

Intrinsically Safe Submersible Level Transmitters For Maritime Applications

PTM.MT/N/Ex - Rangeable 4-20 mA



CUSTOMER BENEFITS

- Certificates: ATEX, IECEx and DNV-GL
- Static accuracy available of 0.25% FS
- Hysteresis and repeatability better than 0.01 %
- Gauge and absolute versions available
- Piezoresistive technology suitable for static and dynamic pressure measurements

Technical Specifications

PRESSURE MEASURING RANGE¹⁾

| | 0 ... 400 mbar | 0 ... 1000 mbar | 0 ... 2500 mbar | 0 ... 4000 mbar | 0 ... 6000 mbar |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Overpressure | 5 bar | 5 bar | 50 bar | 50 bar | 50 bar |
| Burst pressure | > 200 bar | > 200 bar | > 200 bar | > 200 bar | > 200 bar |
| Accuracy ² | $\leq 0.25 \pm \% \text{ FS}$ | $\leq 0.25 \pm \% \text{ FS}$ | $\leq 0.25 \pm \% \text{ FS}$ | $\leq 0.25 \pm \% \text{ FS}$ | $\leq 0.25 \pm \% \text{ FS}$ |
| Long term stability, (typ. per year) | $\leq 0.2\% \text{ FS}$ | $\leq 0.2\% \text{ FS}$ | $\leq 0.2\% \text{ FS}$ | $\leq 0.2\% \text{ FS}$ | $\leq 0.2\% \text{ FS}$ |

(1) Other pressure ranges upon request

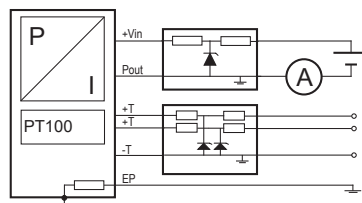
(2) Zero based accuracy according to EN-61298 incl. hysteresis and repeatability at ambient temperature

TEMPERATURE RANGE

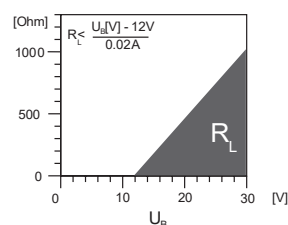
| | |
|-----------------------|---------------|
| Operating temperature | -20 ... 100°C |
| Process temperature | -20 ... 100°C |
| Storage temperature | -20 ... 100°C |

ELECTRICAL SPECIFICATIONS

| | |
|-------------------|--|
| Resolution | 0.025 % FS |
| Output adjustable | |
| 4 mA | -5 % ... 105 % FS |
| 20 mA | -5 % ... 105 % FS |
| Span | 25 % ... 110 % FS ($\geq 100 \text{ mbar}$) |
| Low pass filter | 0.1 / 1 / 10 / 30 Hz (standard: 30 Hz) |
| Power supply | 12 ... 30 V DC |
| Supply influence | < 0.1% FS |
| Circuit diagram | |



Load resistance



Load influence

< 0.1% FS

PT100 (optional)

DIN EN 60751 1996-07: Class B

DIN EN 60751 2009-05: F 0.3

APPROVALS

| | | |
|--|---------------------|---|
| Certificates ¹ | ATEX | SEV 20 ATEX 0418 X |
| | IECEX | IECEX SEV 20.0018 X |
| | DNV-GL | TAA00002VW |
| Standards | EN IEC 60079-0:2018 | |
| | EN 60079-11:2012 | |
| Gas | Zone 0 | II 1G Ex ia IIC T6 ... T4 Ga |
| | Zone 1 | II 2G Ex ia IIB T6 ... T4 Gb |
| Dust | Zone 20 | II 1D Ex ia IIIC T ₂₀₀ T125°C Da |
| Maximum values of the intrinsically safe circuit | Pressure | PT100 |
| | 30V / 150 mA / 0.7W | 20V / 320 mA / 0.1W |
| Temperature class ² | T6 | T4 |
| Ambient temperature (Ta) | -20 ... 50°C | -20 ... 100°C |
| Process temperature | -20 ... 50°C | -20 ... 100°C |

(1) For detailed Ex specifications see certificate and operating and safety instructions

(2) Without any information about temperature class the transmitter will be delivered for T4

QUALIFICATIONS (1)

| | Description | Level | Typical interferences |
|--------------|-------------------------|--|-----------------------|
| EN 60068-2-6 | Vibration | 4 G (4 ... 100 Hz) | |
| EN 61000-6-3 | Emission | < 20 dBµV/m (10 kHz ... 30 MHz) < 41 dBµV/m (30 MHz ... 1 GHz) < 32 dBµV/m (1 GHz ... 6 GHz) | |
| EN 61000-4-2 | Electrostatic discharge | 6 kV contact / 8 kV air | |
| EN 61000-4-3 | Radiated RF | 10V/m (0.08 ... 6 GHz) | Wireless phones |
| EN 61000-4-4 | Transients (burst) | 2 kV | Motors, valves |
| EN 61000-4-5 | Surge | Shielded cable: ± 1 kV/2 Ω | Overvoltage |
| EN 61000-4-6 | Conducted RF | 10 V (0.15 ... 80 MHz, 3 s) | Frequency converters |

(1) Only with connected shield

ACCESSORIES

| Article number | Description | Document number |
|----------------|----------------------|-----------------|
| 102442 | Interface box | |
| 131315 | PC software | |
| DMM054 | Safety instructions | 10.88.0572 |
| | User manual software | 10.00.0578 |
| | User manual sensor | 10.00.0579 |

ORDERING INFORMATION

| PTM.MT/N/Ex | |
|-----------------------|--|
| Material | Titanium |
| Pressure type | Gauge or Absolute |
| Pressure range | 0 ... 400 mbar (gauge only) 0 ... 1000 mbar (gauge only) 0 ... 2500 mbar 0 ... 4000 mbar 0 ... 6000 mbar (absolute only) |
| Process connection | Closed version (Fig.1) |
| Electrical connection | FEP cable, black, IP68 |
| Output signal | 4 ... 20 mA, 2-wire |
| Accuracy | $\leq \pm 0.25 \% \text{ FS}$ |
| Temperature range | T4: -5 ... 80 °C compensated |
| Sealing | Viton |
| PT100 | Optional |

Dimensions

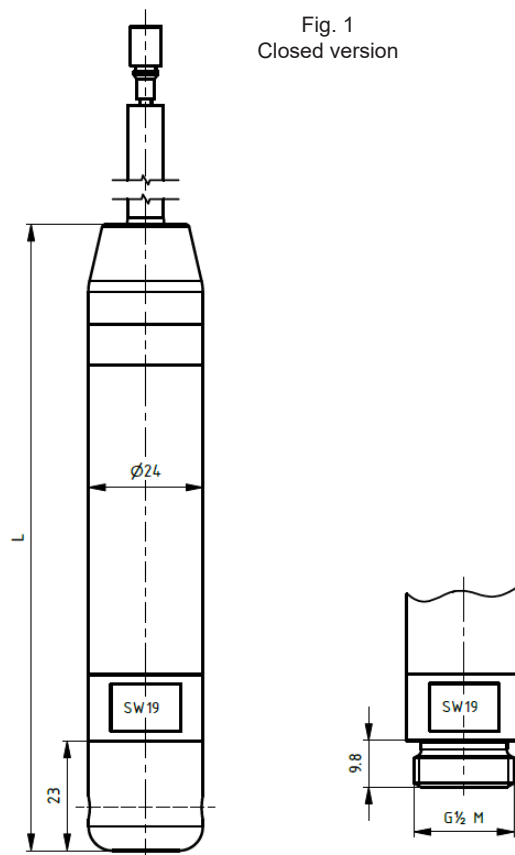


Fig. 1
Closed version

| | L [mm] | Weight [g], without cable |
|-------------------------|---------|---------------------------|
| Fig. 1 - closed version | ca. 132 | ca. 130 |

| Colour | |
|------------------|------|
| Red | +Vin |
| Black | Pout |
| Shield | EP |
| PT100 (optional) | |
| White | +T |
| Yellow | +T |
| Blue | -T |

Specifications may change without notice

© 2020 - STS Sensoren Transmitter Systeme GmbH, Poststrasse 7, DE - 71063 Sindelfingen, sales-de@stssensors.com