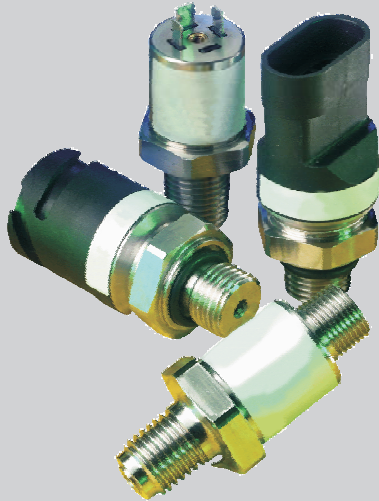




Compact High Pressure Transmitter Series 310



Ranges from 0...6 bar up to 2,200 bar gauge

High proof pressure

Various output signals

Variety of pressure ports

Built-up to approx. 35 mm only

GENERAL

The miniature pressure transmitter features small dimensions cum excellent performance. Ideal for installations where space is at a premium.

DESCRIPTION

In the bare 30mm sized housing a sputtered thin film sensor inclusive electronics has been built-in. The proof pressure of 3 x FS enables sensors to survive most severe pressure peaks.

A wide choice of electrical outputs as well as both electrical and pressure connections means the unit is suitable for most applications without modification. The welded stainless steel construction ensures long service life.

TECHNICAL DATA

INPUT

Measuring Span

from 0...5 bar
up to 0...2,200 bar gauge ¹⁾

Proof Pressure

2 x P_N (up to 1000bar); 1.5 x P_N >1600 bar
(Return to zero without remaining offset)

Burst Pressure

10 x nominal up to 400 bar
4 x nominal up to 1000 bar
1.8 x nominal ≥ 1600 bar

Fatigue life

> 100 Millionen cycles

Zero Tolerance

Typically 0.3 % of span

Span Tolerance

Typically 0.3 % of span

Media Gases, vapours and liquids

Pressure Port

see order codes

Wetted Parts

Stainless Steel 17-4 PH (X5CrNi-CuNb16-4); NBR

OUTPUT

Output Signal: see order codes

Characteristics linear

Conformity

± 0.15 % of nominal pressure ³⁾
(Best-fit methode),

Hysteresis, Repeatability

± 0,1% of full scale deflection

Load

Two- wire technology

$$R_L = \frac{U_{Supply} - 10[V]}{0.02[A]} [Ohm]$$

Three-wire technology [V] ≥10 kΩ

Response time

≥ 4 ms

Longterm Drift

0.1 %/ year [nominal pressure]
(Non cumulative)

POWER SUPPLY

Direct current

Version	Output	Supply
Voltage	all	U _S = U _{SIGNAL} + 2 [V] (up to 30 V)
Current	4...20 mA	10 ...30 V ²⁾

Consumption

Version	Voltage	Current
Required	4.5 mA	20 mA

AMBIENT CONDITIONS

Permissible Ambient Temperature

-40...+125 °C⁴⁾

Permissible Process Temperature

-40...+125 °C

Compensated Temperature

-40 ...+120 °C

Temperature Effect

≤ 0.15 % / 10 K

Vibration

20 g_{pp} sinusoidal, 10 - 2000 Hz

Electromagnetic Compatibility

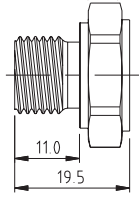
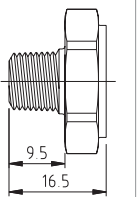
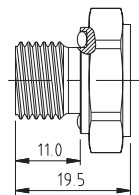
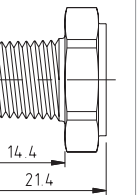
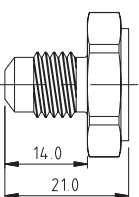
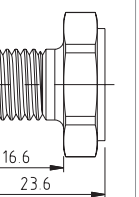
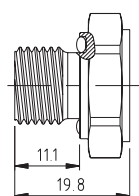
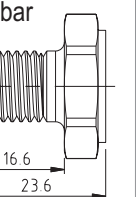
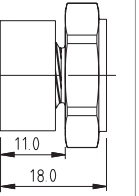
CE approved

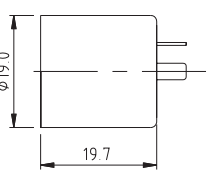
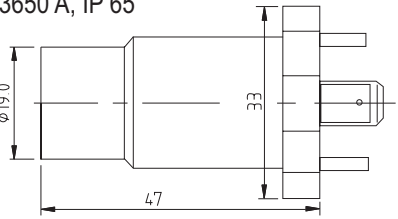
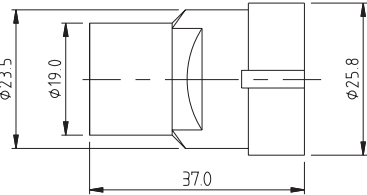
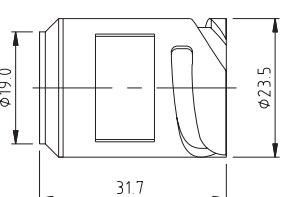
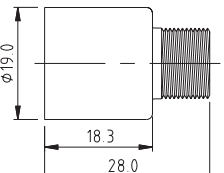
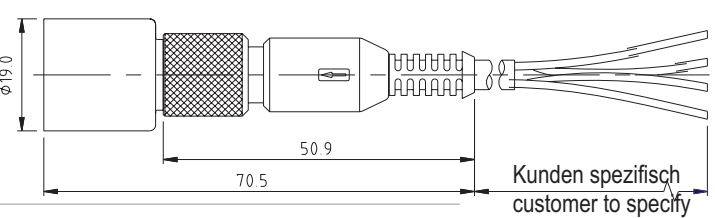
¹⁾ Measuring ranges ≥ 1000 bar only
with M12 x 1,5 (6g) coupling
²⁾ 24 VDC max with temperature above 110 °C
³⁾ 5 and 6 bar ≤ 0.5 %
⁴⁾ max. + 105 °C for el. conn. type B, G

DIMENSIONS

Code

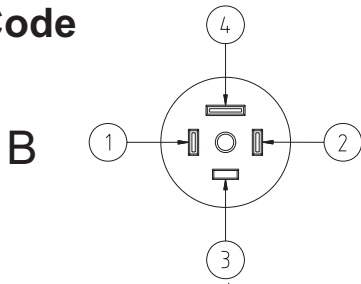
Code

01	G ¼ A 	08	NPT 1/8 -27 ANSI 
05	G ¼ A mit O-Ring 	02	NPT ¼ -18 ANSI 
04	7/16 UNF 37° Flare 	0L	M12 x 1,5 
1J	7/16 -20 UNF 	2T	M12 x 1,5 6g ≥ 1000 bar 
		IG	Schrader 7/16 -20 

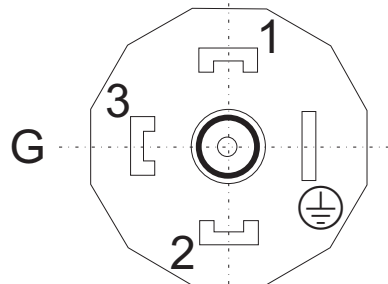
B	DIN 43650 C, RM9,4, IP 65 
G	DIN 43650 A, IP 65 
6	AMP Superseal, IP 67 
7	Bajonett, IP 68 
E	M12 x 1, 4-Pin, IP 67 
	M12 x 1, 4 Pin, IP 67, freie Enden/ free ends 

ELECTRICAL CONNECTIONS

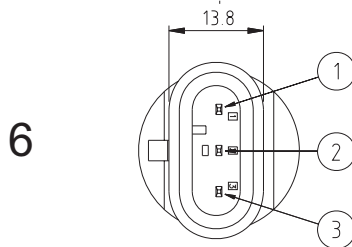
Code



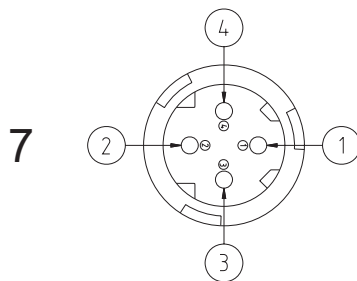
Pin out	Current 4...20 mA	Voltage signal Volt
1	Not allocated	Output plus
2	Output plus	Supply plus
3	Not allocated	Not allocated
4	Output minus	Supply /Output minus



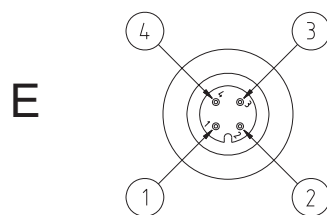
1	Output plus	Supply plus
2	Output minus	Supply /Output minus
3	Not allocated	Output plus
⊕	Not allocated	Not allocated



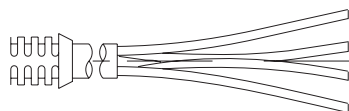
1	Not allocated	Output plus
2	Output minus	Supply /Output minus
3	Output plus	Supply plus



1	Output plus	Supply plus
2	Output minus	Supply /Output minus
3	Not allocated	Output plus
4	Not allocated	Not allocated



1	Output plus	Supply plus
2	Not allocated	Output plus
3	Output minus	Supply /Output minus
4	Not allocated	Not allocated



brown / 1	Output plus	Supply plus
white / 2	Not allocated	Output plus
blue / 3	Output minus	Supply /Output minus
black / 4	Not allocated	Not allocated

GENERAL

Housing

Stainless steel 316 L (1.4435)

Mode of Protection

IP 65 for electr. version B, G
IP 67 for electr. version E, 7

Electrical Connections

see order codes
Rem.: Connectors to be ordered optionally

Mounting

Position not critical

- Via process coupling according to version. It must be assured that during mounting in liquid filled pipes/containers the displaced volume freely can escape. For process temperatures above + 120 °C the use of a syphon is recommended.

Gasket

- According to versions with anaerobe sealing material.

Pressure spikes

- Especially within hydraulic systems with fast acting valves (shut down) transient pressure spikes are present. It is recommended that a Transmitter is used with a restrictor respectively a damping device fitted to protect the transmitter. The series G320 is designed for such purpose.

Mounting Torque

max 30 Nm

Weight

approx. 35 g (without connector)

Accessories

Operations see: www.pma-online.de/en/products

Approval

CE conform
RoHS conform

ORDER CODES

Measuring range [bar g]		
0... 6	006G	
0...10	010G	0...100 010S
0...16	016G	0...1.000 100S
0...25	025G	0...1.600 160S
0...40	040G	0...2.200 220S
0...60	060G	0...400 040S
		0...600 060S

Output signal	
4...20 mA	B
1...6 V	C
0,2 ...10,2V	G
1...5 V	H
1 ...10 V	P
0...5 V	R
0...10 V	S

Electrical Connection	
B	Plug Type C, RM9,4 DIN 43650
G	Plug Type A, DIN 43650*)
E	M12 x 1, 4-PIN connector
6	AMP Superseal connector
7	Bajonet connector

Pressure port	
G ¼ A	01
¼-18 NPT	02
7/16-20 UNF	04
G ¼ A with O-ring	05
G ½ A with O-ring, DIN 837	06
G ½ A	4P
7/16-20 UNF with O-ring	1J
1/8-27 NPT	08
M12 x 1,5 (6g) ≥ 1000 bar	2T
M12 x 1,5 ≤ 600 bar	0L
Schrader 7/16-20 (short)	1G

Order Code Example: G 3 1 0

High lighted specifications are preferred options and available on short lead time

ACCESSORIES

Cable with plug M12 x 1

(for code E electrical connection)

Length	Order number
1 m	G563594-M010
2 m	G563594-M020
3 m	G563594-M030
4 m	G563594-M040
5 m	G563594-M050
10 m	G563594-M100

AMP Superseal Plug

(for code 6 electrical connection)

Order code	G557701
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DIN Connectors (cable socket)

Type C Industry standard RM 9,4

Order code	G557702
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Type A EN 175301-803

Order code	G557254
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*) DIN 43650 ≙ EN 175301-803



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