

Pressure Transmitter

ATM.ECO - Analog Pressure Transmitter with Temperature Compensation



CUSTOMER BENEFITS

- Entry level series into precision pressure measurement
- High measurement accuracy is ensured by sophisticated digital temperature compensation algorithms
- Fast customization thanks to configurable product design

Technical Specifications

PRESSURE MEASURING RANGE (BAR)

	0.1 ... 0.5, (1)	> 0.5 ... 2	> 2 ... 100
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure	> 200 bar	> 200 bar	> 850 bar
Accuracy, (4), (\pm % FS)	≤ 0.25	≤ 0.25	≤ 0.25
Total Error, (5), (\pm % FS)			
0 ... 70°C, (typ. / max.)	$\leq 1.0 / 1.5$	$\leq 0.7 / 1.0$	$\leq 0.7 / 1.0$
-25 ... 100°C, (typ. / max.)	$\leq 1.5 / 2.0$	$\leq 1.0 / 1.5$	$\leq 1.0 / 1.25$
-40...100°C, (typ. / max.)	$\leq 2.0 / 2.5$	$\leq 1.0 / 1.5$	$\leq 1.0 / 1.5$
Response time, (typ.)	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
Long term stability, (6)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

	> 100 ... 600, (3)	> 600 ... 1000, (2)
Overpressure	3 x FS ($\leq 850 / \leq 1500$ bar)	1500 bar
Burst pressure	> 850 / ≤ 1500 bar	> 1500 bar
Accuracy, (4), (\pm % FS)	≤ 0.25	≤ 0.25
Total Error, (5), (\pm % FS)		
0 ... 70°C, (typ. / max.)	$\leq 0.7 / 1.0$	$\leq 0.7 / 1.0$
-25 ... 100°C, (typ. / max.)	$\leq 1.0 / 1.25$	$\leq 1.0 / 1.25$
-40...100°C, (typ. / max.)	$\leq 1.0 / 1.5$	$\leq 1.0 / 1.5$
Response time, (typ.)	< 1ms / 10 ... 90% FS	< 1ms / 10 ... 90% FS
Long term stability, (6)	< 0.1% FS / < 0.2% FS	< 0.1% FS / < 0.2% FS

(1) 50 mbar on request

(2) Process connection frontal and flush diaphragm available ≤ 600 bar

(3) Overpressure and burst pressure 1500 bar (stainless steel) optional

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

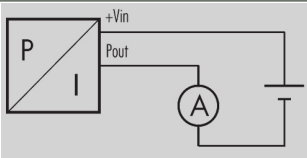
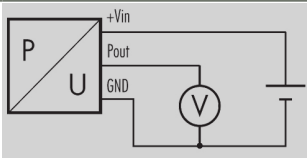
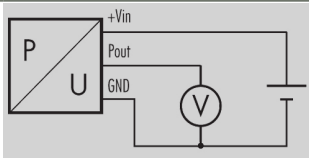
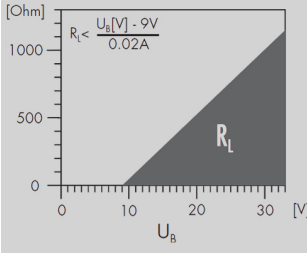
(5) Total error including accuracy and temperature influences at maximum signal span (16 mA / 10 V DC)

(6) 1 year (typ. / max.), the long term stability can be improved by aging (burn-in) the sensor

TEMPERATURE RANGE

Operating temperature	-40 ... 125°C
Process temperatur	-40 ... 150°C
Storage temperatur	-40 ... 125°C

ELECTRICAL SPECIFICATIONS

	4 ... 20 mA	0 ... 5 V	0 ... 10 V
Power supply	9 ... 33 VDC	10 ... 30 VDC	12 ... 30 VDC
Supply influence	< 0.05% FS	< 0.05% FS	< 0.05% FS
Current consumption		3 mA	3 mA
Circuit diagram			
Load resistance		$R_L > 10k\Omega$	$R_L > 10k\Omega$
Load influence	< 0.05% FS	< 0.05% FS	< 0.05% FS

QUALIFICATIONS

	Description	Level	Typical interferences
EN 60068-2-6	Vibration	10 G (4...2000 Hz / ± 10 mmpp)	
EN 60068-2-27	Shock	100 G (impulse duration 6 ms)	
EN 55022	Emission, class B	< 30 dB μ V/m (0.03 ... 1 GHz)	
EN 61000-4-2	Electrostatic discharge	8 kV contact / 15 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08 ... 2.7 GHz, 3s)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	4 kV	Motors, valves
EN 61000-4-5	Surge	Line-Line: 0.5 kV/42 Ω , Line-Earth: 1 kV/42 Ω	Overvoltage
EN 61000-4-6	Conducted RF	3 V (0.15...80 MHz, 3 s)	Frequency converters

PHYSICAL SPECIFICATIONS

Materials	
Transducer	Stainless steel (316L / 1.4435)
Housing	Stainless steel (316L / 1.4404)
Seals	Viton (Standard), EPDM, Kalrez, NBR
Cable	PUR, FEP, PE

Equipment

CABLE SOCKET CONNECTOR

Cable Socket Connector	
HART001	Cable Socket Connector
HART002	Cable socket M16 (Binder 723), IP67, 5-pins

OVERVIEW

Accessories overview	
10.00.0091	Accessories overview

Additional documents

OPERATING AND SAFETY INSTRUCTIONS

Article number	
10.88.0092	DMM029

Ordering information

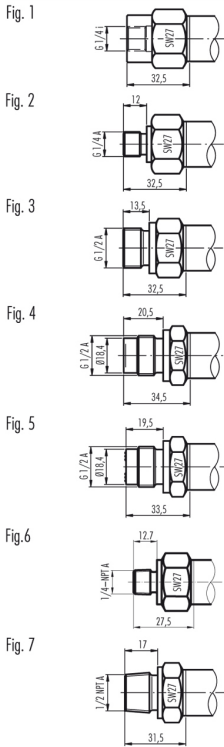
	X	XXX	XXX	XX	XXX
Type					
Pressure type					
Pressure measuring range					
Process connection					
Electrical connection					
Output signal					
Accuracy					
Temperature range					

Option 1			
	Throttle, (8)		A
	Special oil filling: Anderol Food (for food applications)		G
	Special oil filling: AS100		J
	Special oil filling: PAO4 (silicone free)		Q
Option 2			
	Electronics packed in gel: Gauge pressure		C
	Electronics packed in gel: Absolute pressure		D
Option 3			
	Seals: Viton (standard)		U
	Seals: EPDM		S
	Seals: Kalrez		T
	Seals: NBR (ACS)		H

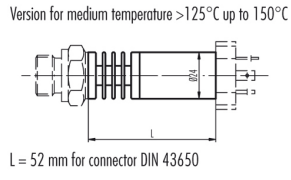
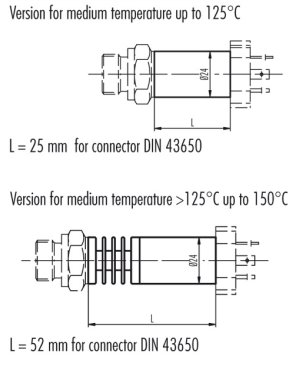
- (3) Process connection available ≥ 6 bar to ≤ 600 bar
- (4) Cable socket connector not included
- (5) Please specify the required cable length and medium
- (6) Suitable for drinking water (food approved)
- (7) For operating temperature $> 50^{\circ}\text{C}$, PE or FEP cable must be used
- (8) Only with pressure connection Fig. 2, Fig. 3, Fig. 6 and Fig. 7

Technical drawings

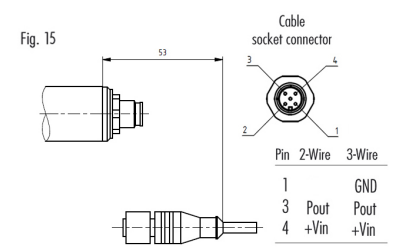
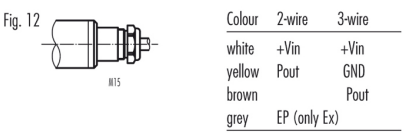
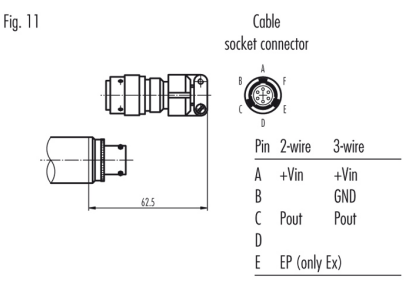
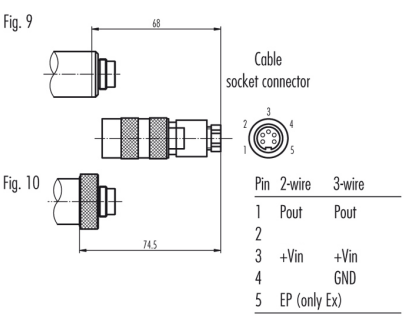
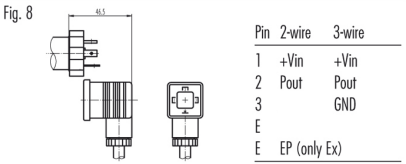
Pressure connections



Dimensions



Electrical Connections



Specifications may change without notice.

ST5 Headquarters, Switzerland:
 ST5 Sensor Technik, Sirmach AG
 Rütihofstrasse 8 | 8370 Sirmach | Switzerland
 sales@st5sensors.com | www.st5sensors.com

ST5 China:
 ST5 Sensor Technology (Shanghai) Co. Ltd
 Room 2603-2606 | North Building, Fortune | 108 Square
 Lane 1839 | Qixin Road | Minhang District | Shanghai | China
 sales@st5sensors.com | www.st5sensors.com.cn

ST5 France:
 ST5 France
 844 Route de la Caille | 74350 Allonzière la Caille | France
 info-fr@st5sensors.com | www.st5sensors.fr

ST5 Germany:
 ST5 Sensoren Transmitter Systeme GmbH
 Poststrasse 7 | 71063 Sindelfingen | Germany
 info-de@st5sensors.com | www.st5sensors.de

ST5 Great Britain:
 ST5 Great Britain Ltd.
 Box 3942 | Warwick | CV34 9AE | United Kingdom
 contact@st5sensors.com | www.st5sensors.co.uk

ST5 Italy:
 ST5 Italia s.r.l.
 Via Lambro 36 | 20090 Opera (MI) | Italy
 info-italia@st5sensors.com | www.st5sensors.it