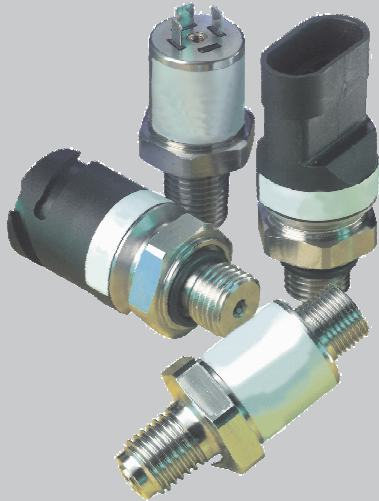




# Heavy Duty Pressure Transmitter Series 320



Ranges from 0...10 bar up to 1,600 bar gauge

Pressure spike restrictor selectable

3-x proof pressure

Various output signals

Variety of pressure ports

Built-up from approx. 35 mm onwards

## GENERAL

The miniature pressure transmitter features small dimensions cum excellent performance. Special add-ons for use in Hydraulics. 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. 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 ( gauge)**  
from 0...10 bar up to 0...1,600 bar<sup>1)</sup>

**Proof Pressure**  
3 x P<sub>N</sub> up to 600 bar  
2.5 x P<sub>N</sub> > 600 up to 1,600 bar  
(Return to zero without remaining offset)

**Burst Pressure**  
10 x nominal up to 400 bar,  
above 400 bar 4,000 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  
(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

≥ 3 ms with restrictor

### Longterm Drift

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

## POWER SUPPLY

Direct current

Version	Output	Supply
Voltage	all	U <sub>S</sub> = U <sub>SIGNAL</sub> + 2 [V] (up to 30 V <sup>2)</sup> )
Current	4...20 mA	10 ...30 V <sup>2)</sup>

Consumption

Version	Voltage	Current
<b>Required</b>	4.5 mA	20 mA

## AMBIENT CONDITIONS

### Permissible Ambient Temperature

-40...+125 °C<sup>3)</sup>

### Permissible Process Temperature

-40...+125 °C

### Compensated Temperature

-40 ...+120 °C

### Temperature Effect

≤ 0.15 % / 10 K

### Vibration

20 g<sub>pp</sub> sinusoidal, 10 - 2000 Hz

### Electromagnetic Compatibility

CE approved

<sup>1)</sup> span ≥ 600 bar up to 1,600 bar only with pressure port version 2T

<sup>2)</sup> 24 VDC max with temperature above 110 °C

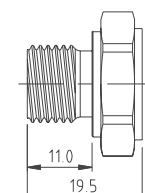
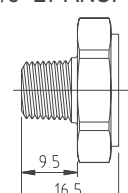
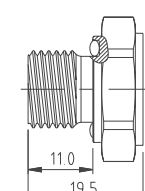
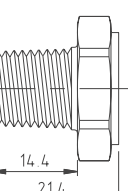
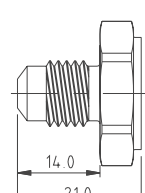
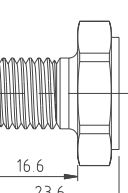
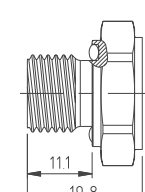
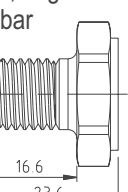
<sup>3)</sup> max. + 105 °C for el. conn. type B, G

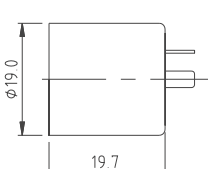
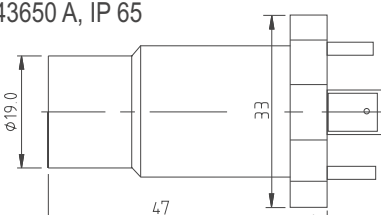
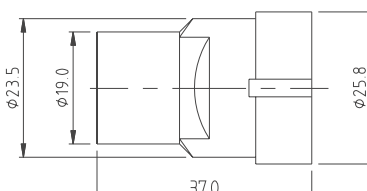
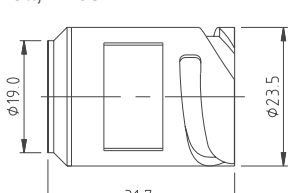
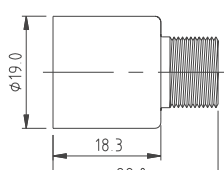
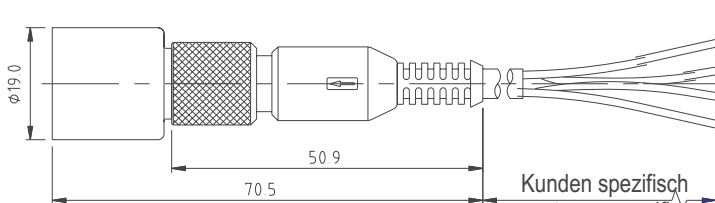
**DIMENSIONS**

**Code**

**Code**

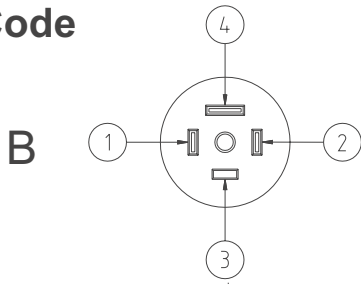
**Code**

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 x1,5 6g ≥ 600 bar 

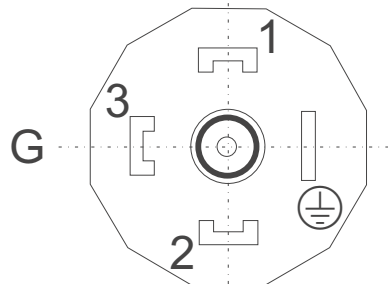
B	DIN 43650 C, RM9,4, IP 65 
G	DIN 43650 A, IP 65 
6	AMP Superseal, IP 67 
7	Bajonett, IP 68 
E	M12 x 1, 4-Pin, IP 67 
M12 x 1, 4 Pin, IP 67, freie Enden / free ends  Kunden spezifisch customer specific	

**ELECTRICAL CONNECTIONS**

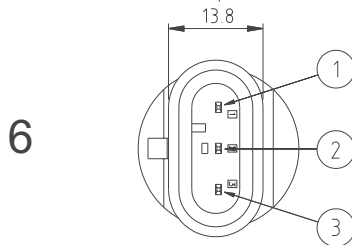
**Code**



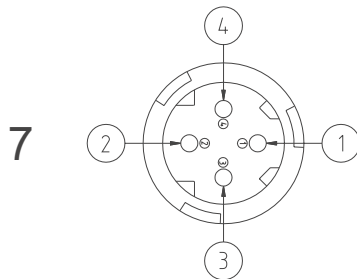
Pin out	Current 4...20 mA	Voltage signal Volt
1	Not allocated	Output plus
2	Output plus	Supply plus
3	Not allocated	Not allocated
4	Output minus	Supply /Output minus



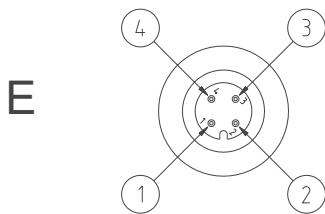
1	Output plus	Supply plus
2	Output minus	Supply /Output minus
3	Not allocated	Output plus
⊕	Not allocated	Not allocated



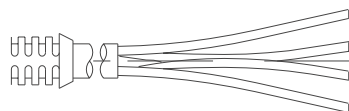
1	Not allocated	Output plus
2	Output minus	Supply /Output minus
3	Output plus	Supply plus



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 (cable socket) 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 spike restrictor is used to protect the transmitter. The series G320 enables selection of such purpose.

### Mounting Torque

max 30 Nm

### Weight

approx. 35 g (without connector)

### Accessories

Operations see:

[www.pma-online.de/en/products](http://www.pma-online.de/en/products)

### Approvals

CE conform

RoHS conform

## ORDER CODES

**Measuring range [bar g]**

0...10	010G	0...100	010S	0...1.000	100S <sup>3)</sup>
0...16	016G	0...160	016S	0...1.600	160S <sup>3)</sup>
0...25	025G	0...250	025S		
0...40	040G	0...400	040S		
0...60	060G	0...600	060S <sup>3)</sup>		

**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<sup>1)</sup>  
E M12 x 1, 4-PIN connector  
6 AMP Superseal connector  
7 Bajonet connector

**Pressure port**

G 1/4 A	01
1/4-18 NPT	02
7/16-20 UNF	04
G 1/4 A with O-ring	05
G 1/2 A with O-ring, DIN 837	06
G 1/2 A	4P
7/16-20 UNF with O-ring	1J
1/8-27 NPT	08
M12 x 1,5	0L
M 12x 1,5 6g (≥ 600 bar)	2T

**Mechanical Damping**

0 without  
R Restrictor built-in

<sup>3)</sup>Only with pressure port type 2T

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 Connector (cable socket)

Type C Industry standard RM 9,4

Order code	G557702
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Type A to EN 175301-803

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



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