

# Pressure transmitters, High-Performance series

hex 22



- Outstanding overpressure protection (up to 4 x)
- Ideal choice for mobile hydraulic applications
- Long service life even under high pressure change rates
- Wetted parts made of stainless steel and titanium ensuring excellent media compatibility
- All welded design, no elastomeric seal
- Silicon-on-sapphire technology (SoS) for highest reliability, accuracy and reliable process monitoring
- Very low temperature error and very good long-term stability
- Customer specific solutions available on request

## Technical details

Type:	<b>0705</b>	<b>0710</b>	<b>0720</b>
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 $\Omega$	$\geq 4.7$ k $\Omega$	$\leq (U_B - 10 \text{ V}) / 20 \text{ mA}$
Idle power consumption:	approx. 5 mA		

Type:	<b>0705 / 0710 / 0720</b>									
Standard pressure ranges $p_{nom}$ in bar:	0–10	0–16	0–25	0–40	0–60	0–100	0–160	0–250	0–400	0–600
Overpressure protection $p_U^{1)}$ in bar:	40	64	100	160	240	400	640	1,000	1,600	1,650
Burst pressure <sup>1)</sup> in bar:	80	128	200	320	480	800	1,280	2,000	2,000	2,000
Mechanical life expectancy:	10,000,000 pulsations at rise rates to 5 bar/ms at $p_{nom}$									
Permitted pressure change rate:	$\leq 5$ bar/ms									
Accuracy:	$\pm 0.5$ % full scale (FS) at room temperature, $\pm 0.25$ % BFSL									
Long term stability:	$\pm 0.1$ % FS p. a.									
Repeatability <sup>2)</sup> :	$\pm 0.1$ % FS									
Temperature error <sup>2)</sup> :	$\pm 0.01$ % FS / °C									
Compensated temperature range:	-40 °C ... +80 °C (-40 °F ... 176 °F)									
Temperature range ambient:	-40 °C ... +100 °C (-40 °F ... 212 °F)									
Temperature range media:	-40 °C ... +125 °C (-40 °F ... 257 °F)									
Wetted parts material:	stainless steel 1.4305 / SAE Grade 303, titanium									
Insulation resistance:	$> 100$ M $\Omega$ (500 VDC, $R_i > 42$ $\Omega$ )									
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 <sup>2</sup> ; 11ms; DIN EN 60068-2-27									
Protection class	IP67 for M 12x1, DIN 72585 (bayonet) and cable connector IP65 for DIN EN 175301-803									
Electromagnetic compatibility:	EMC 2014/30/EU, EN 61000-6-2, EN 61000-6-3									
Max. length of connection cable:	30 m									
Protection against reverse polarity, short-circuit and overvoltage:	Built-in									
Weight:	approx. 80 g (DIN 175301 approx. 110 g, cable outlet approx. 135 g)									

<sup>1)</sup> Static value. Dynamic value is 30 to 50% lower. Values refer to the hydraulic/pneumatic part of the pressure transmitter / transducer.

<sup>2)</sup> Within the compensated temperature range.

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Electrical connectors and threads



DIN EN 175301-803-A	
0705 + 0710	0720
1: U <sub>out</sub>	1: nc
2: Gnd	2: I <sub>out</sub>
3: Uv+	3: Uv+
IP65	
x ~ 60 / 76 mm*	
d ~ Ø 30 mm	
Order number: 001	

M 12 – DIN EN 61076-2-101 A	
0705 + 0710	0720
1: Uv+	1: Uv+
2: U <sub>out</sub>	2: nc
3: Gnd	3: I <sub>out</sub>
4: nc	4: nc
IP67	
x ~ 54 mm	
d ~ Ø 22 mm	
Order number: 002	

ISO 15170-A1-4.1	
0705 + 0710	0720
1: Uv+	1: Uv+
2: Gnd	2: nc
3: U <sub>out</sub>	3: I <sub>out</sub>
4: nc	4: nc
IP67, IP6K9K	
x ~ 65 mm	
d ~ Ø 27 mm	
Order number: 004	

AMP Superseal	
0705 + 0710	0720
1: U <sub>out</sub>	1: nc
2: Gnd	2: I <sub>out</sub>
3: Uv+	3: Uv+
IP67	
x ~ 73 mm	
d ~ Ø 26 mm	
Order number: 007	

\* without coupler socket x ~ 60 mm, with coupler socket x ~ 76 mm

DEUTSCH DT04-4P	
0705 + 0710	0720
1: GND	1: I <sub>out</sub>
2: Uv+	2: Uv+
3: nc	3: nc
4: U <sub>out</sub>	4: nc
IP67, IP6K9K	
x ~ 74 mm	
d ~ Ø 23 mm	
Order number: 008	

DEUTSCH DT04-3P	
0705 + 0710	0720
A: Uv+	A: Uv+
B: GND	B: nc
C: U <sub>out</sub>	C: I <sub>out</sub>
IP67, IP6K9K	
x ~ 74 mm	
d ~ Ø 23 mm	
Order number: 010	

Cable connection	
0705 + 0710	0720
1: Uv+	1: Uv+
2: Gnd	2: nc
3: U <sub>out</sub>	3: I <sub>out</sub>
IP67	
x ~ 44 mm (+ 20 mm bend relief) Cable length ~ 2 m	
d ~ Ø 22 mm	
Order number: 011	

	Viton®-Sealing ring G 1/4 DIN EN ISO 1179-2 (DIN 3852-11) form E
Thread code: 41	

	G1/4 DIN 3852-A
Thread code: 03	

	NPT 1/8
Thread code: 04	

	NPT 1/4
Thread code: 09	

	M 10x1 DIN 3852-A
Thread code: 30	

	7/16-20 UNF
Thread code: 20	

	9/16-18 UNF
Thread code: 21	

	Viton®-Sealing ring M14x1,5 DIN 3852 form E
Thread code: 42	



# 0705 / 0710 / 0720

## Order matrix for pressure transmitters

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	Type	Pressure range	Pressure connection	Seal material	Electrical connection
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0.5 – 4.5 V, ratiometric	<b>0705</b>
0 – 10 V, 3-wire	<b>0710</b>
4 – 20 mA, 2-wire	<b>0720</b>

Pressure range	Max. overpressure <sup>1)</sup>	
0 – 10 bar (approx. 145 PSI)	40 bar	<b>101</b>
0 – 16 bar (approx. 232 PSI)	64 bar	<b>161</b>
0 – 25 bar (approx. 362 PSI)	100 bar	<b>251</b>
0 – 40 bar (approx. 580 PSI)	160 bar	<b>401</b>
0 – 60 bar (approx. 870 PSI)	240 bar	<b>601</b>
0 – 100 bar (approx. 1,450 PSI)	400 bar	<b>102</b>
0 – 160 bar (approx. 2,320 PSI)	640 bar	<b>162</b>
0 – 250 bar (approx. 3,620 PSI)	1000 bar	<b>252</b>
0 – 400 bar (approx. 5,800 PSI)	1600 bar	<b>402</b>
0 – 600 bar (approx. 8,700 PSI)	1650 bar	<b>602</b>

Pressure connection	
G 1/4 – DIN 3852-E	<b>41</b>
G 1/4 – DIN 3852-A	<b>03</b>
NPT 1/8 (max. to 250 bar)	<b>04</b>
NPT 1/4	<b>09</b>
M 10 x 1 tap, DIN 3852-A (max. to 250 bar)	<b>30</b>
7 / 16 – 20 UNF (max. to 250 bar)	<b>20</b>
9 / 16 – 18 UNF	<b>21</b>
M 14 x 1.5 – DIN 3852-E	<b>42</b>

Pressure unit	
bar	<b>B</b>
PSI	<b>P</b>

Electrical connection	
DIN EN 175301-803-A (DIN 43 650-A) ; socket device included	<b>001</b>
M 12 – DIN EN 61071-2-101 D	<b>002</b>
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	<b>004</b>
AMP Superseal 1,5°	<b>007</b>
Deutsch DT04-4P	<b>008</b>
Deutsch DT04-3P	<b>010</b>
Cable connection (length of cable 2 m standard)	<b>011</b>

<b>Order number:</b>	<b>07XX</b>	<b>XXX</b>	<b>XX</b>	<b>X</b>	<b>XXX</b>
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<sup>1)</sup> Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the pressure transmitter.

