

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 reliability 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 (response 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:	0...50°C	
Hysteresis:	0.1% Bereich 50 Pa: 1% / 100 Pa: 0,5%	
Suitable pressure media:	Air and all non-aggressive gases	
Electrical connections:	Srew clamps for 0.14...1.5 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:	0...10 V ($R_L \geq 2k\Omega$; 24 VDC/AC $\pm 10\%$)	
Pin connections:	Plug 1: +24 VDC Plug 2: Output 0...10 V Plug 3: GND	
Version with Current output	Model DS1-420	Model DS2-420
Output signal and poser supply:	4...20 mA ($R_B \leq 400\Omega$; 15...30 VDC)	
Pin connections:	Plug 1: +24 VDC *) Plug 2: Output 4...20 mA *)	
Options:	(extra Charge)	
	<ul style="list-style-type: none"> • Frequency output 0...10 kHz • Square root output for flow measurement • Power supply 230 VAC (with larger housing 160 x 80 x 37 mm) 	

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 range [mbar]	Pressure range [kPa]	Over pressure [mbar]	Max. error of linearity [±% v.E.]	Max. error of temperature [±% v.E.] 0-50°C	Long time stability [% FS]/year	Repeatability [% FS]
0...0.25	0...0.025	250	0.5	6	6	4.0
0...0.5	0...0.05	250	0.5	4	4	2.0
0...1	0...0.1	250	0.8	3	2.5	1.0
0...2.5	0...0.25	250	0.8	2	2	0.3
0...5	0...0.5	250	0.8	1	1	0.3

Model DS 1 (Versions DS1-010 and DS1-420) for absolute pressure:

700...1100	70...110	3-fach	±0.9 mbar	2.3 mbar	0.1	0.1
------------	----------	--------	-----------	----------	-----	-----

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

Pressure range [mbar]	Pressure range [kPa]	Over pressure [mbar]	Max. error of linearity [±% v.E.]	Max. error of temperature [±% v.E.] 0-50°C	Long time stability [% FS]/year	Repeatability [% FS]
0...2.5	0...0.25	350	1.0	3,5	2	0.3
0...5	0...0.5	350	1.0	2,5	2	0.3
0...10	0...1	350	1.0	1	0.5	0.2
0...25	0...2.5	350	0.8	1	0.5	0.1
0...50	0...5	350	0.8	1	0.5	0.1
0...100	0...10	350	0.8	1	0.5	0.1
0...250	0...25	4-fold	0.5	1	0.1	0.1
0...500	0...50	4-fold	0.5	1	0.1	0.1
0...1000	0...100	2-fold	0.5	1	0.1	0.1

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

0...100	0...10	350	0.2	1	0.1	0.1
0...250	0...25	4-fold	0.2	1	0.1	0.1
0...500	0...50	4-fold	0.2	1	0.1	0.1
0...1000	0...100	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 there must be connected a resistor $R_b \leq 400 \Omega$ at power supply +24 VDC.

