

Digital Pressure Transmitter

DTM.OCS.S - Modbus Transmitter



CUSTOMER BENEFITS

- High precision digital pressure sensor with standard Modbus interface
- Fast customization thanks to modular product design
- High measurement accuracy is ensured by sophisticated digital temperature compensation algorithms
- Adjustment of zero and span setting through Modbus commands

Technical Specifications

PRESSURE MEASURING RANGE (BAR)

	0.2 ... 0.5	> 0.5 ... 2	> 2 ... 100
Overpressure	3 bar	3 x FS (≥ 3 bar)	3 x FS
Burst pressure, (1)	> 200 bar	> 200 bar	> 200 bar
Accuracy, (2), ($\pm$ % FS)	≤ 0.15	≤ 0.05	≤ 0.03
Total Error, (3) (4) ($\pm$ % FS)			
0...70°C (typ./max.)	$\leq 0.3 / 0.8$	$\leq 0.1 / 0.2$	$\leq 0.1 / 0.2$
-25...85°C (typ. / max.)	$\leq 0.5 / 1.0$	$\leq 0.2 / 0.4$	$\leq 0.1 / 0.2$
-40...85°C (typ. / max.)	$\leq 0.8 / 1.5$	$\leq 0.3 / 0.5$	$\leq 0.1 / 0.2$
Response time	1 s	1 s	1 s
Long term stability, (5)	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

(1) Transducer

(2) System limitation 0.5mbar

(3) Total error including accuracy, hysteresis, repeatability and temperature influences

(4) The error values are valid within the corresponding temperature range

(5) 1 year (typ. / max.)

TEMPERATURE MEASURING RANGE, (1) (°C)

	0 ... 70	-25 ... 85	-40 ... 85°C
Accuracy, (2)	$\leq \pm 0.5$ °C	$\leq \pm 1.5$ °C	$\leq \pm 1.5$ °C
Response time, (3), (4)			
T 0.50	9 s	9 s	9 s
T 0.63	15 s	15 s	15 s
T 0.90	27 s	27 s	27 s

(1) Temperature measurement included

(2) Accuracy of the equipment ± 2 °C

(3) Time in seconds that the sensor needs to carry out eg 63% of a temperature change

(4) Time of measurement for liquid medium

TEMPERATURE RANGE (1)

Operating temperature	-40...85 °C
Process temperature	-40...85 °C
Storage temperature	-40...85 °C

(1) Depending on connector type, pressure range, seal, measuring medium

ELECTRICAL SPECIFICATIONS

Power supply (1)	9...30 VDC
Current consumption (typ.)	3mA @ 24VDC
Resolution	
Pressure	20 Bit
Temperature	0.1°C
Output	
Protocol	Modbus RTU, 8n2
Interface	RS485
Baudrate	9600 bps
Cable length (2)	max. 1000m

(1) Power supply at the sensor

(2) Cable length >500m only Point-to-Point connection possible

QUALIFICATIONS (1)

	Description	Level	Typical interferences
IEC 60068-2-27	Schock	500 G (3ms)	
IEC 60068-2-64	Vibration	10 G rms (5 ... 2000 Hz)	
EN 55011 EN 55022 EN 61326-1	Emission, class B	0.03...6 GHz	
EN 61000-4-2 EN 61326-1	Electrostatic discharge	8 kV contact / 15 kV air	
EN 61000-4-3 EN 61326-1	Irradiated RF	10 V/m (0.08 ... 6 GHz)	Radio sets, wireless phones, Wi-Fi
EN 61000-4-4 EN 61326-1	Transients (burst)	4 kV	Motors, valves
EN 61000-4-6 EN 61326-1	Conducted RF	10 V (0.15 ... 80 MHz)	Frequency converters
EN 61000-4-5 EN 61326-1	Surge	2 kV	Overvoltage

(1) Only with connected shield

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

(1) Hastelloy (C-276) on request

Accessories

OVERVIEW

10.00.0091	Accessories overview

Additional documents

OPERATING MANUAL

	Article number
10.00.0430	Operating manual

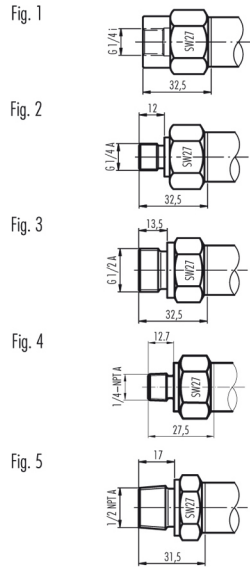
Ordering information

	X.	XXXX.	XXXX.	XX.	XXX
Type					
DTM.OCS.S					
Pressure type					
Gauge	1				
Absolute (vacuum)	2				
Sealed gauge	3				
Pressure measuring range					
200 mbar ... 100 bar	XX				
offset, special adjustment	99				
Process connection					
G 1/4 F (Fig. 1)	00				
G 1/4 M (Fig. 2)	11				
G 1/4 M, manometer DIN 16288	12				
G 1/2 M (Fig. 3)	13				
G 1/2 M, manometer DIN 16288	16				
G 1/2 M, with bore Ø 14mm	17				
1/4 NPT M (Fig. 4)	10				
1/2 NPT M (Fig. 5)	19				
Customized connection available	99				
Electrical connection					
M16 (Binder 723), 5-pin, IP 67, (1) (Fig. 9)	03				
M16 (Binder 723), 5-pin, IP 67, demountable,(1) (Fig. 10)	43				
MIL C26482, 10-6, IP 40, (1) (Fig. 11)	06				
PE cable, IP 67, black (Fig. 12)	13				
PUR cable, IP 67, black (Fig. 12)	15				
FEP cable, IP 67, black (Fig. 12)	21				
Customized connection available	99				
Output signal					
RS485, Modbus	62				
Accuracy					
According to Datasheet	3				
Temperature range					
0 ... 70°C compensated process temperature: 0 ... 70 °C)	(allowed	0			
-25 ... 85°C compensated (allowed process temperature: -25 ... 85°C)		1			
-40 ... 85°C compensated (allowed process temperature: -40 ... 85°C)		8			
Option 1					
Throttle				A	
Special oil filling: Anderol Food food applications)	(for			G	
Special oil filling: PAO4 (Silicone free)				Q	
Option 2					
Version titanium				K	
Option 3					
Seals: Viton (standard)				U	

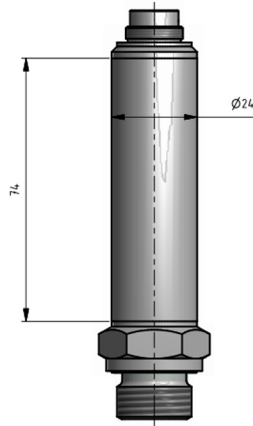
Seals: EPDM			S
Seals: Kalrez (Industry)			T

(1) Cable socket connector not included

Pressure Connections



Dimensions



Electrical Connections

