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Pressure Transmitter - ATEX certified

ATM/F/Ex-Hygienic Pressure Transmitter

CUSTOMER BENEFITS

- Certificate: ATEX & EAC
- Welded and compact design for washdowns without residuals
- Surface roughness of flush process connection Ra ≤ 0.4 for highest hygienic standards
- Demountable electrical connector option allow adjustment of zero and span setting in the field
- Fast customization thanks to configurable product design
- Short response times suitable for dynamic pressure measurements

Technical Specifications

PRESSURE MEASURING RANGE (BAR)

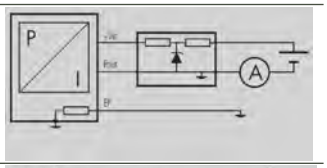
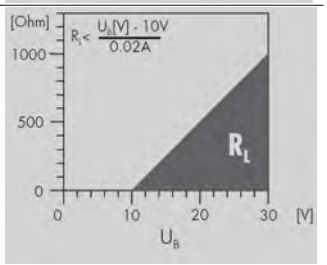
	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 25
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure, (1)	> 200 bar	> 200 bar	> 200 bar
Accuracy, (2) (± % FS)	≤ 0.5 / ≤ 0.25	≤ 0.5 / ≤ 0.25 / ≤ 0.1	≤ 0.5 / ≤ 0.25 / ≤ 0.1
Thermal shift, (± % FS/°C)			
Zero point 0 ... 70°C, (3)	≤ 0.06	≤ 0.03	≤ 0.015
Zero point -25 ... 85°C, (3)	≤ 0.08	≤ 0.04	≤ 0.02
Span 0 ... 70°C	≤ 0.015	≤ 0.015	≤ 0.015
Span -25 ... 85°C	≤ 0.02	≤ 0.02	≤ 0.02
Long term stability, (4)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) Transducer
(2) Zero based accuracy according to DIN-16086, incl. hysteresis and repeatability at ambient temperature
(3) Offset error due to mounting < 4 mbar (typ.)
(4) 1 year (typ. / max.)

TEMPERATURE RANGE

Operating temperature	-25 ... 85°C
Process temperatur	-25 ... 150°C
Storage temperatur	-25 ... 85°C

ELECTRICAL SPECIFICATIONS

	4 ... 20 mA
Power supply	10 ... 33 VDC
Supply influence	< 0.1% FS
Circuit diagram	
Load resistance	
Load influence	< 0.1% FS

ATEX APPROVAL

Certificate, (1)	SEV 11 ATEX 0142		
Gas	II 1G Ex ia IIC T3 ... T6	EN 60079-0 / -11 / -26	
Dust	II 1D Ex iaD 20 IP6x T125°C ... T80°C		
Mining	I M1 Ex ia I	EN 50303	
Temperature class, (2)	T6	T4	T3
Ambient temperature	-25 ... 55°C	-25 ... 85°C	-25 ... 85°C
Process temperature	-25 ... 55°C	-25 ... 100°C	-25 ... 150°C
Maximum values of the connection circuit	30 V / 100 mA / 1 W		

(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

	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)	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), (1)	Overvoltage
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz)	Frequency converters

(1) Only with optional surge (lightning) protection

PHYSICAL SPECIFICATIONS

Materials	
Transducer	Stainless steel (316L / 1.4435)
Housing	Stainless steel (316L / 1.4404)
Cable	PUR, FEP
Seals	Viton
Surface roughness of the flush (Ra)	0.4 - 0.8

Accessories

OVERVIEW

10.00.0091	Accessories overview
HART001	Cable Socket Connector DIN43650

Additional documents

OPERATING AND SAFETY INSTRUCTIONS

	Article number
10.88.0437	DMM042

Ordering information

			X.	XXXX.	XXXX.	XX.	XXX
Type							
	ATM/F/Ex	35					
Pressure type							
	Gauge		1				
	Absolute pressure (vacuum)		2				
	Sealed gauge		3				
Pressure measuring range							
	100 mbar ... 25 bar			XX			
Process connection							
	Milk flange DN 25 - DIN-11851 (Fig. 1), (1)			30			
	Milk flange DN 40 - DIN-11851 (Fig. 2), (1)			31			
	Milk flange DN 50 - DIN-11851 (1)			32			
	Clamp 1", DN 25 (Fig. 3)			40			
	Clamp 1 1/2", DN 25 (Fig. 3)			41			
	DIN flange DN 25			45			
	DIN flange DN 40			46			
	DIN flange DN 50			47			
	Customized			99			
Electrical connection							
	DIN-43650, with metal threaded part, demountable, IP 65 (Fig. 10), (2), (16)				01		
	M16 (Binder 723), 5 pins (2)				03		
	M16 (Binder 723), 5 pins, demountable, IP 67 (Fig. 12), (2)				43		
	MIL C26482, 10-6, IP 40 (Fig. 13), (2)				06		
	Connectable version, IP 68, M12x1, (Fig. 15), (2)				47		
	Customized				99		
Output signal							
	4 ... 20 mA				05		
	4 ... 20 mA with surge protection				08		
Accuracy							
	≤ ± 0.5 % FS					0	
	≤ ± 0.25 % FS					1	
	≤ ± 0.1 % FS					2	
Temperature range							
	T6 (Ta:-25 ... 55°C) 0 ... 70°C compensated (allowed process temperature: -25 ... 55°C)					0	
	T4 (Ta:-25 ... 85°C) -25 ... 85°C compensated (allowed process temperature: -25 ... 100°C)					1	
	T3 (Ta:-25 ... 85°C) -25 ... 85°C compensated (allowed process temperature: -25 ... 150°C), with cooling fins					2	
Option 1							
	Special oil filling: Anderol Food (for food applications)						G
	Special oil filling: AS100 (suitable in media temp. -55 ... 150°C)						J
	Special oil filling: PAO4 (silicone free)						Q

Option 2					
Seal: Viton (Standard)					U
Option 3					

(1) Nut included

(2) Cable socket connector not included

(16) Connector side not to be used in Zone 0 or Ex ia IIC, explosion risk

Technical drawings

Pressure connection

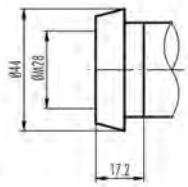


Fig. 1

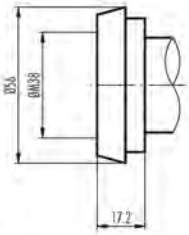


Fig. 2

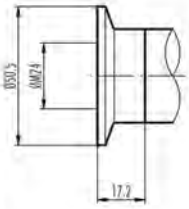
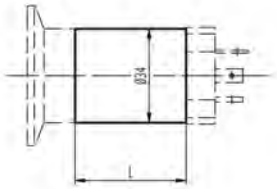


Fig. 3

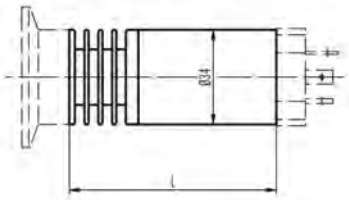
Dimensions

Version for media temperature up to 100°C



L = 90 mm for version with surge (lightning) protection
L = 40 mm for all other versions

Version for media temperature >100°C up to 150°C



L = 125 mm for version with surge (lightning) protection
L = 75 mm for all other versions

Electrical connections

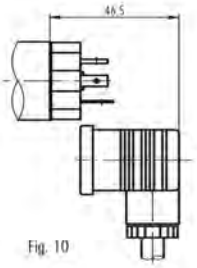
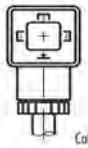


Fig. 10

Pin	2-Wire
1	+Vin
2	Pout
⏚	EP



Cable socket connector

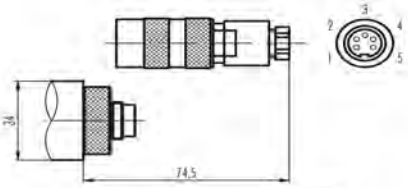


Fig. 12

Pin	2-Wire
1	Pout
3	+Vin
5	EP

Cable socket connector

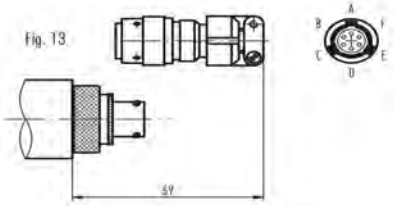


Fig. 13

Pin	2-Wire
A	+Vin
C	Pout
E	EP

Cable socket connector

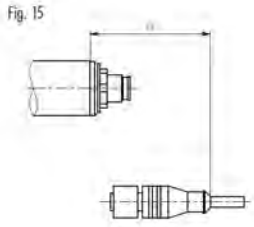


Fig. 15

Pin	2-Wire
1	EP
3	Pout
4	+Vin

Specifications may change without notice.

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