

T.3

hex 22
Stainless steel

1.4404 / AISI 316L

Robust pressure transmitters

Stainless steel housing 1.4404 / AISI 316L, hex 22



- Pressure transmitters specially 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

Technical details

Type:	0675	0680	0690
Output signal:	0.5 – 4.5 V ratiometric	0 – 10 V (3-wire)	4 – 20 mA (2-wire)
Supply voltage U_B :	5 VDC \pm 10% max. 6.5 VDC	12 – 32 VDC	10 – 32 VDC
Permissible load apparent ohmic resistance:	\geq 4.7 k Ω	\geq 4.7 k Ω	\leq ($U_B - 10$ V) / 20 mA
Idle power consumption:	approx. 5 mA		–

Type:	0675 / 0680 / 0690							
Standard pressure ranges p_{nom} :	-1 – 0 bar (vacuum)	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	8 bar	12 bar	20 bar	32 bar	80 bar	200 bar
Burst pressure ¹⁾ :	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 bar/ms at p_{nom}							
Permitted pressure change rate:	\leq 1 bar/ms							
Accuracy:	\pm 0.5 % full scale (FS) at room temperature, \pm 0.25 % BFSL							
Long term stability:	$<$ \pm 0.2 % of full scale (FS) per year							
Repeatability ²⁾ :	\pm 0.1 % FS							
Temperature error ²⁾ :	\pm 0.02 % of full scale (FS) / $^{\circ}$ C; -1 ... 1 bar \pm 0.03 % of full scale (FS) / $^{\circ}$ C							
Compensated temperature range:	-10 $^{\circ}$ C ... +70 $^{\circ}$ C (14 $^{\circ}$ F ... 158 $^{\circ}$ F)							
Temperature range ambient:	-40 $^{\circ}$ C ... +100 $^{\circ}$ C (-40 $^{\circ}$ F ... 212 $^{\circ}$ F)							
Temperature range media:	with NBR seal: -40 $^{\circ}$ C ... +100 $^{\circ}$ C (-40 $^{\circ}$ F ... +212 $^{\circ}$ F)							
	with FKM seal: -20 $^{\circ}$ C ... +125 $^{\circ}$ C (-4 $^{\circ}$ F ... +257 $^{\circ}$ F)							
Wetted parts material	Housing:	Stainless steel 1.4404 / AISI 316L						
	Measuring cell:	Stainless steel 1.4404 / AISI 316L						
	Seal material:	NBR or FKM						
Standard sensor oil:	Fluorine oil (not suitable for food applications)							
Insulation resistance:	$>$ 100 M Ω (500 VDC, $R_i >$ 42 Ω)							
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/s ² ; 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.

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Electrical connectors and threads

DIN EN 175301-803-A

0675 + 0680	0690
1: Uv+	1: Uv+
2: Gnd	2: I _{out}
3: U _{out}	3: nc
PE	⊕

IP65

x ~ 60 mm (without coupler socket)
x ~ 76 mm (with coupler socket)

d ~ Ø 30 mm

Order number: 013

M 12 – DIN EN 61076-2-101 A

0675 + 0680	0690
1: Uv+	1: Uv+
2: U _{out}	2: nc
3: Gnd	3: I _{out}
4: nc	4: nc

IP67

x ~ 54 mm

d ~ Ø 22 mm

Order number: 002

ISO 15170-A1-4.1

0675 + 0680	0690
1: Uv+	1: Uv+
2: Gnd	2: nc
3: U _{out}	3: I _{out}
4: nc	4: nc

IP67

x ~ 65 mm

d ~ Ø 27 mm

Order number: 004

Cable connection

0675 + 0680	0690
1: Uv+	1: Uv+
2: U _{out}	2: nc
3: Gnd	3: I _{out}

IP67

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

d ~ Ø 22 mm

Order number: 011

Sealing ring
G 1/4 DIN
EN ISO 1179-2
(DIN 3852-11)
form E

Thread code: 41

0675 / 0680 / 0690

Order matrix for pressure transmitters

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	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
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

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11), form E	41
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Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, water, etc.	-40 °C ... 100 °C (-40 °F ... 212 °F)	1
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
M 12x1 – 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

Order number:	06XX	XXX	41	X	XXX
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¹⁾ Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the pressure transmitter.

