



DPS+

Differential Pressure Transmitter

accuracy according to IEC 60770:
0.35 – 2.0 % FSO BFSL

Differential pressure

from 0 ... 6 mbar up to 0 ... 1000 mbar

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 4 ... 20 mA / 0 ... 10 V

4-wire: 0 ... 20 mA / 4 ... 20 mA / 0 ... 10 V

Special characteristics

- ▶ high overpressure capability
- ▶ compensated temperature output signal
- ▶ very short response

The differential pressure transmitter DPS+ was developed for measuring of dry, non aggressive gases and compressed air. It can be used for varied HVAC applications.

The basic element of the DPS+ is a temperature compensated piezoresistive pressure sensor which is able to operate a very long time without any maintenance.

Robust design allows deployment also in laboratories and industrial conditions. The pressure transmitter DPS+ features good long term stability, linearity and repeatability.

Preferred applications areas



HVAC



medical

Preferred areas of use areas



gas, compressed air



| Input pressure range | | | | | | | | |
|---|--|-----------------------|--|--------|---------|------------------------|------|------|
| Nominal pressure P _N (overpressure, underpressure, p. difference) | [mbar] | 6 | 10 | 20 | 40 | 60 | 100 | 160 |
| Max. static pressure | [mbar] | 100 | 100 | 200 | 350 | 350 | 1000 | 1000 |
| Nominal pressure P _N (overpressure, underpressure, p. difference) | [mbar] | 250 | 400 | 600 | 1000 | | | |
| Max. static pressure | [mbar] | 1000 | 1000 | 3000 | 3000 | | | |
| Output signal / Supply | | | | | | | | |
| Standard | 2-wire: 4 ... 20 mA / V _S = 19 ... 31 V _{DC} (with display) | | | | | | | |
| Option | 2-wire: 4 ... 20 mA / V _S = 12 ... 31 V _{DC} (without display) | | | | | | | |
| | 3/4-wire: 0 (4) ... 20 mA / V _S = 19 ... 31 V _{DC} or 230 V _{AC} / 50/60 Hz (± 10 % tolerance) or 110 V _{AC} / 50/60 Hz (± 10 % tolerance) or 230 V _{AC} / 50/60 Hz (± 10 % tolerance) or 110 V _{AC} / 50/60 Hz (± 10 % tolerance) 0 ... 10 V / V _S = 19 ... 31 V _{DC} | | | | | | | |
| Performance | | | | | | | | |
| Accuracy ¹ | P _N > 160 mbar: ≤ ± 0,35 % FSO P _N = 40 ... 160 mbar: ≤ ± 1 % FSO P _N < 40 mbar: ≤ ± 2 % FSO | | | | | | | |
| Permissible load | current 2-wire: R _{max} = [(V _S - V _{Smin}) / 0,02] Ω voltage 3-wire: 500 Ω current 3-wire: 1 MΩ | | | | | | | |
| Influence effects | supply: ≤ ± 0,05 % FSO / 10 V load: ≤ ± 0,05 % FSO / kΩ | | | | | | | |
| ¹ accuracy according to IEC 60770 (non-linearity, hysteresis, repeatability) | | | | | | | | |
| Thermal effects (Offset and Span) / Permissible temperatures | | | | | | | | |
| Nominal pressure P _N | [mbar] | ≤ 10 | ≤ 20 | ≤ 250 | ≤ 250 | | | |
| Thermal error (offset and span) | | ≤ ± 2 | ≤ ± 1,5 | ≤ ± 1 | ≤ ± 0,5 | | | |
| middle TK | [% FSO / 10 K] | ± 0,3 | ± 0,25 | ± 0,15 | ± 0,08 | | | |
| in compensated range | [°C] | 0 ... 60 | | | | | | |
| Permissible temperatures | | medium: -40 ... 80 °C | electronics / environment: -25 ... 50 °C | | | storage: -40 ... 50 °C | | |
| Electrical protection | | | | | | | | |
| Short-circuit protection | permanent | | | | | | | |
| Reverse polarity protection | no damage, but also no function | | | | | | | |
| Electromagnetic protection | emission and immunity according to EN 61326 | | | | | | | |
| Materials | | | | | | | | |
| Pressure port | brass nickel plated | | | | | | | |
| Housing | ABS | | | | | | | |
| Sensor | silicon, mineral glass, epoxy or RTV | | | | | | | |
| Media wetted parts | pressure port, sensor, seals | | | | | | | |
| Miscellaneous | | | | | | | | |
| Display | 2-wire: 4-digit, red LED display; digit height 7 mm | | | | | | | |
| Current consumption (without contacts) | signal output current: max. 25 mA signal output voltage: max. 14 mA | | | | | | | |
| Maximal dimensions | 142 x 105 x 84 mm (l x w x h) | | | | | | | |
| Weight | approx. 500 g | | | | | | | |
| Installation position | any | | | | | | | |
| Ingress protection | IP 54 | | | | | | | |
| Contacts ² | 1 or 2 contacts with switching capacity 5A / 230 V _{AC} (configurable: switching point 5 ... 95 % FSO, hysteresis 1 ... 5 % FSO) | | | | | | | |
| ² possible with 3-wire or 4-wire version with display | | | | | | | | |
| Pin configuration | | | | | | | | |
| Electrical connections | | | Terminal marking | | | | | |
| 2-wire with display (V _S = 19 ... 31 V _{DC}) | supply + | | 1 | | | | | |
| | supply - | | 2 | | | | | |
| | ground pin | | 3 | | | | | |
| 2-wire without display (V _S = 12 ... 31 V _{DC}) | supply + | | 1 | | | | | |
| | supply - | | 2 | | | | | |
| | ground pin | | 3 | | | | | |
| 3-wire (V _S = 19 ... 31 V _{DC}) | supply+ | | 2 | | | | | |
| | supply - | | 4 | | | | | |
| | signal + | | 3 | | | | | |
| 4-wire (230 V _{AC} / 110 V _{AC}) | supply: L | | 1 | | | | | |
| | supply: N | | 2 | | | | | |
| | signal + | | 3 | | | | | |
| | signal - | | 4 | | | | | |

Mechanical connections (dimension in mm)

Standard: $\varnothing 6,6 \times 11$ (for flex. tubes $\varnothing 6$)

standard:
2-wire electronic

3-wire/4-wire electronic

Electrical connection

Standard: screw clamps. 1,5 mm², if supply DC – screw clamp Pg7, if supply AC clamp Pg9

standard:
2-wire electronic

3-wire/4-wire electronic

Switch contact

This data sheet contains product specification. properties are not guaranteed. Subject to change without notice.