

DIGITAL PRESSURE TRANSMITTER DTM/CAN



45

Features

- Piezoresistive measuring element
- Gauge, absolute or sealed gauge
- Standard DIN pressure ranges from 0...100 mbar to 0...1000 bar
- Complies with the EMC directive EN 61000
- High reliability
- Reverse polarity and short circuit protected
- Media temperature up to 150°C (option)
- Interface CANopen DS301/DSP404
- Layer Setting Service DSP305
- Average between 1ms...65s
- Auto-zero function
- Supports CAN 2.01 A/B

Typical applications

- Machine installations
- Industrial process control
- Environmental monitoring
- Off-shore
- Hydraulics
- Test and calibration systems

Specifications

Pressure range	[bar]	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 25	> 25 ... 600	> 600 ... 1000
Overpressure		3 bar	3 x FS (min. 3 bar)	3 x FS	3 x FS (max. 850 bar, optional 1500 bar)	1500 bar
Burst pressure	[bar]	> 200	> 200	> 200	> 850 (optional 1500 bar)	> 1500
Accuracy ¹⁾	[± % FS]	≤ 0.25	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
Thermal shift	[± % FS/°C]					
Zero	0 ... 70°C	0.06	0.03	0.015	0.015	0.015
	-25 ... 85°C	0.08	0.04	0.02	0.02	0.02
Span	0 ... 70°C	0.015	0.015	0.015	0.015	0.015
	-25 ... 85°C	0.02	0.02	0.02	0.02	0.02
Long term stability (1 year) (typ./max.)		0.5 % FS/< 4 mbar	0.2 % FS/< 4 mbar	0.1 % FS/< 0.2 % FS	0.1 % FS/< 0.2 % FS	0.1 % FS/< 0.2 % FS

¹⁾ Zero based non-conformity according to DIN 16086, including hysteresis and repeatability

Interface	CANopen
Power supply	8 ... 30 V DC
Current consumption	< 25 mA
Circuit diagram	
Protocol	<ul style="list-style-type: none"> Resolution < 0.03 % FS (12 Bit) Sampling rate 1 ms Transmission rate 25 ms CANopen DS301 V4.0 Device profile DSP404 V1.0 Node ID / Baudrate LSS DSP305 Baudrate 10 kBit/s ... 500 kBit No. of PDO's 2 TX Delta and Limit PDO will be supported PDO mapping yes Emergency message yes Error control Nodeguarding, Heartbeat Units bar, Pa, mWVG, psi, inH2O

Materials

Process connection, diaphragm, housing Stainless steel 1.4435 (316L) other materials (e.g. titanium) on request
Seals (standard) Viton (other materials see ordering information)

Electromagnetic compatibility

Standard	Level	Typical interferences	
Emission:			
EN 61000-6-3	Generic emission standard		
EN 55022	Emission, class B		
Immunity:			
EN 61000-6-2	Generic immunity		
EN 61000-4-2	Electrostatic discharge	4kV contact, 8kV air	
EN 61000-4-3	Radiated electro-magnetic field	10V/m, 80-1000 MHz, 80% AM 1kHz	Cellular phones, radio sets
EN 61000-4-3	Radiated electro-magnetic field (GSM)	10V/m, 950 MHz, 200Hz on/off	Digital portable phones
EN 61000-4-4	Fast transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Conducted radio-frequency	10V, 0.15-80 MHz, 80% AM 1kHz	Cellular phones, radio sets
EN 61000-4-5	Surge		



The pressure transmitter DTM fulfils the emission and immunity requirements described in the EMC directive EN 61000.

Ordering Information

		45	X	XXXX	XXXX	XX	XXX
Type	DTM/CAN	45					
Pressure type	Gauge	1					
	Absolute	2					
	Sealed gauge	3					
Pressure range	0...100 mbar			00			
	0...160 mbar			01			
	0...250 mbar			02			
	0...400 mbar			03			
	0...600 mbar			04			
	0...1.0 bar			05			
	0...1.6 bar			06			
	0...2.5 bar			07			
	0...4.0 bar			08			
	0...6.0 bar			09			
	0...10 bar			10			
	0...16 bar			11			
	0...25 bar			12			
	0...40 bar		3	13			
	0...60 bar		3	14			
	0...100 bar		3	15			
	0...160 bar		3	16			
	0...250 bar		3	17			
	0...400 bar		3	18			
	0...600 bar		3	19			
	0...1000 bar		3	20			
	Special calibration			99			
Process connection	G 1/4 female (Fig. 1)					00	
	G 1/4 M (Fig. 2)					11	
	G 1/4 M, Manometer DIN 16288 (Fig. 3)					12	
	G 1/2 M (Fig. 4)					13	
	G 1/2 M, frontal diaphragm (Fig. 5)					14	
	G 1/2 M, flush diaphragm (Fig. 6)					15	
	G 1/2 M, Manometer DIN 16288 (Fig. 7)					16	
	1/4 NPT M					10	
	1/2 NPT M (Fig. 8)					19	
	Special process connection					99	
Electrical connection	Connector Binder 723, 5-pins ²⁾ (Fig. 10)		IP 67			03	
	Connector Lumberg RSF5 (M12x1), 5-pins ²⁾ (Fig. 11)		IP 65			08	
	Connector MIL C26482, (10-6) ²⁾ (Fig. 12)		IP 40			06	
	Special electrical connection					99	
Interface	CANopen					63	
Accuracy	≤± 0.25% FS					1	
	≤± 0.1 % FS					2	
Temperature range	Compensated -25...85°C (medium temperature: -25...100°C)					1	
	Compensated -25...85°C (medium temperature: -25...150°C)					2	
	Special temperature range					9	
Options	Throttle ¹⁾						A
	Electronics packed in gel: Gauge pressure						C
	Absolute and sealed gauge pressure						D
	Special oil filling in the TD: ASEOL Food						G
	Halocarbon						H
	Seals: Viton (Standard)						U
	EPDM						S
	Kalrez						T
	Special options						Z

¹⁾ Available only with fig. 2, fig. 4 or fig. 7

²⁾ Cable socket connector not included

Pressure Connection

Dimensions

Electrical Connection

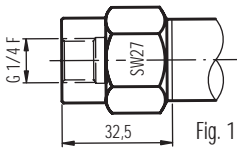


Fig. 1

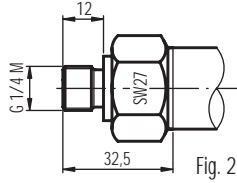


Fig. 2

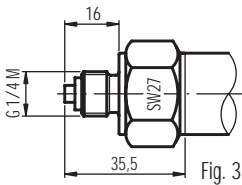


Fig. 3

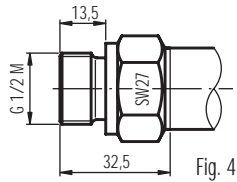


Fig. 4

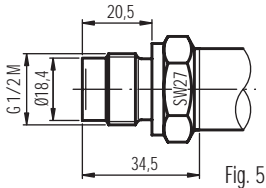


Fig. 5

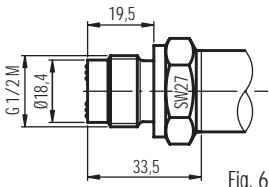


Fig. 6

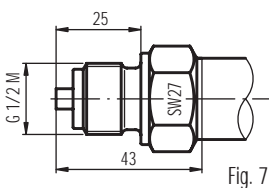


Fig. 7

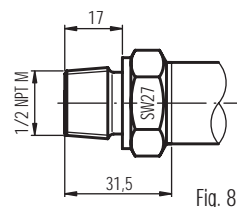
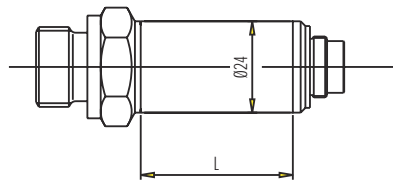


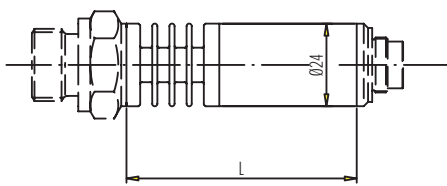
Fig. 8

Version for medium temperature up to 100°C

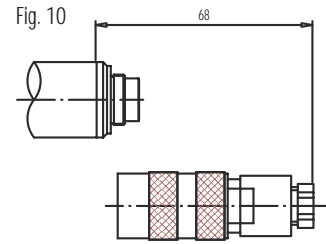


L = 55 mm for Connector Binder 723, 5-pin (Fig. 10)

Version for medium temperature up to 150°C



L = 82 mm for Connector Binder 723, 5-pin (Fig. 10)

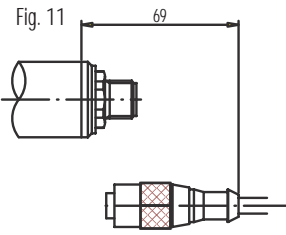


Cable socket connector

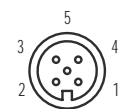


Pin CANopen

1	Shield
2	+VIN
3	GND
4	CAN_H
5	CAN_L

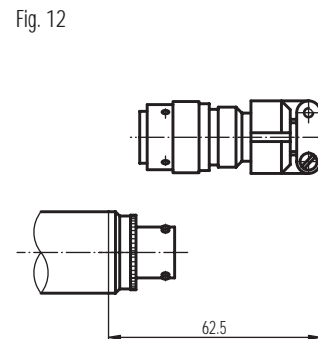


Cable socket connector



Pin CANopen

1	Shield
2	+VIN
3	GND
4	CAN_H
5	CAN_L



Cable socket connector



Pin CANopen

A	Shield
B	+VIN
C	GND
D	CAN_H
E	CAN_L
F	

Specifications may change without notice.

DED001A

Release 02/2003