

DMD 831

Differential Pressure Transmitter with Display and Contact for Fluids and Gases

- ▶ 2 piezoresistive stainless steel sensors
- ▶ differential pressure from 0 ... 1 bar up to 0 ... 70 bar
- ▶ display and pressure port rotatable



Technical Data



| Input pressure range | | | | | | | |
|---|--|---------|--|---------------------------|----------|------------------------|----------|
| Type | D5 | D6 | D7 | D8 | DA | DB | H1 |
| Differential pressure range gauge ¹ / abs. ² (calibration) [bar] | 0 ... 1 | 0 ... 2 | 0 ... 3,5 | 0 ... 7 | 0 ... 20 | 0 ... 35 | 0 ... 70 |
| Permissible static pressure, one-sided [bar] | 1 | 2 | 3,5 | 7 | 20 | 35 | 70 |
| ¹ gauge: If the reference point is the ambient atmosphere, the value "0" is displayed with unloaded system. | | | | | | | |
| ² abs.: If the reference point is the absolute vacuum, the atmospheric pressure is indicated with unloaded system. | | | | | | | |
| Analogue signal / Supply | | | | | | | |
| Standard | 3-wire: 4 ... 20 mA | | | 24 V _{DC} ± 10 % | | | |
| Permissible load | 500 Ω | | | | | | |
| Accuracy ³ | ≤ ± 1 % BFSL | | | | | | |
| ³ accuracy according to IEC 60770 – (non-linearity, hysteresis, repeatability) | | | | | | | |
| Contact | | | | | | | |
| Number, type | standard: 1 PNP | | | option: 2 independent PNP | | | |
| Max. switching current | 125 mA, short-circuit proof | | | | | | |
| Switching accuracy ³ | ≤ ± 0.5 % FSO | | | | | | |
| Repeatability | ≤ ± 0.1 % FSO | | | | | | |
| Switching cycles | > 100 x 10 ⁶ | | | | | | |
| Delay time | 0 ... 100 sec | | | | | | |
| Programming | | | | | | | |
| Adjustability | analogue output / contact refers to: - pressure (+ port) / - pressure (- port) / - differential pressure turn-down: max. 1:10 | | | | | | |
| Thermal error ⁴ (offset and span) / Permissible temperatures | | | | | | | |
| Tolerance band | ≤ ± 1.5 % FSO | | | | | | |
| TC, average | ± 0.2 % FSO / 10 K | | | | | | |
| In compensated range | 0 ... 70 °C | | | | | | |
| Permissible temperatures | medium: -40 ... 125 °C | | electronics / environment: -25 ... 85 °C | | | storage: -40 ... 85 °C | |
| ⁴ relating to nominal pressure range | | | | | | | |
| Electrical protection | | | | | | | |
| Short-circuit protection | permanent | | | | | | |
| Reverse polarity protection | no damage, but also no function | | | | | | |
| Electromagnetic compatibility | emission and immunity according to EN 61326 | | | | | | |

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Differential Pressure Transmitter

Technical Data

| | | |
|---|---|--|
| Mechanical stability | | |
| Vibration | 10 g RMS (20 ... 2000 Hz) | according to DIN EN 60068-2-6 |
| Shock | 100 g / 11 msec | according to DIN EN 60068-2-27 |
| Materials | | |
| Pressure port | stainless steel 1.4404 (316L) | |
| Housing | PA 6.6, Polycarbonate | |
| Seals (media wetted) | FKM | others on request |
| Diaphragm | stainless steel 1.4435 (316L) | |
| Media wetted parts | pressure port, seals, diaphragm | |
| Miscellaneous | | |
| Display | 4-digit, red LED-display, digit size 7 mm range of indication -1999 ... +9999; accuracy 0.1 % +/- 1 digit; digital damping 0.3 ... 30 sec (programmable); | |
| Current consumption | signal output current: max. 60 mA (without switching current) | |
| Weight | approx. 350 g | |
| Operational life | 100 million load cycles | |
| Ingress protection | IP 65 | |
| Electrical connections | | |
| Standard | connector M12x1 / 5- pin (IP 67) | others on request |
| Wiring diagram | | |
| | | |
| Pin configuration | | |
| Electrical connections | M12x1 (5-pin), plastic | cable colour (IEC 60757) (IP 67) |
| Supply + | 1 | wh (white) |
| Supply - | 3 | bn (brown) |
| Signal + | 2 | gn (green) |
| Contact 1 | 4 | gy (grey) |
| Contact 2 | 5 | pk (pink) |
| Shield | via pressure port | gnye (green-yellow) |
| Mechanical connections (in mm) | | Electrical connections (dimensions in mm) |
| <p>standard</p> <p>option</p> | | |
| <p>M12x1 (5-pin)</p> | | <p>cable outlet</p> |

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