

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



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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

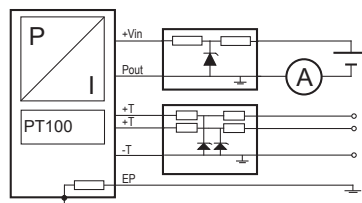
(2) Zero based accuracy according to EN-61298 incl. hysteresis and repeatability at ambient temperature

TEMPERATURE RANGE

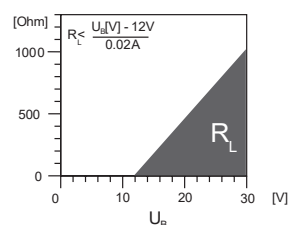
Operating temperature	-20 ... 100°C
Process temperature	-20 ... 100°C
Storage temperature	-20 ... 100°C

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 dB μ V/m (10 kHz ... 30 MHz) < 41 dB μ V/m (30 MHz ... 1 GHz) < 32 dB μ V/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: \pm 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

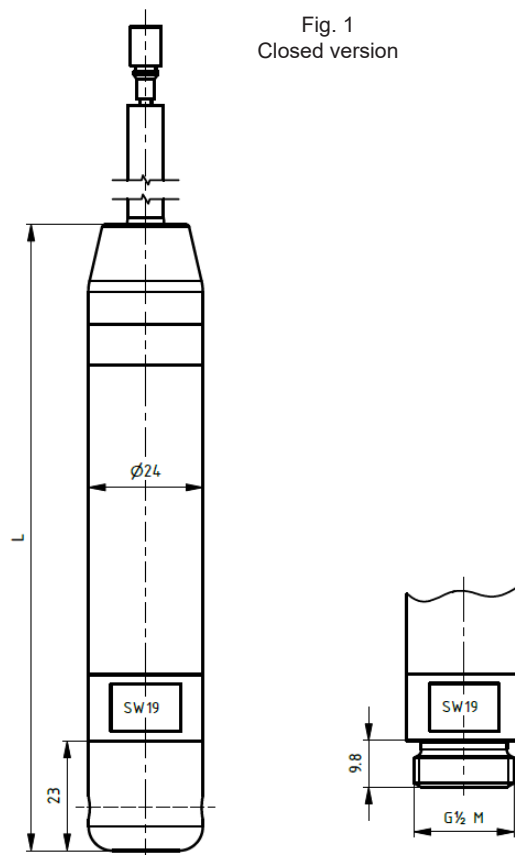


Fig. 1
Closed version

	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

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