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Pressure Transmitter

ATM.mini - Miniature Pressure Transmitter

CE

CUSTOMER BENEFITS

- Any measuring ranges between 0 ... 1 bar und 0 ... 100 bar available
- Static accuracies available to 0.1 % FS
- Hysteresis and repeatability better than 0.01 % FS
- Piezoresistive technology suitable for static and dynamic pressure measurements
- Modular design ideal for customization to the application
- Negative pressure ranges available

Technical Specifications

PRESSURE MEASURING RANGE (BAR)

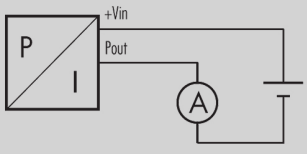
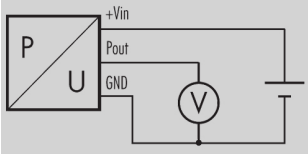
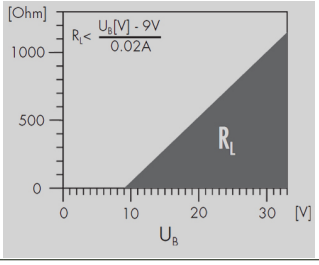
	0 ... 1 bis 0 ... 100	>-0.5... >0.5 bis -1...100
Overpressure	3 x FS	3 bar / 3 x FS
Burst pressure	> 350 bar	> 350 bar
Accuracy (1) (± % FS)		
Standard	≤ 0.2	≤ 0.2
Premium	≤ 0.1	≤ 0.1
Total Error, (2) (± % FS ; typ. / max.)	≤ 0.5 / ≤ 0.8	≤ 0.5 / ≤ 0.8
Response time, (typ.)	< 1ms / 10 ... 90 % FS	< 1ms / 10 ... 90 % FS
Long term stability, (typ./max. per year, % FS)	< 0.1 / < 0.2	< 0.1 / < 0.2

(1) Zero based accuracy according to EN-61298, incl. hysteresis and repeatability at ambient temperature
(2) Total error including accuracy and temperature influences at maximum signal span (16 mA /4 V DC)

TEMPERATURE RANGE

	4 ... 20 mA	0.5 ... 4.5 VDC
Compensated temperature range		
Standard	0 ... 70°C	0 ... 70°C
Advanced	-25 ... 100°C	-25 ... 100°C
Premium	n.a.	-40 ... 125°C
Operating temperature	-40 ... 100°C	-40 ... 125°C
Process temperature	-40 ... 100°C	-40 ... 125°C
Storage temperature	-40 ... 125°C	-40 ... 125°C

ELECTRICAL SPECIFICATIONS

	4 ... 20 mA	0.5 ... 4.5 V
Power supply	9 ... 33 VDC	8 ... 30 VDC
Supply influence	< 0.05 % FS	< 0.05 % FS
Current consumption (typ.)	n.a.	3 mA
Start up time	< 170 ms	< 170 ms
Circuit diagram		
Load resistance		$R_L > 10kOhm$
Dielectric strength	> 50 MΩ / 50 VDC	> 50 MΩ / 50 VDC

QUALIFICATIONS

	Description	Level	Typical interferences
EN 60068-2-6	Vibration	20 G (10 ... 2000 Hz, 3 axis)	
EN 60068-2-27	Shock	300 G (3 Axis, half sine, 6ms)	
EN 55022	Emission, class B	< 30 dBµV/m (0.03 ... 6 GHz)	
EN 61000-4-2	Electrostatic discharge	4 kV contact / 8 kV air	
EN 61000-4-3	Irradiated RF	10 V/m (0.08 ... 6 GHz, 1s)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz, 1s)	Frequency converters

PHYSICAL SPECIFICATIONS

Oil filling	Standard: Silicone oil AS100; Optional: PAO4
Transducer	Stainless steel (316L/1.4435)
Housing	Stainless steel (316L/1.4404)
Weight	typ. 55 gram, depending on the configuration

Additional documents

OPERATING AND SAFETY INSTRUCTIONS

	Article number
10.88.0425	DMM040

Ordering information

		X.	XXXX.	XXXX.	XX.	XXX
Type						
	ATM.mini					
Pressure type						
	Gauge	1				
	Absolute	2				
	Sealed gauge	3				
Pressure measuring range						
	Any measuring ranges between 0 ... 1 bar and 0 ... 100 bar available		XX			
	Negative pressure ranges available		XX			
Process connection						
	M 8 x 1 M, (Fig. 1)		88			
	M 10 x 1 M, (Fig. 2)		24			
	G 1/4 M, (Fig. 3)		92			
	G 1/8 M, (Fig. 4)		91			
	1/8 NPT M, (Fig. 5)		87			
	3/8 - 24 UNJF - 3A, (Fig. 6)		86			
	7/16 -20 UNF, (Fig. 7)		89			
	Other pressure connections on request		99			
Electrical connection						
	M12x1, 4 pins, (Fig. 10), (1)			07		
	DIN 9.4 mm (Mini DIN), (Fig. 11), (1)			75		
	MIL C26482, 10-6, 316L, (Fig. 12), (1)			80		
	Other electrical connections on request			99		
Output signal						
	4 ... 20 mA, (Fig. 8)			05		
	0.5 ... 4.5 VDC, (Fig. 9)			41		
Accuracy						
	≤ ± 0.2 % FS				4	
	≤ ± 0.1 % FS				2	
Temperature range						
	0 ... 70°C compensated				0	
	-25 ... 100°C compensated				1	
	-40 ... 100°C compensated				3	
	-40 ... 125°C compensated, (2)				6	
Option 1						
	Seal: FKM (standard; for Fig. 1, 2, 3, 4 only)					U
	Seal: EPDM (optional; for Fig. 1, 2, 3, 4 only)					S
Option 2						
	Special oil filling: PAO4 (siliconfree)					Q
Option 3						

(1) Cable socket connector not included

(2) For voltage output only

Process connections

Fig. 1 - M8 x 1 M

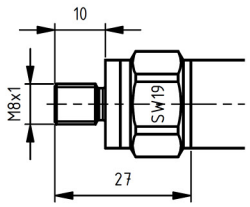


Fig. 2 - M10 x 1 M

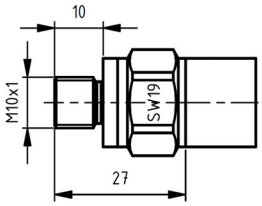


Fig. 3 - G 1/4 M

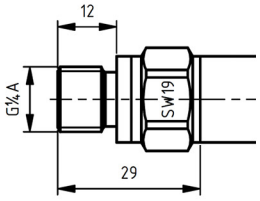


Fig. 4 - G 1/8 M

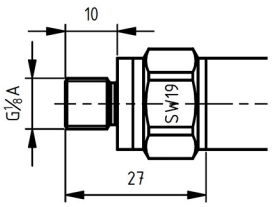


Fig. 5 - 1/8 NPT M

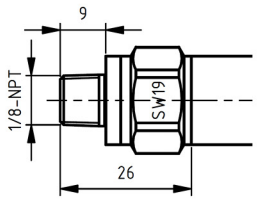


Fig. 6 - 3/8-24 UNJF-3A

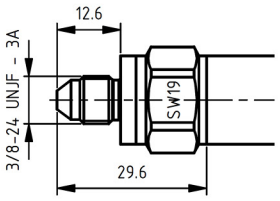
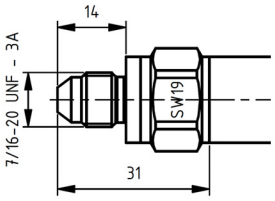


Fig. 7 - 7/16-20 UNF-3A



Dimensions

Fig. 8 - Version for current output signal (4 ... 20 mA)

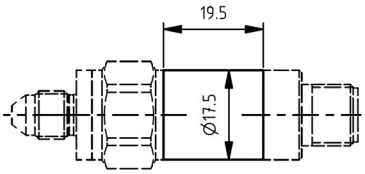
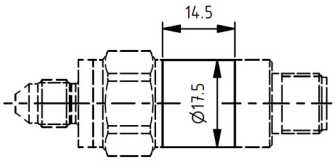


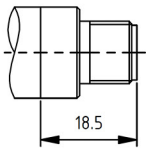
Fig. 9 - Version for voltage output signal (0.5 ... 4.5 VDC)



Electrical connections

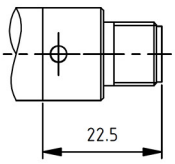
Connector for absolute or sealed gauge version

Fig. 10 - M12x1, 4 pins (Lumberg RSF4)



Connector for gauge version

Fig. 10 - M12x1, 4 pins (Lumberg RSF4)



View to cable socket connector

Pin	2-wire	3-wire
1		GND
2		
3	Pout	Pout
4	+Vin	+Vin

Fig. 11 - Mini DIN (9.4 mm)

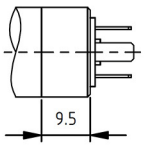
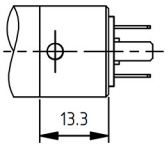
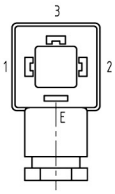


Fig. 11 - Mini DIN (9.4 mm)





Pin	2-wire	3-wire
1	+Vin	+Vin
2	Pout	Pout
3		GND
E		

Fig. 12 - MIL C26482, 10-6, 316L

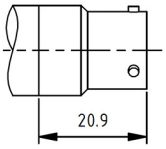
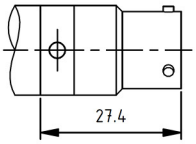
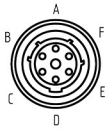


Fig. 12 - MIL C26482, 10-6, 316L





Pin	2-wire	3-wire
A	+Vin	+Vin
B		GND
C	Pout	Pout
D		
E		
F		

Specifications may change without notice