

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) ($\pm$ % FS)	$\leq 0.5 / \leq 0.25$	$\leq 0.5 / \leq 0.25$	$\leq 0.5 / \leq 0.25$
Setting accuracy			
Zero point	± 1 mV	± 1 mV	± 1 mV
Span	± 2 %	± 2 %	± 2 %
Thermal shift, ($\pm$ % FS/ $^{\circ}$ C)			
Zero point -5...50 $^{\circ}$ C	≤ 0.06	≤ 0.03	≤ 0.015
Span -5...50 $^{\circ}$ C	≤ 0.015	≤ 0.015	≤ 0.015
Long term stability, (2)	$\leq 0.2\%$ FS / < 4 mbar	$\leq 0.1\%$ FS / < 0.2% FS	$\leq 0.1\%$ 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) ($\pm$ % FS)	$\leq 0.5 / \leq 0.25 / \leq 0.1$	$\leq 0.5 / \leq 0.25 / \leq 0.1$	$\leq 0.5 / \leq 0.25 / \leq 0.1$
Thermal error ($\pm$ % FS/ $^{\circ}$ C)			
-5 ... 50 $^{\circ}$ C compensated	0.075	0.045	0.03
Thermal shift, ($\pm$ % FS/ $^{\circ}$ C)			
Zero point -5...50 $^{\circ}$ C	≤ 0.06	≤ 0.03	≤ 0.015
Span -5...50 $^{\circ}$ C	≤ 0.015	≤ 0.015	≤ 0.015

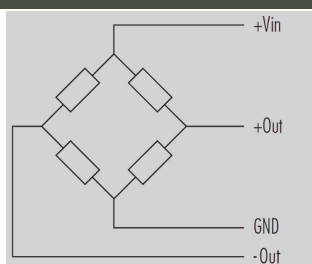
(1) For further specifications see ATM/N

(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
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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 sepearate electronic) (9)				0	
	$\leq \pm 0.25$ % FS, BSL (passive version only) (7), (8)				1	
	$\leq \pm 0.25$ % FS, (with option sepearate electronic) (9)				1	
	$\leq \pm 0.1$ % FS, (with option sepearate 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

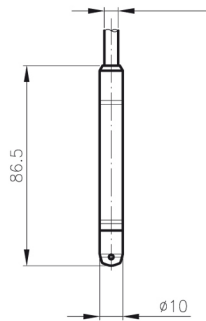


Fig. 3: Active version

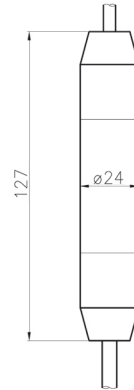
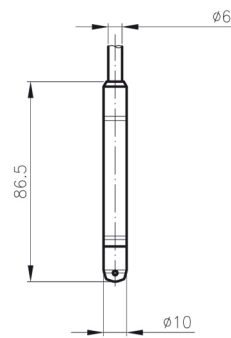
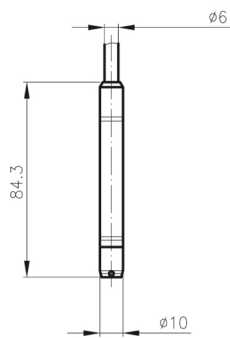


Fig. 2: Passive version, open



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

Connection configuration with separate electronics, see datasheet ATM/N