

DPS 200



Differential Pressure Transmitter for Gas and Compressed Air

Applications:

- ▶ for HVAC-applications

Characteristics:

- ▶ piezoresistive silicon sensor
- ▶ differential pressure range 6 ... 1000 mbar

Technical Data



| Input pressure range | | | | | | | | | | | | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----|-----|---------------------------------------|-----|------------------------|------|-----------------------|------|------|------|
| Nominal pressure P _N [mbar] (differential, gauge pressure) | 6 | 10 | 16 | 25 | 40 | 60 | 100 | 160 | 250 | 400 | 600 | 1000 |
| max. static pressure [mbar] | 200 | 345 | 345 | 345 | 345 | 345 | 345 | 1000 | 1000 | 3000 | 3000 | 3000 |
| Output signal / Supply | | | | | | | | | | | | |
| Standard | 3-wire: 0 ... 10 V | V _S = 19 ... 32 V _{DC} | | | | | | | | | | |
| Option | 2-wire: 4 ... 20 mA | V _S = 11 ... 32 V _{DC} | | | | | | | | | | |
| | 3-wire: 4 ... 20 mA | V _S = 19 ... 32 V _{DC} | | | | | | | | | | |
| Performance | | | | | | | | | | | | |
| Accuracy | ≤ ± 1% FSO BFSL | | | | | | | | | | | |
| Permissible load | current 2-wire: R _{max} = [(V _S - V _{Smin}) / 0,02 A] Ω | | | | | | | | | | | |
| | current 3-wire: 330 Ω | | | | | | voltage 3-wire: 10 kΩ | | | | | |
| Influence effects | supply: ≤ ± 0.1 % FSO/10V | | | | | | load: ≤ ± 0.1 % FSO/kΩ | | | | | |
| Response time (0 ... 100%) | 2-wire: adjustable by potentiometer in the range of 500 msec up to 2.5 sec 3-wire: adjustable by potentiometer in the range of 50 msec up to 2.5 sec | | | | | | | | | | | |
| Long term stability | ≤ ± 0,5% FSO / year at reference conditions | | | | | | | | | | | |
| Measuring rate | 2-wire: 8 Hz | | | | | | 3-wire: 1 kHz | | | | | |
| Thermal effects (Offset and Span) / Permissible temperatures | | | | | | | | | | | | |
| Thermal error (offset and span) | ≤ ± 0.3% FSO / 10 K (typ.) | | | | | | | | | | | |
| in compensated range | 0 ... 50 °C | | | | | | | | | | | |
| Permissible temperatures | medium: 0 ... 50°C | | | | electronics / environment: 0 ... 50°C | | | | storage: -10 ... 70°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 | ceramic, silicon, epoxy, RTV | | | | | | | | | | | |
| Media wetted parts | pressure port, PVC / silicone tube, sensor | | | | | | | | | | | |

| Miscellaneous | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Display (optional) | LC-Display, visible range 32.5 x 22.5 mm; 5-digit 7-segment-main display, digit size 8 mm, 8-digit 14-segment-additional display, digit size 5 mm; 52-segment-bargraph | |
| Current consumption | 2-wire: signal output current: max. 22 mA 3-wire: signal output current: max. 30 mA signal output voltage: 7.5 mA (20 mA short circuit) display: + 1 mA | |
| Units | following units can be set at factory: [bar], [mbar], [PSI], [Inch Hg], [cm Hg], [mm Hg], [hPa], [kPa], [MPa], [mH ₂ O], [Pa], [mmH ₂ O] | |
| Ingress protection | IP 54 | |
| Weight | approx. 165 g | |
| Installation position | vertical ¹ | |
| ¹ The devices are calibrated in a vertical position with the pressure port down. If this position is changed on installation there can be slight deviations in the zero point. | | |
| Mechanical connections (dimensions in mm) | | |
| Standard | Ø 6.6 x 11 (for flex. tubes Ø 6) | |
| Option | Ø 4.4 x 10 (for flex. tubes Ø 4) | |
| Wiring diagram | | |
| 2-wire-system (current) | 3-wire-system (current / voltage) | |
| | | |
| Pin configuration | | |
| Electrical connections | Terminals 2-wire-system | Terminals 3-wire-system |
| supply + supply - signal + (only for 3-wire) | 2 / + 3 / - 1 (not connected) | 2 / V _s + 3 / V _s - 1 / SIG |
| Dimensions (in mm) | | |
| standard: DPS 200 without display | | |
| optional: DPS 200 with display | | |

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