

Pressure Transmitter for small pressure, vacuum and differential pressure: Models DS1 and DS2

Rel. 20200511

DS1

DS2

Pressure Transmitter DS1 and DS2

- for small pressure, vacuum and differential pressure
- Ranges from 0...0.25 mbar to 0...1000 mbar
- Model DS1 also for absolute pressure 700...1100 mbar

The pressure transmitter models **DS1** and **DS2** measure differential pressure, gauge pressure or vacuum, optional velocity of flow. The measured values are transmitted to voltage (0...10 V) or current (4...20 A), optional as frequency signal (0...10 kHz).

The version with current output (4...20 mA) is realised in two wire technic.

• The model **DS1** can be supplied with square root output for



measurement of velocity of flow. In this case an orifice plate or a prandtl pipe is to be used (not supplied).

The models **DS1** and **DS2** are using piezoresistive cells to reach a high realiability and precision. The dependence of zero signal from mounting position is very small. The transmitters are housed in a robust aluminium package. This guarantees good EMC properties.

Both models are completed with an electronic signal damping. On request the transmitter can be supplied without signal damping (respons time approx. 50 ms (instead of 2.5 s).

Model	DS1	DS2			
Typical applications:	Control of	airblowers			
	Subervision of airfilters				
	Mechanical and system engineering				
	Environmental technology				
	Liquid level control				
	Pressure control in pressure chambers				
	Medical engineering				
Operating temperature range:	05	50°C			
Hysteresis:	0.3	1%			
	Bereich 50 Pa: 1% / 100 Pa: 0,5%				
Suitable pressure media: Air and all non-aggressive gases					
Electrical connections:	ectrical connections: Srew clamps for 0.141.5 mm ²				
Pressure ports (pneumatic):	2 connections for tube with 4 or 6 mm inner diameter				
Cable gland:	PG 7				
Weight:	approx. 170 g				
Protection degree:	IP 65				
Response time (with damping):	2.5 s (without damping: approx. 50 ms)				
Version with Voltage output	Model DS1-010	Model DS2-010			
Output signal and poser supply:	010 V ($R_L \ge 2k\Omega$; 24 VDC/AC ±10%)				
Pin connections:	Plug 1: +24 VDC				
	Plug 2: Output 010 V				
	Plug 3: GND				
Version with Current output	Model DS1-420	Model DS2-420			
Output signal and poser supply: 420 mA (RB ≤ 400Ω; 1530 VDC)					
Pin connections:					
	Plug 2: Output 420 mA *)				
Options: (extra Charge)					
 Frequency output 010 kHz 					
	 Square root output for flow measurement 				
 Power supply 230 VAC (with larger housing 160 x 80 x 37 mm) 					

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DS1 DS2

Pressure Transmitter for small pressure, vacuum and differential pressure: Models DS1 and DS2



Standard pressure ranges:

Model DS1 (Versions DS1-010 and DS1-420) for differential pressure:						
Pressure	Pressure	Over	Max. error	Max. error	Long time	Repeata-
range	range	pressure	of linearity	of temperature	stability	bility
[mbar]	[kPa]	[mbar]	[±% v.E.]	[±% v.E.] 0-50°C	[% FS]/year	[% FS]
00.25	00.025	250	0.5	6	6	4.0
00.5	00.05	250	0.5	4	4	2.0
01	00.1	250	0.8	3	2.5	1.0
02.5	00.25	250	0.8	2	2	0.3
05	00.5	250	0.8	1	1	0.3
Model DS 1 (Versions DS1-010 and DS1-420) for absolute pressure:						
7001100	70110	3-fach	±0.9 mbar	2.3 mbar	0.1	0.1

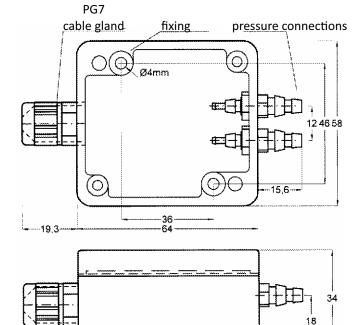
Model DS2 (Versions DS2-010 and DS2-420) for differential pressure:

Pressure	Pressure	Over	Max. error	Max. error	Long time	Repeata-
range	range	pressure	of linearity	of temperature	stability	bility
[mbar]	[kPa]	[mbar]	[±% v.E.]	[±% v.E.] 0-50°C	[% FS] /year	[% FS]
02.5	00.25	350	1.0	3,5	2	0.3
05	00.5	350	1.0	2,5	2	0.3
010	01	350	1.0	1	0.5	0.2
025	02.5	350	0.8	1	0.5	0.1
050	05	350	0.8	1	0.5	0.1
0100	010	350	0.8	1	0.5	0.1
0250	025	4-fold	0.5	1	0.1	0.1
0500	050	4-fold	0.5	1	0.1	0.1
01000	0100	2-fold	0.5	1	0.1	0.1

Model DS2 version DS2-420 with electrn. correction of linearity errors (differential pressure):

0100	010	350	0.2	1	0.1	0.1
0250	025	4-fold	0.2	1	0.1	0.1
0500	050	4-fold	0.2	1	0.1	0.1
01000	0100	2-fold	0.2	1	0.1	0.1

Other pressure ranges available on request.



Models DS1-420 and DS2-420 with current output:

*) Because of a special circuitry, the transmitter cannot be damaged due to a wrong connection. This means, both wires can be changed. Between connection 2 and GND ther must be connected a resistor $R_b \leq 400 \ \Omega$ at power supply +24 VDC.

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