

Submersible Transmitters

MTM/N 10 - Miniature Level Transmitter



CUSTOMER BENEFITS

- Miniature submersible level transmitter with a diameter of 10mm
- Available in relative or absolute version
- Titanium version for use in salt or brackish water
- Passive option for use in low power applications

Technical specifications for passive version

PRESSURE MEASURING RANGE (MH₂O)

	10 ... 20	> 20 ... 40	> 40 ... 100
Overpressure	4 x FS	3 x FS (≤ 12 bar)	12 bar
Accuracy, (1) (± % FS)	≤ 0.5 / ≤ 0.25	≤ 0.5 / ≤ 0.25	≤ 0.5 / ≤ 0.25
Setting accuracy			
Zero point	± 1mV	± 1mV	± 1mV
Span	± 2 %	± 2 %	± 2 %
Thermal shift, (± % FS/°C)			
Zero point -5...50°C	≤ 0.06	≤ 0.03	≤ 0.015
Span -5...50°C	≤ 0.015	≤ 0.015	≤ 0.015
Long term stability, (2)	≤ 0.2% FS / < 4 mbar	≤ 0.1% FS / < 0.2% FS	≤ 0.1% FS / < 0.2% FS

(1) Best Straight Line (BSL) at ambient temperature

(2) 1year (typ. / max.)

TYPICAL OUTPUT SIGNAL (MH₂O)

	10 ... 20	> 20 ... 40	> 40 ... 100
Output signal, (1), (mV)	50	100	100

(1) At nominal pressure and 10 V DC

Technical specifications for active version, (1)

PRESSURE MEASURING RANGE (MH₂O)

	10 ... 20	> 20 ... 40	> 40 ... 100
Accuracy, (2) (± % FS)	≤ 0.5 / ≤ 0.25 / ≤ 0.1	≤ 0.5 / ≤ 0.25 / ≤ 0.1	≤ 0.5 / ≤ 0.25 / ≤ 0.1
Thermal error (± % FS/°C)			
-5 ... 50°C compensated	0.075	0.045	0.03
Thermal shift, (± % FS/°C)			
Zero point -5...50°C	≤ 0.06	≤ 0.03	≤ 0.015
Span -5...50°C	≤ 0.015	≤ 0.015	≤ 0.015

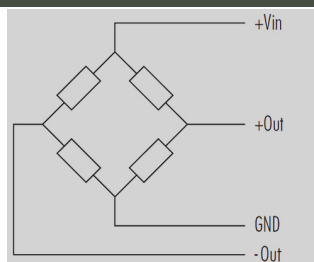
(1) For further specifications see ATM/N

(2) Zero based accuracy according to DIN16086, incl. hysteresis and repeatability at ambient temperature

Electrical specifications for passive version

PRESSURE RANGE

Circuit diagram



Input impedance	> 10 k Ω
Bridge resistance, (typ.)	3 k Ω
Supply voltage, >br> (typ./max.)	10 / 15 V DC
Cable length (max.)	200 m

PHYSICAL SPECIFICATIONS, (1), (2)

Materials

Transducer	Stainless steel (316L / 1.4435), Titanium (Gr. 2)
Housing	Stainless steel (316L / 1.4435), Titanium (Gr. 2)
Seals	NBR
Cable	PUR, PE
Weight (3)	150 g

(1) Only for level transmitter MTM/N10

(2) Stainless steel only in clean water applications

(3) Specification for a MTM/N10, closed, without cable

Equipment

OVERVIEW

10.00.0091

Accessories overview

Additional documents

OPERATING AND SAFETY INSTRUCTIONS

	Article number
10.88.0369	DMM030

Ordering information

	X.	XX XX.	XXXX.	XX.	XXX
Type					
	MTM/N 10	15			
Pressure type					
	Gauge	1			
	Absolute (vacuum)	2			
Pressure measuring range (1)					
	1 bar ... 10 bar		XX		
	Offset, special adjustment		99		
Model					
	Standart passive, with mV output signal, (Fig. 1/2)		0		
	Active, with analog amplifier, (Fig. 3)		2		
Electrical connection					
	PUR cable, black IP 68, (2)		0		
	PE cable, black, IP 68, (2)		1		
Version					
	Closed, (Fig. 1)		55		
	Open, (Fig. 2)		56		
Connecting cable (4)					
	PE cable				1
	PUR cable				0
Output signal					
	0...mV (specified by the customer), (Fig. 1 / 2), (8)		13		
	0...100 mV		14		
	0...5 VDC, (Fig. 3), (9)		46		
	0...10 VDC, (Fig. 3), (9)		47		
	0...20 mA, (Fig. 3), (9)		00		
	4...20 mA, (Fig. 3), (9)		05		
Accuracy					
	$\leq \pm 0.5$ % FS, BSL (passive version only) (7), (8)				0
	$\leq \pm 0.5$ % FS, (with option separate electronic) (9)				0
	$\leq \pm 0.25$ % FS, BSL (passive version only) (7), (8)				1
	$\leq \pm 0.25$ % FS, (with option separate electronic) (9)				1
	$\leq \pm 0.1$ % FS, (with option separate electronic) (9)				2
Temperature range					
	-5 ... 50 °C compensated (allowed process temperature: -5...50 °C)				4
Option					
	Seals: NBR (Standard)				R
	Titanium				K
	Humidity filter element for gauge versions (only for PUR and PE cable)				Z

(2) Please specify the required cable length and medium

(7) BSL: Best Straight Line

(8) Passive version

(9) Active version

Fig. 1: Passive version, closed

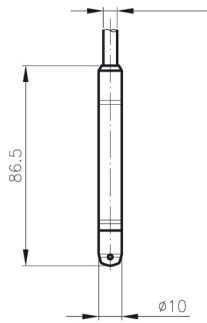


Fig. 3: Active version

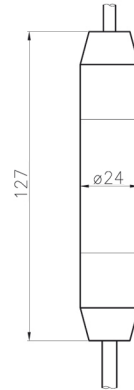
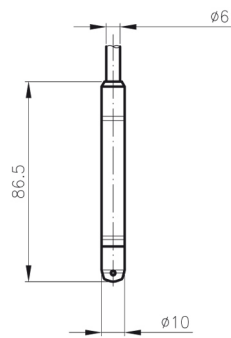
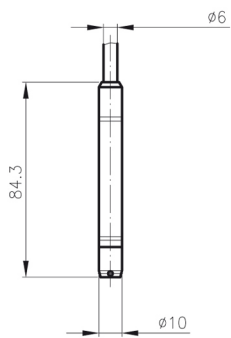


Fig. 2: Passive version, open



Colour	Connection configuration
	Passive version
white	+Vin
yellow	GND
brown	+Out
green	- Out

Connection configuration with separate electronics, see datasheet ATM/N