



## Datasheet pressure transmitter type DS1

### Kalinsky Sensor Elektronik GmbH & Co. KG

#### Pressure transmitters

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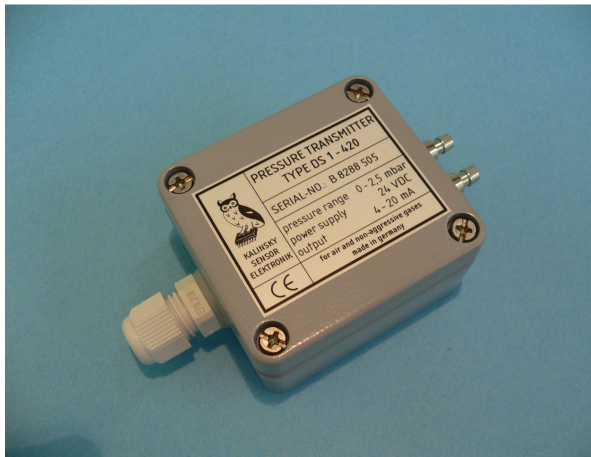
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#### description:

Pressure transmitters series DS1-010 and DS1-420 are for using in air and non aggressive gases. They measure difference- and absolute pressure, relative pressure and optionally velocity of flow. Analog output signal is 0-10 V, 4-20 mA or frequency 0-10 kHz. Pressure transmitter with 4-20 mA output is realised in two wire technic. For measurement of velocity of flow its possible to order square root output. Because of the piezoresistive cell DS1 reach a high reliability and precision. Dependence of zero signal from mounting position is very small. Resistance against overpressure is higher than by using other physical principles. Transmitters are housed in a robust aluminium package. This guarantees good EMC-properties.

Optionally DS1 can be completed with electronic signal damping, power supply 24VAC or 230 VAC.



#### applications:

- control of airblowers
- supervision of airfilters
- mechanical- and system engineering
- environmental technology
- liquid level control
- pressure control and regulation for instance in pressure chambers
- medical engineering

#### order key:

- DS1-010                      0-10V output
- DS1-420                      4-20mA output

#### technical data DS1-010 and DS1-420 (difference pressure):

pressure range [mbar]	pressure range [kPa]	max. over-pressure [mbar]	max. linear error [± % F.S.]	max. temp.-error [± % F.S.] 0-50 °C	long-term-stability [± % F.S./ year]	repeat-precision [± % F.S.]	response time [s] with damping
0 - 0.25	0 - 0.025	250	0.5	6	6	4.0	2.5
0 - 0.5	0 - 0.05	250	0.5	4	4	2.0	2.5
0 - 1	0 - 0.1	250	0.8	3	2.5	1.0	2.5
0 - 2.5	0 - 0.25	250	0.8	2	2	0.3	2.5
0 - 5	0 - 0.5	250	0.8	1	1	0.3	2.5

#### technical data DS1-010 and DS1-420 (absolute pressure):

700-1100	70-110	triple	± 0.9 mbar	2.3 mbar	0.1	0.1	2.5
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Delivery without signal damping is possible. Response time is ca. 50 ms in this case.

For special-ranges please enquire.



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<b>operation temperature range:</b>	-20 bis +50 °C		
<b>medium:</b>	air and all non aggressive gases		
<b>output signals and power supply:</b>	DS 1-010:	0-10 V	$R_L \geq 2 \text{ k}\Omega$ 24VDC/AC+-10%
	DS 1-420:	4-20 mA	$R_B \leq 400 \Omega$ 15-30 VDC
<b>connections:</b>	electrical:	screw clamps for 0.14 - 1.5 mm <sup>2</sup>	
	pneumatical:	2 connections for tube with 4 mm or 6 mm diameter inside	
	cable gland:	PG 7	
<b>connection DS1- 010:</b>	plug:	1 : + 24 VDC 2 : output 0 - 10 V 3 : GND	
<b>connection DS1- 420:</b>	plug:	1 : + 24 VDC * 2 : output 4 - 20 mA *	

\* Because of a additional special circuitry the transmitter can't be damaged due to a wrong connection.

**That means:** both wires can be changed. Between 2 and GND of the power supply must be connected a resistor  $R_B \leq 400 \Omega$  at power supply + 24 VDC.

Option square root output for measurement velocity of flow is available by using larger enclosure.  
Option signal damping is available on demand.

**weight:** ca. 170 g

**protection class:** IP65

