T.3

hex 22
stainless steel
1.4404 / AISI 316L

Robust pressure transmitters

Stainless steel housing 1.4404 / AISI 316L, hex 22

- Pressure transmitters especially for low pressures, including vacuum applications
- Long life time even under high pressure change rates
- Housing and wetted parts are made of stainless steel 1.4404 providing excellent media compatibility when used in seawater, chemical and process technology applications
- The highly-sensitive piezo-resistive sensor in the measuring cell filled with oil guarantees high level of accuracy, repeatability and long-term stability
- The availability of different sealing materials enables deployment in a broad temperature range and with a diverse array of media

Robust pressure transmitters

Technical details

	0675	0680	0690
Output signal:	0.5 - 4.5 V ratiometric	0 - 10 V (3-wire)	4 - 20 mA (2-wire)
Supply voltage U_{V+}:	5 VDC ±10 % max. 6,5 VDC	12 - 32 VDC	10 - 32 VDC
Permissible load / apparent ohmic resistance:	≥ 4.7 kΩ	≥ 4.7 kΩ	≤ (U_{V+} – 10 V) / 20 mA
Idle power consumption:	approx. 5 mA		< 4 mA

	0675 / 0680 / 0690								
Standard pressure ranges p_{nom}:	-1 – 0 bar (vacuum)	-1 – 1 bar (compound)	0 – 1 bar	0 – 4 bar	0 – 6 bar	0 – 10 bar	0 – 16 bar	0 – 40 bar	0 – 100 bar
Overpressure protection p_u [1]:	3 bar	3 bar	3 bar	8 bar	12 bar	20 bar	32 bar	80 bar	200 bar
Burst pressure [1]:	10 bar	10 bar	10 bar	20 bar	30 bar	35 bar	40 bar	100 bar	250 bar
Mechanical life expectancy:	10,000,000 pulsations at rise rates to 1,000 bar/s at p_{nom}								
Permitted pressure change rate:	≤ 1,000 bar/s								
Accuracy:	±0.5 % full scale (FS) at room temperature, ±0.25 % BFSL								
Long term stability:	< ±0.2 % of full scale (FS) per year								
Repeatability [2]:	±0.1 % FS								
Temperature error [2]:	±0.02 % of full scale (FS) / °C; -1 … 1 bar ±0.03 % of full scale (FS) / °C								
Compensated temperature range:	-10 °C ... +70 °C (14 °F …158 °F)								
Temperature range ambient:	-40 °C … +100 °C (-40 °F … 212 °F)								
Temperature range media:	with NBR seal: -30 °C … +100 °C (-22 °F … +212 °F)								
	with EPDM seal: -30 °C … +125 °C (-22 °F … +257 °F)								
	with FKM seal: -20 °C … +125 °C (-4 °F … +257 °F)								
Wetted parts material – Housing:	Stainless steel 1.4404 (AISI 316L)								
Wetted parts material – Measuring cell:	Stainless steel 1.4404 (AISI 316L)								
Wetted parts material – Seal material:	NBR, EPDM or FKM								
Standard sensor oil:	Fluorine oil[3]								
Insulation resistance::	> 100 MΩ (35 VDC)								
Response time 10 - 90 %:	≤ 2 ms								
Vibration resistance:	20 g at 4 – 2000 Hz sine wave; DIN EN 60068-2-6								
Shock resistance:	half sine wave 500 m/s²; 11ms; DIN EN 60068-2-27								
Protection class	Refer to the electrical connections								
Electromagnetic compatibility:	EMC 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007								
Max. length of connection cable:	30 m								
Protection against reverse polarity, short-circuit and overvoltage:	Built-in								
Weight:	approx. 80 g (DIN EN 175301 approx. 110 g, cable output approx. 135 g)								

[1] Static pressure. Dynamic value is 30 to 50% lower. Values refer to the hydraulic/pneumatic part of the pressure transmitter.
[2] Within the compensated temperature range.
[3] not suitable for food applications

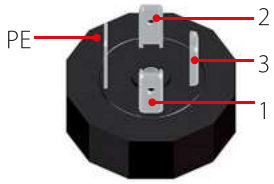
T.3

hex 22
stainless steel
1.4404 / AISI 316L

0675 / 0680 / 0690

Electrical connectors and threads

DIN EN 175301 - 803 - A



Pin	0675 / 0680	0690
1	U_{V+}	U_{V+}
2	Gnd	I_{out}
3	U_{out}	nc
PE	⏚	⏚

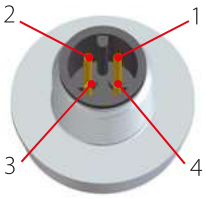
IP65

x ~ 60 mm without socket device
x ~ 76 mm with socket device

d ~ Ø 30 mm

Connection code: 013

M12 – DIN EN 61076 - 2 -101 A



Pin	0675 / 0680	0690
1	U_{V+}	U_{V+}
2	U_{out}	nc
3	Gnd	I_{out}
4	nc	nc

IP67

x ~ 54 mm

d ~ Ø 22 mm

Connection code: 002

ISO 15170 - A1 - 4.1

Pin	0675 / 0680	0690
1	U_{V+}	U_{V+}
2	Gnd	nc
3	U_{out}	I_{out}
4	nc	nc

IP67

x ~ 65 mm

d ~ Ø 27 mm

Connection code: 004

Cable connection

Pin	0675 / 0680	0690
1	U_{V+}	U_{V+}
2	U_{out}	nc
3	Gnd	I_{out}

IP67

x ~ 44 mm (+ 20 mm bend relief)
Cable length ~ 2 m

d ~ Ø 22 mm

Connection code: 011

Thread code: 41

RoHSIII 2020 - 209 compliant

0675 / 0680 / 0690

Article matrix for pressure transmitters

	Type	Pressure range	Pressure connection	Seal material	Electrical connection
	↓	↓	↓	↓	↓
0.5 - 4.5 V ratiometric	**0675**				
0 - 10 V, 3-wire	**0680**				
4 - 20 mA, 2-wire	**0690**				

Pressure range	Max. Overpressure[1]	
-1 – 0 bar (Vacuum, approx. -29.6 inHg)	3 bar	**000**
-1 – 1 bar (Compound pressure range)[2]	3 bar	**V01**
0 - 1 bar (approx. 14.5 PSI)	3 bar	**100**
0 - 4 bar (approx. 58 PSI)	8 bar	**400**
0 - 6 bar (approx. 87 PSI)	12 bar	**600**
0 - 10 bar (approx. 145 PSI)	20 bar	**101**
0 - 16 bar (approx. 232 PSI)	32 bar	**161**
0 - 40 bar (approx. 580 PSI)	80 bar	**401**
0 - 100 bar (approx. 1,450 PSI)	200 bar	**102**

Pressure connection

G1/4 – DIN EN ISO 1179-2 (DIN 3852-11), form E	**41**

Seal material – Application areas

NBR	Hydraulic/machine oil, air, nitrogen, water, etc.	-30 °C … +100 °C (-22 °F … +212 °F)	**1**
EPDM[3]	Brake fluid, water, acetylene, hydrogen, etc.	-30 °C … +125 °C (-22 °F … +257 °F)	**2**
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	-20 °C … +125 °C (-4 °F … +257 °F)	**3**

Electrical connection

DIN EN 175301-803-A (DIN 43650-A); socket device included	**013**
M12x1 – DIN EN 61076-2-101 A	**002**
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	**004**
Cable connection (length of cable 2 m standard)	**011**

	↓	↓	↓	↓	↓
Article number	**06XX**	**XXX**	**41**	**X**	**XXX**

[1] Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the pressure transmitter.
[2] Other compound pressure ranges on request.
[3] For oxygen applications, the EPDM diaphragm can only be used up to 10 bar and a media temperature of max. +60°C.

RoHSIII 2020 - 209 compliant