



PRESSURE TRANSMITTER, FOR INDUSTRIAL AND MOBILE HYDRAULIC APPLICATIONS, WITH SENSING ELEMENT DEPOSITED ON STAINLESS STEEL DIAPHRAGM

The new 7P series includes pressure transmitters having measuring range from 4 up to 1000 bar FS. SIL2/PLd/E1 approvals and very compact mechanical dimensions make this sensor suitable for installations on mobile hydraulic machines as well as demanding industrial applications where robustness and high IP protection are necessary features.



- Sensing element deposited on stainless steel diaphragm
- Analog Output Signals: Voltage and current
- Compact size
- Wetted parts: Stainless steel
- Pressure media: Fluids compatible with Stainless Steel AISI 430F and 17-4 PH
- Housing: Stainless Steel AISI 304
- SIL 2 certified according to EN IEC 62061:2021 and IEC/EN 61508:2010
- PL d certified according to EN ISO 13849-1:2015 and EN ISO 13849-2:2012
- Electromagnetic immunity up to 100 V/m
- Protection degree: IP69K with female homologated connector mounted
- High resistance to mechanical shocks and vibrations

Main features

- Very compact design
- Wide measuring pressure ranges from 4 to 1000 bar
- Overpressure: 2 x FS, max 1200 bar
- Typical analogue outputs available
0-10 Vdc, 4-20 mA, 0,5-4,5 Vdc ratiometric, 1..5 Vdc
- Pressure ports: G 1/4 ISO 1179-2, 9/16 UNF
SAE J1926-2, R 1/4 ISO 7/1
- Electrical connections: M12x1 (4-pin),
Deutsch DT04-4P (4-pin), Deutsch DT04-3P (3-pin)
- SIL2/PLd/E1 approvals
- Accuracy: $< \pm 0.5\%$ FS
- Operating temperature range: $-40...+125^{\circ}\text{C}$ ($-40...+257^{\circ}\text{F}$)
- Compensated temperature range: $-20...+85^{\circ}\text{C}$ ($-4...+185^{\circ}\text{F}$)
- Response time: < 1 msec
- Warm-up time: < 30 sec.
- Packaging: carton box with recommended quantity of 50 pcs/lot (just one code)

Application fields

- Agriculture machines and equipments
- Construction machinery and equipments
(Excavators, loaders, paving machines etc.)
- Materials handling machines
(stationary cranes, truck mounted cranes, forklifts, aerial platforms etc.)
- Forestry equipments
(Harvesting heads, mobile saws etc.)
- Equipments and trucks for garbage recycling
- Industrial machines and equipments



PRESSURE TRANSMITTER **7P** FOR INDUSTRIAL AND MOBILE HYDRAULIC APPLICATIONS

Electrical specifications

Power supply: 8-32 Vdc, 12-32 Vdc (only for 0-10V signal output, 3 wires), 5+/- 0,25 Vdc (only for ratiometric output)

Typical consumption: 4 mA for voltage outputs

Dielectric strenght: 500 Vdc

Overvoltage protection: yes

Polarity protection: yes

Environmental and mechanical specifications

Operating temperature range: -40...+125°C (-40...+257°F)

Humidity: Up to 100% RH non-condensing (EN60068-2-30)

Electrical connections: M12x1 (4-pin), Deutsch DT04-4P (4-pin), Deutsch DT04-3P (3-pin)

Weight: 50 g.

Protection degree: IP69K with female homologated connector mounted

Mechanical shock: 100g 6ms according to IEC 60068-2-27, 50g 11ms according to ISO 19014-3

Vibration: 20g max at 10...2000 Hz according to IEC 60068-2-6 Random ASD 10...2000Hz according to ISO 19014-3

MTTFd: >200 years

EMC – Features:

EMC: EU directive 2014/30/EU

ISO 13766-1:2018: Earth-moving and building construction machinery — Electromagnetic compatibility (EMC) of machines with internal electrical power supply

ISO 13766-2:2018 (SIL2/PLd models): Earth-moving and building construction machinery — Electromagnetic compatibility (EMC) of machines with internal electrical power supply — Part 2:Additional EMC requirements for functional safety

2015/208/UE COMMISSION DELEGATED REGULATION (EU) 2015/208 of 8 December 2014 supplementing Regulation (EU) No 167/2013 of the European Parliament and of the Council with regard to vehicle functional safety requirements for the approval of agricultural and forestry vehicles

ECE ONU R10 (REV 6): Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility

Technical features:

Sensing element deposited on stainless steel AISI 430F diaphragm

Snubber for pressure peaks protection

Measuring ranges: from 0..4 up to 0..1000 bar

Non linearity (BSFL): (BSFL): ± 0.15% FS (typ); ± 0.25% FS (max)

Hysteresis: + 0.1% FS (typ); + 0.15% FS (max)

Repeatability: ± 0.025% FS (typ); ± 0.05% FS (max)

Zero offset tolerance: ± 0.15% FS (typ); ± 0.25% FS (max)

Span offset tolerance: ± 0.15% FS (typ); ± 0.25% FS (max)

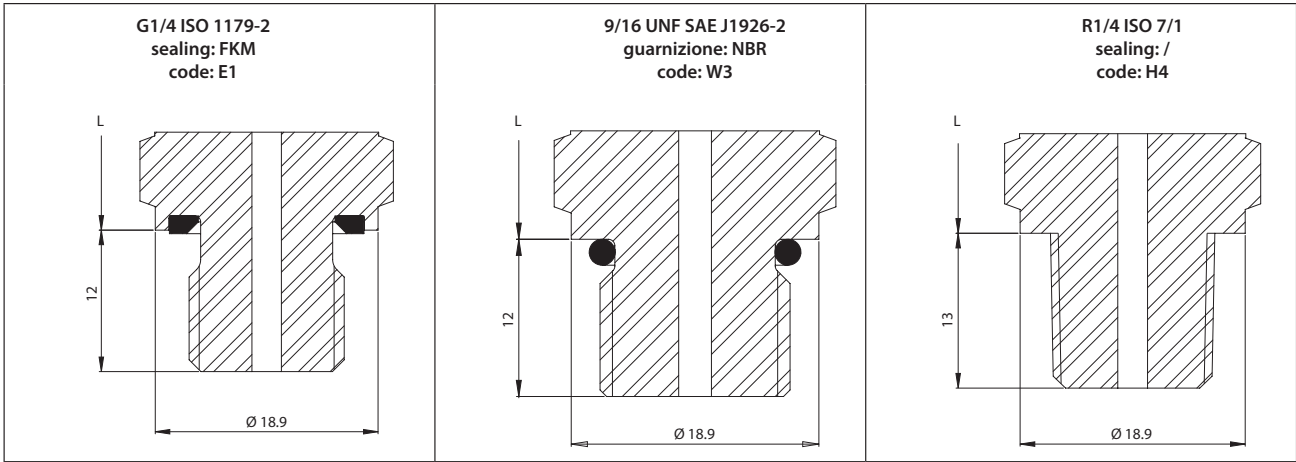
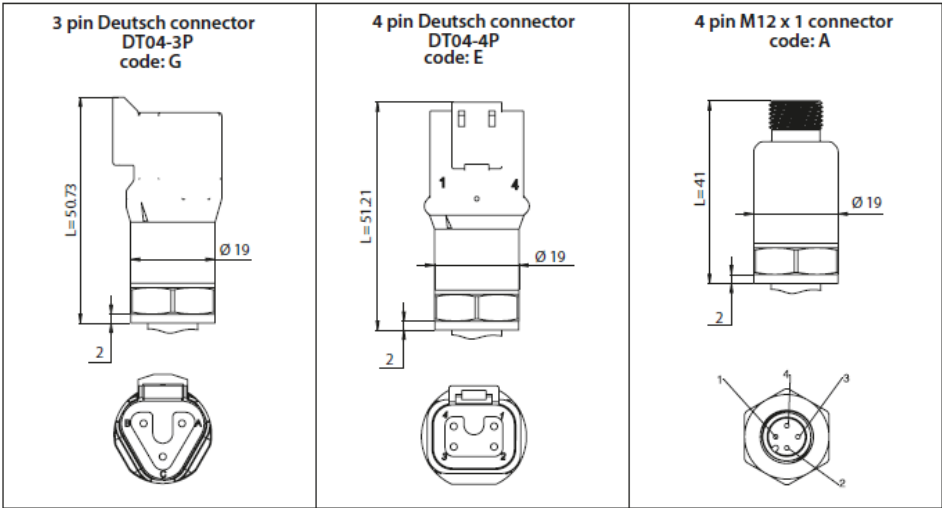
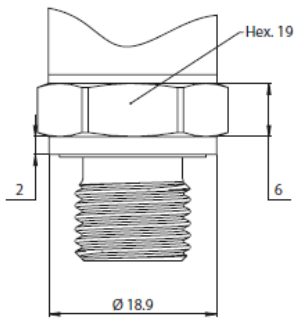
Accuracy at room temperature: < ± 0.5% FS

Analogue outputs: 0...10Vdc (3 wires) / 4...20mA (2 wires) 0.5...4.5 Vdc ratiometric / 1...5 Vdc (3 wires)

Load: RL ≥ 5 kΩ for voltage output, < 500 Ω for current output

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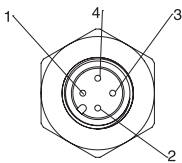
FIXED QUOTES FOR EVERY PRESSURE PORT



Tightening torque = 30 Nm (Max)

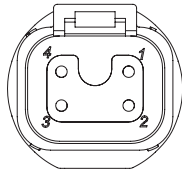
WIRING DIAGRAMS

A = M12 – 4 pin connector



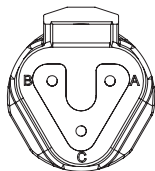
PIN	PINOUT 9 – ratiometric and voltage ouput	PINOUT A – current output	PINOUT B - corrent output
1	Signal	Vdc	Vdc
2	Gnd	Signal	n.c.
3	Vdc	n.c.	Signal
4	Shield	Shield	Shield

E = Deutsch DT04 – 4 pin connector



PIN	PINOUT 3 – ratiometric and voltage output	PINOUT 4 – current output
1	Gnd	Signal
2	Vdc	Vdc
3	Shield	Shield
4	Signal	n.c.

G = Deutsch DT04 – 3 pin connector



PIN	PINOUT 1 – ratiometric and voltage output	PINOUT 2 – current output
A	Vdc	Vdc
B	Gnd	Signal
C	Signal	n.c.

Ordering code: PRESSURE TRANSMITTER **7P** FOR INDUSTRIAL AND MOBILE HYDRAULIC APPLICATIONS

MODEL **7P**

Process connection

E1 : G 1/4 ISO 1179-2
W3 : 9/16 UNF SAE J1926-2
H4 : R 1/4 ISO 7/1

Power supply

1 : 8-32 Vdc (current and 1..5 Vdc outputs)
2 : 12-32 Vdc (0..10 Vdc output)
3 : 5 +/- 0,25 Vdc

Measuring range

0004 : 0-4 bar	0100 : 0-100 bar
0006 : 0-6 bar	0160 : 0-160 bar
0010 : 0-10 bar	0200 : 0-200 bar
0016 : 0-16 bar	0250 : 0-250 bar
0020 : 0-20 bar	0400 : 0-400 bar
0025 : 0-25 bar	0600 : 0-600 bar
0040 : 0-40 bar	1000 : 0-1000 bar
0060 : 0-60 bar	

Electrical connection

A9 : M12 - 4 pin connector; ratiometric and voltage output
AA : M12 - 4 pin connector; current output
AB : M12 - 4 pin connector; current output
E3 : Deutsch - 4 pin connector; ratiometric and voltage output
E4 : Deutsch - 4 pin connector; current output
G1 : Deutsch - 3 pin connector; ratiometric and voltage output
G2 : Deutsch - 3 pin connector; current output

Output signal

V0 : 0-10 Vdc (SIL2/PLd certification not available)
V9 : 1-5 Vdc
V8 : 0.5-4.5 Vdc ratiometric
A1 : 4-20 mA



O.M.F.B. S.p.A. Hydraulic Components

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