



Datasheet pressure transmitter type DS1

Kalinsky Sensor Elektronik GmbH & Co. KG

Pressure transmitters

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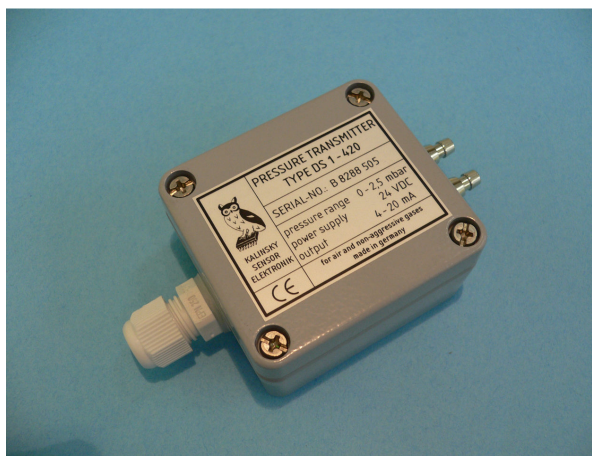
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description:

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 |
|----------|--------|--------|------------|----------|-----|-----|-----|

Delivery without signal damping is possible. Response time is ca. 50 ms in this case. For special-ranges please enquire.



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Datasheet pressure transmitter type DS1

| | | | |
|---|----------------------------------|---|--|
| operation temperature range: | -20 bis +50 °C | | |
| medium: | air and all non aggressive gases | | |
| output signals and power supply: | 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 |
| connections: | electrical: | screw clamps for 0.14 - 1.5 mm ² | |
| | pneumatical: | 2 connections for tube with 4 mm or 6 mm diameter inside | |
| | cable gland: | PG 7 | |
| connection DS1- 010: | plug: | 1 : + 24 VDC 2 : output 0 - 10 V 3 : GND | |
| connection DS1- 420: | 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.

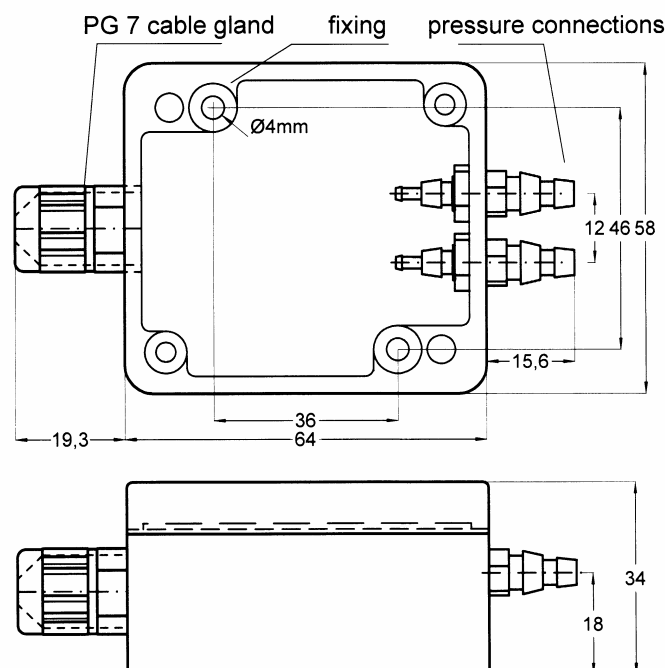
That means: both wires can be changed. Between 2 and GND of the power supply must be connected a resistor $R_B \leq 400 \Omega$ at power supply + 24 VDC.

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





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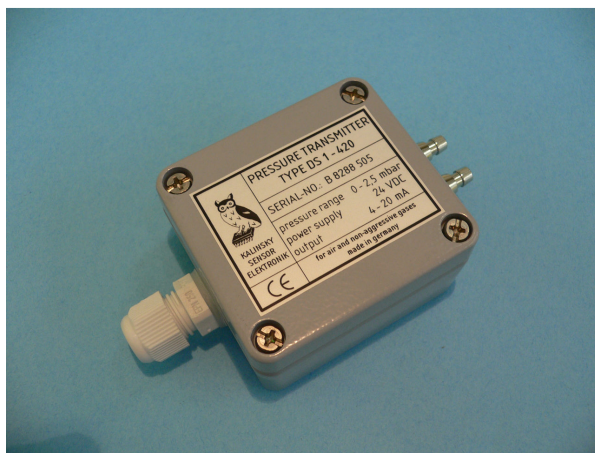
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Datasheet pressure transmitter type DS2

description:

For applications with higher pressure ranges there are additionally to DS1 the type DS2. The DS2 measures difference- pressure, positive and negative overpressure or optionally velocity of flow. The analog output signals are 0-10 V, 4-20 mA or frequency 0-10 kHz. Because of the piezoresistive cell the transmitter reach a high reliability and precision. The dependence of zero signal from mounting position is very small. The resistance against overpressure is higher than by using other physical principles. The transmitters are housed in a robust aluminium package. Optionally electronic damping of output signal is possible. Transmitter DS2-010 can used with power supply 24 VDC, 24 VAC or 230 VAC.



applications:

- control of blowers
- 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:

- DS2-0-10 0-10V output
- DS2-420 4-20mA output

technical data DS2-010 and DS2-420 (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 - 2.5 | 0 - 0.25 | 350 | 1.0 | 3.5 | 2 | 0.3 | 2.5 |
| 0 - 5 | 0 - 0.5 | 350 | 1.0 | 2.5 | 2 | 0.3 | 2.5 |
| 0 - 10 | 0 - 1 | 350 | 1.0 | 1 | 0.5 | 0.2 | 2.5 |
| 0 - 25 | 0 - 2.5 | 350 | 0.8 | 1 | 0.5 | 0.1 | 2.5 |
| 0 - 50 | 0 - 5 | 350 | 0.8 | 1 | 0.5 | 0.1 | 2.5 |
| 0 - 100 | 0 - 10 | 350 | 0.8 | 1 | 0.5 | 0.1 | 2.5 |
| 0 - 250 | 0 - 25 | x 4 | 0.5 | 1 | 0.1 | 0.1 | 2.5 |
| 0 - 500 | 0 - 50 | x 4 | 0.5 | 1 | 0.1 | 0.1 | 2.5 |
| 0 - 1000 | 0 - 100 | x 2 | 0.5 | 1 | 0.1 | 0.1 | 2.5 |

technical data DS2-010 and DS2-420 with electronic correction of linear error (diff. Pressure):

| | | | | | | | |
|----------|---------|-----|-----|---|-----|-----|-----|
| 0 - 100 | 0 - 10 | 350 | 0.2 | 1 | 0.1 | 0.1 | 2.5 |
| 0 - 250 | 0 - 25 | x 4 | 0.2 | 1 | 0.1 | 0.1 | 2.5 |
| 0 - 500 | 0 - 50 | x 4 | 0.2 | 1 | 0.1 | 0.1 | 2.5 |
| 0 - 1000 | 0 - 100 | x 2 | 0.2 | 1 | 0.1 | 0.1 | 2.5 |

Delivery without signal damping is possible. Response time is ca. 50 ms in this case.

For special ranges please enquire.



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Datasheet pressure transmitter type DS2

| | | | |
|---|----------------------------------|--|---|
| Operation temperature range: | -20 to + 50 °C | | |
| medium: | air and all non aggressive gases | | |
| output signals and power supply: | DS 2-010: | 0-10 V | $R_L \geq 2 \text{ k}\Omega$ 24VDC/AC \pm 10% |
| | DS 2-420: | 4-20 mA | $R_B \leq 400 \Omega$ 15-30 VDC |
| connections: | electrical: | screw clamps for 0.14 - 1.5 mm ² | |
| | pneumatical: | 2 connections for tube with 4 mm or 6 mm diameter inside | |
| | cable gland: | PG 7 | |
| connection DS2- 010: | plug: | 1 : + 24 VDC 2 : output 0 - 10 V 3 : GND | |
| connection DS2- 420: | 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.

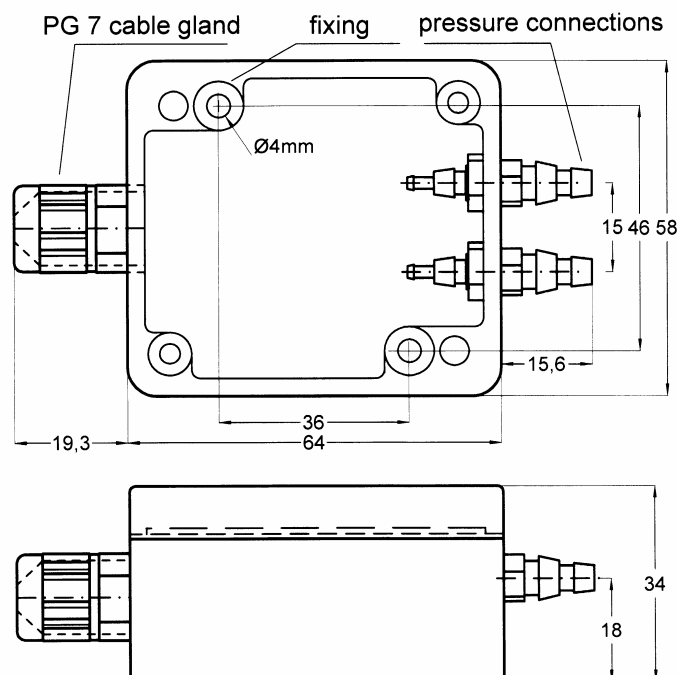
That means: both wires can be changed. Between 2 and GND of the power supply should be connected a resistor $R_B \leq 400 \Omega$ at power supply + 24 VDC.

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



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