



XMD

Differential Pressure Transmitter for Process Industry with HART®-Communication

accuracy according to IEC 60770:
0.1 % FSO

Nominal pressure

from 75 mbar up to 20 bar

Output signals

2-wire: 4 ... 20 mA
others on request

Special characteristics

- ▶ static over pressure 130 bar
- ▶ turn-down 1:10
- ▶ two chamber aluminium die cast case
- ▶ HART®-communication
- ▶ output signal: linear or square root extraction
- ▶ IS-version
Ex ia = intrinsically safe version

Optional versions

- ▶ IS-version
Ex d = flameproof enclosure
- ▶ with integrated display and operating module

The differential pressure transmitter XMD has been especially designed for the process industry and can be used for level measurement of closed, pressurized tanks, pump or filter controlling, etc.

Another attribute is the possibility to switch the output signal from linear to square root extraction by what the flow rate of the medium can be issued.

Preferred areas of use are



Oil and gas industry



Chemical and petrochemical industry



Energy Industry



Food and beverage



Paper Industry

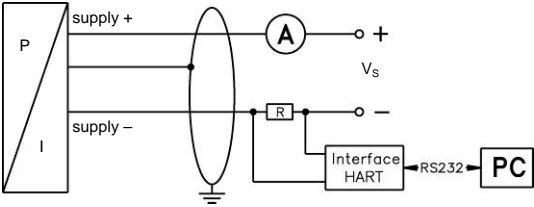


| Pressure ranges | | | | | | |
|--|--|-----------------------|----------------------------|--------------------------------|-----|-----|
| Nominal pressure | [bar] | 0.075 | 0.4 | 2 | 7 | 20 |
| Permissible static pressure | [bar] | 130 | 130 | 130 | 130 | 130 |
| Output signal / Supply | | | | | | |
| Standard | 2-wire: 4 ... 20 mA IS-intrinsically safe version with HART®-communication / V _S = 12 ... 28 V _{DC} | | | | | |
| Option | IS version flameproof enclosure / V _S = 13 ... 28 V _{DC} | | | | | |
| Performance | | | | | | |
| Clocking error | ≤ ± 0.2 % FSO | | | | | |
| Accuracy ¹ | turn-down ≤ 5:1: ≤ ± 0.1 % FSO turn-down > 5:1: ≤ ± [0.1 + 0.015 x turn-down] % FSO with turn-down = nominal pressure range / adjusted range | | | | | |
| Permissible load | load during HART®-communication: R _{min} = 250 Ω | | | | | |
| Supply | ≤ 0.05 % FSO / 10 V | | | | | |
| Permissible load | ≤ 0.05 % FSO / kΩ | | | | | |
| Long term stability | ≤ ± (0.1 x turn-down) % FSO / year at reference conditions | | | | | |
| Response time | 300 msec – with electronic damping 0 sec | | | | | |
| Measuring rate | 3.5/sec | | | | | |
| Adjustability | electronic damping: 0 ... 100 sec offset: 0 ... 90 % FSO turn-down of span: max. 10:1 | | | | | |
| ¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) | | | | | | |
| Thermal effects (Offset and Span) / Permissible temperatures | | | | | | |
| Thermal error | ≤ ± (0.1 x turn-down) % FSO / 10 K in compensated range standard: -20 ... 80 °C optional for device without display: -40 ... 60 °C | | | | | |
| Permissible temperatures | without display: | medium: -40 ... 85 °C | environment: -40 ... 50 °C | storage: -40 ... 80° C | | |
| | with display: | medium: -40 ... 85 °C | environment: -20 ... 50 °C | storage: -30 ... 80 °C | | |
| Electrical protection | | | | | | |
| Short-circuit protection | permanent | | | | | |
| Reverse polarity protection | no damage, but also no function | | | | | |
| Electromagnetic compatibility | emission and immunity according to EN 61326 | | | | | |
| Mechanical stability | | | | | | |
| Vibration | 5 g RMS (25 ... 2000 Hz) | | | according to DIN EN 60068-2-6 | | |
| Shock | 100 g / 1 msec | | | according to DIN EN 60068-2-27 | | |
| Materials | | | | | | |
| Pressure port | stainless steel 1.4401 (316) | | | | | |
| Housing | aluminium die cast, powder-coated | | | | | |
| Viewing glass | laminated safety glass | | | | | |
| Seals (media wetted) | FKM / EPDM | | | | | |
| Diaphragm | | | | | | |
| Standard | stainless steel 1.4435 (316 L) | | | | | |
| Option | Hastelloy® C-276 (2.4819) | | | | | |
| Media wetted parts | pressure port, seals, diaphragm | | | | | |
| Filling fluids | silicon oil | | | | | |
| Explosion protection | | | | | | |
| Approval AX12-XMD | IBExU 05 ATEX 1106 X zone 1: II 2G Ex ia IIB T4 Gb / II 1D Ex ia IIIC T85 °C Da | | | | | |
| Safety technical maximum values for intrinsically safe version | U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i = 0 nF, L _i = 0 µH, C _{GND} = 27 nF | | | | | |
| Approval AX17-XMD (flameproof enclosure) | IBExU 12 ATEX 1045 X zone 1: II 2G Ex d IIC T5 Gb | | | | | |
| Permissible temperatures for environment | in zone 1: -20 ... 65 °C (intrinsically safe version); -20 ... 70 °C (flameproof enclosure) | | | | | |
| Miscellaneous | | | | | | |
| Display (optionally) | LC display, visible range 32.5 x 22.5 mm; 5-digit 7-segment main display, digit height 8 mm, range of indication ±9999; 8-digit 14-segment additional display, digit height 5 mm; 52-segment bargraph; accuracy 0.1% ± 1 digit | | | | | |
| Ingress protection | IP 67 | | | | | |
| Installation position | any | | | | | |
| Weight | min. 3500 g | | | | | |
| Current consumption | approx. 21 mA | | | | | |
| Operational life | > 100 x 10 ⁶ cycles | | | | | |
| CE-conformity | EMC Directive: 2004/108/EC | | | | | |

Connections

| | |
|-----------------------|--|
| Electrical connection | terminal clamps in clamping chamber with cable gland M20x1.5 (for cable-Ø 5 up to 14 mm) |
| Process connections | internal thread 1/4" - 18 NPT |

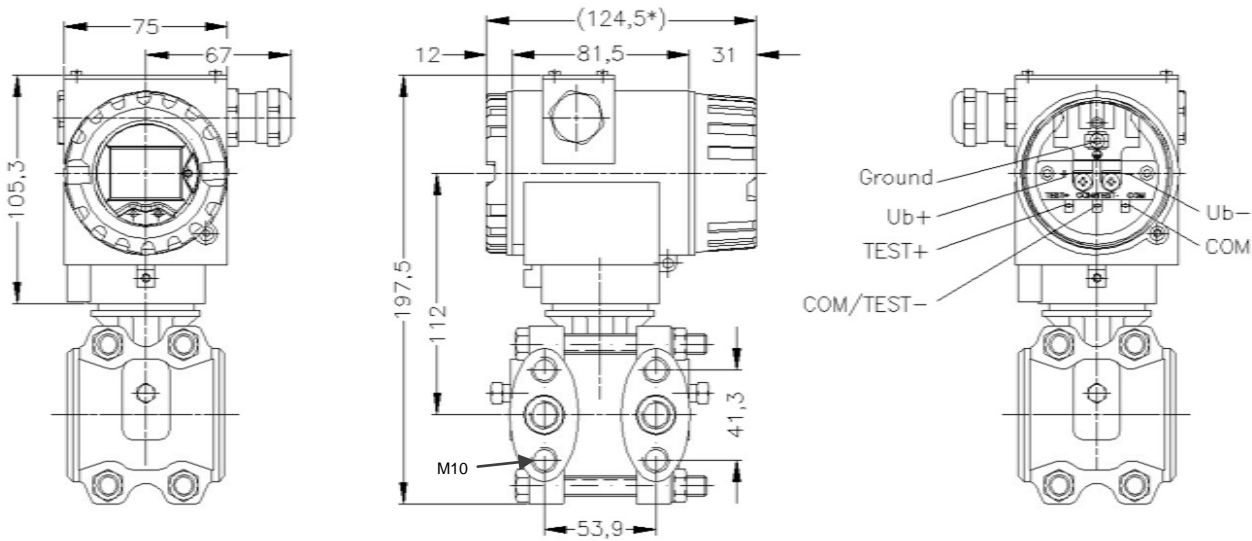
Wiring diagram



Pin configuration

| | |
|-----------------------|--|
| Electrical connection | terminal clamps (clamp section 2.5 mm ²) |
| Supply + (Vs+) | + |
| Supply - (Vs-) | - |
| Test + | TEST+ |
| COM / Test - | COM/TEST- |
| COM | COM |
| Ground | ⏏ |

Dimensions (in mm)²



* without display and operating module marked dimensions decrease by 19 mm

² aluminium die cast case is horizontally rotatable as standard
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Pressure Transmitter for Process Industry

XMP ci



Characteristics

- ▶ pressure ranges from 0.06 up to 20 bar
- ▶ turn-down 1:10
- ▶ two chamber aluminium die cast case or stainless steel field housing
- ▶ internal or flush mounted capacitive ceramic sensor
- ▶ HART®-communication (standard)
- ▶ IS-version (standard):
Ex ia = intrinsically safe version
- ▶ accuracy according to IEC 60770:
0.1 % FSO



XMP i



Characteristics

- ▶ pressure ranges for vacuum, gauge and absolute pressure from 0.4 up to 600 bar
- ▶ turn-down 1:10
- ▶ two chamber aluminium die cast case or stainless steel field housing
- ▶ internal or flush welded diaphragm
- ▶ HART®-communication (standard)
- ▶ IS-version (standard):
Ex ia = intrinsically safe version
- ▶ accuracy according to IEC 60770:
0.1 % FSO



Precision Pressure Transmitter for Food Industry, Pharmacy and Biotechnology

x|act ci



Characteristics

- ▶ pressure ranges from 0,06 up to 20 bar
- ▶ turn-down 1:10
- ▶ hygienic version
- ▶ flush mounted, capacitive ceramic sensor
- ▶ several process connections (inch thread, Clamp, etc.)
- ▶ with integrated display and operating module
- ▶ accuracy according to IEC 60770:
0.1 % FSO



x|act i



Characteristics

- ▶ pressure ranges from 0,4 up to 40 bar
- ▶ turn-down 1:10
- ▶ hygienic version
- ▶ flush welded diaphragm
- ▶ several process connections (G1" cone, Clamp, dairy pipe, etc.)
- ▶ with integrated display and operating module
- ▶ accuracy according to IEC 60770:
0.1 % FSO



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

Ordering code XMD

XMD

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