

Pressure transmitters High-Performance series

Silicon-on-sapphire sensor technology (SoS), 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

Pressure transmitters

High-Performance series

Technical details

	0705	0710	0720
Output signal:	0.5 - 4.5 V ratiometric	0 - 10 V (3-wire)	4 - 20 mA (2-wire)
Supply voltage U_{V+} :	5 VDC \pm 10 % max. 6.5 VDC	12 - 32 VDC	10 - 32 VDC
Permissible load / apparent ohmic resistance:	$\geq 4.7 \text{ k}\Omega$	$\geq 4.7 \text{ k}\Omega$	$\leq (U_{V+} - 10 \text{ V}) / 20 \text{ mA}$
Idle power consumption:	approx. 5 mA		< 4 mA

0705 / 0710 / 0720										
Pressure range in bar										
Standard pressure ranges p_{nom} :	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⁾ :	40	64	100	160	240	400	640	1,000	1,600	1,650
Burst pressure ¹⁾ :	80	128	200	320	480	800	1,280	2,000	2,000	2,000
Pressure range in PSI										
Standard pressure ranges p_{nom} :	0 - 150	0 - 200	0 - 300	0 - 600	0 - 1,000	0 - 1,500	0 - 2,500	0 - 3,000	0 - 6,000	0 - 8,700
Overpressure protection p_U ¹⁾ :	300	580	580	1,450	2,900	2,900	5,800	5,800	10,870	12,180
Burst pressure ¹⁾ :	450	870	870	2,175	4,350	4,350	8,700	8,700	14,500	15,230
Technical parameters										
Mechanical life expectancy:	10,000,000 pulsations at rise rates to 5,000 bar/s at p_{nom}									
Permitted pressure change rate:	$\leq 5,000 \text{ bar/s}$									
Accuracy:	$\pm 0.5 \%$ full scale (FS) at room temperature, $\pm 0.25 \%$ BFSL									
Long term stability:	$\pm 0.1 \%$ FS p. a.									
Repeatability ²⁾ :	$\pm 0.1 \%$ FS									
Temperature error ²⁾ :	$\pm 0.01 \%$ 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:	$> 100 \text{ M}\Omega$ (35 VDC)									
Response time 10 - 90 %:	$\leq 2 \text{ ms}$									
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:	IP67 for M12x1, 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)									

¹⁾ Static value, dynamic value is 30 to 50% lower. Values refer to the hydraulic/pneumatic part of the pressure transmitter / transducer.

²⁾ Within the compensated temperature range.

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High Performance

0705 / 0710 / 0720

Electrical connectors and threads



DIN EN 175301- 803 - A

Pin	0705 / 0710	0720
1	U _{out}	nc
2	Gnd	I _{out}
3	U _{V+}	U _{V+}
PE		

IP65
x ~ 60 / 76 mm*
d ~ Ø 30 mm
Connection code: 001

M12 DIN EN 61076 - 2-101 A

Pin	0705 / 0710	0720
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	0705 / 0710	0720
1	U _{V+}	U _{V+}
2	Gnd	nc
3	U _{out}	I _{out}
4	nc	nc

IP67, IP6K9K
x ~ 65 mm
d ~ Ø 27 mm
Connection code: 004

AMP Superseal 1.5®

Pin	0705 / 0710	0720
1	U _{out}	nc
2	Gnd	I _{out}
3	U _{V+}	U _{V+}

IP67
x ~ 73 mm
d ~ Ø 26 mm
Connection code: 007

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

Deutsch DT04 - 4P

Pin	0705 / 0710	0720
1	Gnd	I _{out}
2	U _{V+}	U _{V+}
3	nc	nc
4	U _{out}	nc

IP67, IP6K9K
x ~ 74 mm
d ~ Ø 23 mm
Connection code: 008

Deutsch DT04 - 3P

Pin	0705 / 0710	0720
A	U _{V+}	U _{V+}
B	Gnd	nc
C	U _{out}	I _{out}

IP67, IP6K9K
x ~ 74 mm
d ~ Ø 23 mm
Connection code: 010

Cable connection

Pin	0705 / 0710	0720
1	U _{V+}	U _{V+}
2	U _{out}	nc
3	Gnd	I _{out}

IP67
x ~ 44 mm
(+ 20 mm bend relief)
Cable length ~ 2m
d ~ Ø 22 mm
Connection code: 011

Viton® Sealing ring
G1/4
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**

M10x1
DIN 3852-A
Thread code: **30**

7/16-20 UNF
Thread code: **20**

9/16-18 UNF
Thread code: **21**

FKM-Sealing ring
M14x1,5
DIN EN ISO 9974-2 (DIN 3852-11) form E
Thread code: **42**

0705 / 0710 / 0720

Article matrix for pressure transmitters

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hex 22

High Performance



	Type	Pressure range bar / PSI	Pressure connection	Pressure unit	Electrical connection
0.5 - 4.5 V ratiometric	0705				
0 - 10 V, 3-wire	0710				
4 - 20 mA, 2-wire	0720				

Pressure range in bar ¹⁾

0 - 10 bar	101
0 - 16 bar	161
0 - 25 bar	251
0 - 40 bar	401
0 - 60 bar	601
0 - 100 bar	102
0 - 160 bar	162
0 - 250 bar	252
0 - 400 bar	402
0 - 600 bar	602

Pressure range in PSI ¹⁾

0 - 150 PSI	152
0 - 200 PSI	202
0 - 300 PSI	302
0 - 600 PSI	602
0 - 1,000 PSI	103
0 - 1,500 PSI	153
0 - 2,500 PSI	253
0 - 3,000 PSI	303
0 - 6,000 PSI	603
0 - 8,700 PSI	873

B

P

Pressure connection

G1/4 - DIN EN ISO 1179-2 (DIN 3852-11), form E	41
G1/4 - DIN 3852-A	03
NPT 1/8 (max. to 250 bar)	04
NPT 1/4	09
M 10 x 1 cyl. DIN 3852-A (max. to 250 bar)	30
7 / 16 - 20 UNF (max. to 250 bar)	20
9 / 16 - 18 UNF	21
M 14 x 1,5 - DIN EN ISO 9974-2 (DIN 3852-11), form E	42

Pressure unit ²⁾

bar	B
PSI	P

Electrical connection

DIN EN 175301-803-A (DIN 43 650-A) ; socket device included	001
M 12 - DIN EN 61076-2-101 A	002
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	004
AMP Superseal 1.5°	007
Deutsch DT04-4P	008
Deutsch DT04-3P	010
Cable connection (length of cable 2 m standard)	011

Article number	07XX	XXX	/	XXX	XX	X	XXX
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¹⁾The respective overpressure and burst pressure values of the individual pressure ranges (in bar and PSI) can be found in the „Technical data“ on page 157.

²⁾The pressure unit (bar or PSI) must correspond to the selected pressure range (in bar or PSI).

