

# Intrinsically Safe Submersible Level Transmitters - **ATM/N/IS - Analog Level Transmitter**



## CUSTOMER BENEFITS

- Certificate: FM & FM-C
- Fast customization thanks to modular product design
- Titanium version with PTFE cable available for use in aggressive media
- Compact design requires minimal space
- Available with overvoltage protection

# Technical Specifications

## PRESSURE MEASURING RANGE (MH2O)

	1 ... 5 (1)	> 5 ... 20	> 20 ... 250
Overpressure	3 bar	3 x FS ( $\geq$ 3 bar)	3 x FS
Burst pressure, (2)	> 200 bar	> 200 bar	> 200 bar
Accuracy, (3), ( $\pm$ % FS)	$\leq$ 0.5 / $\leq$ 0.25	$\leq$ 0.5 / $\leq$ 0.25 / $\leq$ 0.1	$\leq$ 0.5 / $\leq$ 0.25 / $\leq$ 0.1
Thermal shift ( $\pm$ % FS/ $^{\circ}$ C)			
Zero point 0 ... 70 $^{\circ}$ C	$\leq$ 0.06	$\leq$ 0.03	$\leq$ 0.015
Zero point -25 ... 85 $^{\circ}$ C	$\leq$ 0.08	$\leq$ 0.04	$\leq$ 0.02
Span 0 ... 70 $^{\circ}$ C	$\leq$ 0.015	$\leq$ 0.015	$\leq$ 0.015
Span -25 ... 85 $^{\circ}$ C	$\leq$ 0.02	$\leq$ 0.02	$\leq$ 0.02
Response time, (typ.)	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
Long term stability, (4)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) 0.5 mH2O on request

(2) Transducer

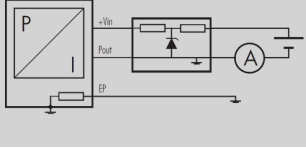
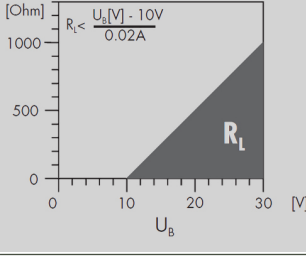
(3) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature

(4) 1 year (typ. / max.), the long term stability can be improved by ageing (burn-in) the sensor

## TEMPERATURE RANGE

Operating temperature	-5 ... 80 $^{\circ}$ C
Process temperature	-5 ... 80 $^{\circ}$ C
Storage temperature	-10 ... 80 $^{\circ}$ C

## ELECTRICAL SPECIFICATIONS

	4 ... 20 mA
Power supply	10 ... 30 VDC
Supply influence	< 0.1% FS
Circuit diagram	
Load resistance	
Load influence	< 0.1% FS

## APPROVAL

FM	3027351
FM-C	3027351C

## QUALIFICATIONS

	Description	Level	Typical interferences
EN 61000-4-2	Electrostatic discharge	4 kV contact / 8 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08 ... 1 GHz, 3s)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	2 kV	Motors, valves
EN 61000-4-5, (1)	Surge	10 kA (8 / 20 μs)	Overvoltage
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz, 3 s)	Frequency converters

(1) Only with optional overvoltage protection

## PHYSICAL SPECIFICATIONS

Materials	
Transducer	Stainless steel (316L / 1.4435), titanium (Gr. 2), (1)
Housing	Stainless steel (316L / 1.4404), titanium (Gr. 2)
Seals	Viton (standard), EPDM, Kalrez
Cable	PUR, FEP
Weight (2)	108 g

(1) Hastelloy (C-276) on request

(2) Specification for a ATM/N/Ex, closed, cable

## Equipment

### OVERVIEW

10.00.0091	Accessories overview

## Additional documents

### OPERATING AND SAFETY INSTRUCTIONS

Article number	
10.88.0092	DMM029

# Ordering information

	X	XXX	XXXX	XX	XXX
<b>Type</b>					
	ATM/N/IS	34			
<b>Pressure type</b>					
	Gauge	1			
	Absolute (vacuum)	2			
<b>Pressure measuring range</b>					
	50 mbar ... < 100 mbar		XX		
	100 mbar ... 25 bar		XX		
	Offset, special adjustment	99			
<b>Process connection</b>					
	Closed (Fig. 1)		55		
	Closed, (1.4435), for ACS certification (Fig. 1)		59		
	Open (Fig. 2)		56		
	G 1/4 M (Fig. 3)		11		
	G 1/2 M (Fig. 3)		13		
	Customized	99			
<b>Electrical connection</b>					
	Connectable version, IP 68 (Fig. 4), (3)		07		
	PUR cable, blue, IP 68 (4), (5)		17		
	FEP cable, blue, IP 68 (4)		22		
	Customized		99		
<b>Output signal</b>					
	4 ... 20 mA		05		
	4 ... 20 mA surge overvoltage protection		08		
<b>Accuracy</b>					
	$\leq \pm 0.5$ % FS		0		
	$\leq \pm 0.25$ % FS		1		
	$\leq \pm 0.1$ % FS		2		
<b>Temperature range</b>					
	T6 (Ta: -5 ... 50°C) -5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)		3		
	T4 (Ta: -5 ... 80°C) -5 ... 50°C compensated (allowed process temperature: -5 ... 50°C)		4		
	T4 (Ta: -5 ... 80°C) -5 ... 80°C compensated (allowed process temperature: -5 ... 80°C)		5		
<b>Option 1</b>					
<b>Option 2</b>					
<b>Option 3</b>					
	Ballast weight 1.4435				B
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez (Level)				T
	Version titanium (without ballast weight)				K
	Humidity filter element for gauge versions (only for PUR cable)				Z

(3) Connector with required cable has to be ordered separately (KART100)

(4) Please specify the required cable length and medium

(5) For operating temperature  $> 50^{\circ}\text{C}$ , FEP cable must be used

# Technical drawings

## Dimensions

Fig. 1: Closed version

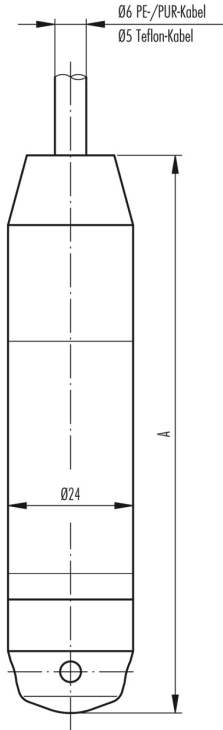


Fig. 2: Open version

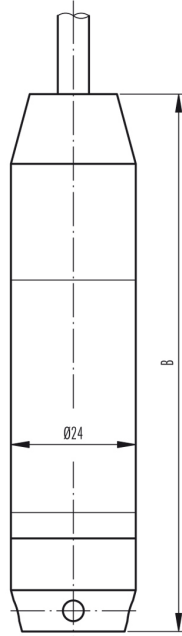


Fig. 3: with process connection

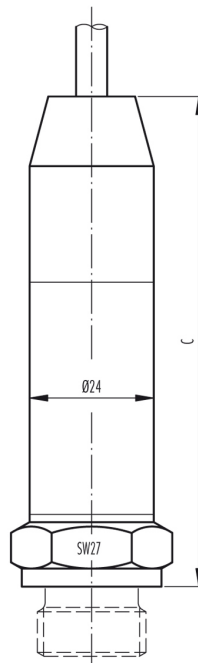
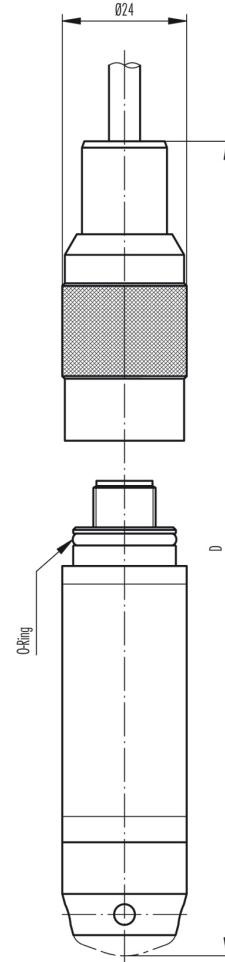


Fig. 4: Electrical connection, connectable



Standard	A [mm]	B [mm]	C [mm]	D [mm]	Weight[g]
without ballast weight	108	104	on request*	on request*	approx. 160
with ballast weight	195	191	on request*	on request*	approx. 420

\*C: Depending on process connection

\*D: Depending on process connection or version

Version with surge (lightning) protection	A [mm]	B [mm]	C [mm]	D [mm]	Weight [g]
without ballast weight	157	153	on request	on request	approx. 200
with ballast weight	244	240	on request	on request	approx. 460

Colour 2-Wire

with +Vin  
yellow Pout  
brown



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