at I_{max} = 0.2 A) ≤ 2 V; Switching function: breaking contact, making contact, window or inverted window adjustable via optional software USSCOM

Measurement Accuracy
See table
In the entire rated temperature range (including non-linearity, hysteresis and non-repeatability)

Temperature Limitations
Transport and
storage temperature: –40 °C to +85 °C (–40 °F to +185 °F)
Rated temperature: 10 °C to 40 °C (50 °F to 104 °F)

Reference Temperature
+20 °C (+68 °F)

Reverse Polarity Protection
Available

Electrical Connection
Universal plug connector, on the right side

Position of Installation/Position of Connection
Any

Degree of Protection (DIN EN 60 529/IEC 529)
IP54

Installation Option

The installation is possible for the following capsule gauges for low pressure:
Models KPCh 100 – 3
(technical data see page 2)

Ordering Information, Options

See page 4

Further Options

- Switching output adjusted ex works if switching function, switch points and switching hysteresis are specified
- Software USSCOM for visualisation of the measuring data and administration of the transmitter
- RS-485/USB converter with integrated voltage converter 5 V/12 V; 0.15 A

Special Versions Upon Request

- Other measuring ranges
- Vacuum, compound and differential pressure version
- Version with increased accuracy
- Other rated temperature ranges

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Standard Version Capsule Gauge for Low Pressure

Standard Versions

Information on general and metrological features (e.g. load limits/temperature resistance) and standard pressure ranges/scale divisions of the capsule gauge models KPCh 100 can be found in model overview 6000. In data sheet 6201, the standard version is described in detail.

Accuracy (DIN EN 837-3)
Class 1.6

Case
With bayonet ring, stainless steel 304 (1.4301)

Degree of Protection (DIN EN 60 529/IEC 529)
IP54

Nominal Case Size
100 mm (4")

Wetted Parts

Connection:	stainless steel 316L (1.4404)
Diaphragm capsule:	stainless steel 316L (1.4404)
O-ring sealing:	FPM

Case Configuration

Connection:	screwed
Position of the connection:	bottom connection
Mounting device:	without

Pressure Ranges (DIN EN 837-1)
0 – 2.5 mbar to 0 – 600 mbar

Process Connection
G ½ B

Window
Laminated safety glass

Movement
Stainless steel

Dial
Aluminum white, scale black

Pointer
Aluminum black

Ordering Information, Options

See page 4

Further Options

- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock or other than vertical installation (90°)
- GOST version for Russia and Kazakhstan

Special Versions Upon Request

- Other process connections
- Other pressure ranges and/or special scales, e.g. dual scale bar/psi, coloured fields or ranges, dial inscriptions, negative scale
- Case parts 316L (1.4404)
- Other position of connection
- Increased measurement accuracy

Accessory

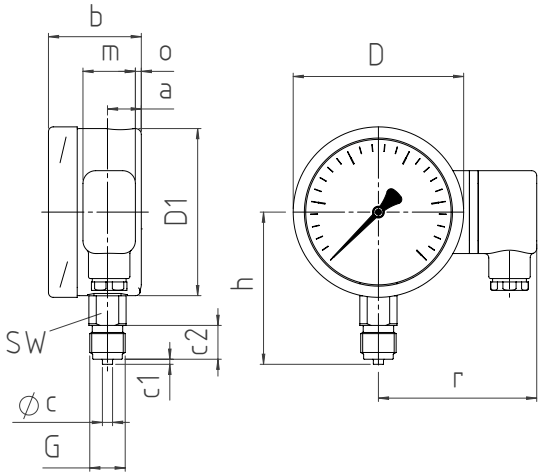
See catalogue heading 11

Case Configuration, Dimensional Data and Weight, Wiring Diagram

Bottom Connection

without mounting device

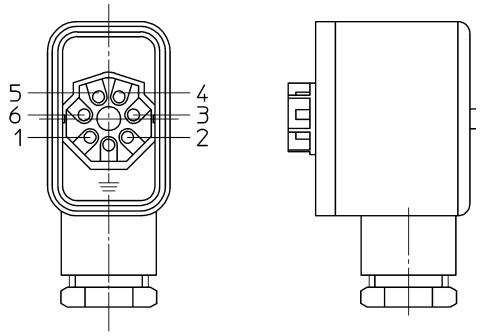
without code letters



Dimensional Data (mm/**inch**) and Weight (kg/**lb**)

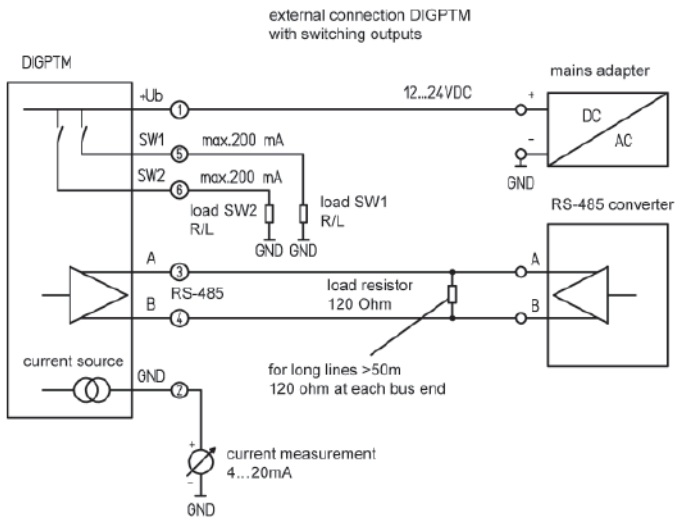
	a	b	c	c1	c2	D	D1	G	h	m	o	r	SW	approx. weight
KPCh 100 – 3 DIGPTM	20 **0.79**	55 **2.17**	6 **0.24**	3 **0.12**	20 **0.79**	101 **3.98**	99 **3.9**	G ½B / M20x1.5	87 **3.43**	31 **1.22**	3.5 **0.14**	94 **3.7**	22 **0.87**	0.7 **1.54**

Plug Connector



1	$+U_b$
2	GND, I_{out}
3	RS-485 A
4	RS-485 B
5	PNP switch 1
6	PNP switch 2

Wiring Diagram



Ordering Information and Options

Basic Model:	**Capsule Gauge for Low Pressure With Bayonet Ring Case**			**KPCh**
Case filling:	without			without code letters
Nominal case size:	case Ø 100 mm (4")			**100**
Wetted material:	stainless steel			**– 3**
Case configuration:	case / connection	screwed		without code letters
	position of the connection	bottom connection		without code letters
	mounting device	without		without code letters
Pressure range:	see data sheet 6201		e.g.	**0 – 600 mbar**
Process connection:	standard thread	G ½ B		**G ½ B**

Please add

	Pressure Transmitter	**DIGPTM**
Output signal:	see page 1	**4…20 mA**

Example: **KPCh 100 – 3, 0 – 600 mbar, G ½ B, with DMU model DIGPTM, 4…20 mA**

Options:	adjustable pointer	made of aluminum	
	red mark	on the dial	
	plastic clip	red or green, external at the bayonet ring	
	stationary red pointer	on the dial adjustable with removable ring	
	stationary red pointer	adjusting mechanism stainless steel with window made of polycarbonate, screwed	
		adjustable externally	removable key
			non-removable key
	max. drag indicator measuring spans from 250 mbar clockwise pointer movement; for vibration-free application	adjusting mechanism stainless steel with window made of polycarbonate, screwed	
		adjustable externally	removable key
			non-removable key
	special adjustment		
	blow-out device Ø 1" (25 mm) in the back of the case		
	case polished		
	bayonet ring polished		
	silicone-free version		
	restrictor screw in the pressure inlet port	orifice Ø 0.3 mm (0.01")	
	instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17"), wire mounting	
		sticker on the case coverage	
	preset switching outputs	specification per switch:	
		- switching function	
		- switch points	
		- switching hysteresis	

Special Versions: Please describe your requirements in cleartext!