

# Relative and absolute pressure transmitter type 691

Pressure range  
-1 ... 0 – 600 bar



Type 691 pressure transmitters have a unique and well proven ceramic technology.

Beside a wide range of pressure and electrical connections we are able to provide many pressure ranges from 300 mbar upwards.

- Very low temperature sensitivity
- High resistance to extreme temperatures
- No mechanical creepage
- Individual applications due to modular system

## Technical overview

### Pressure range

Relative	-1 ... 0 – 600 bar
Absolute	0 ... 0.1 – 16 bar

### Operating conditions

Medium	Liquids and gases	
Temperature <sup>1)</sup>	Medium / ambient	-15 ... +80 °C
		-40 ... +80 °C (on request)
	Storage	-40 ... +80 °C
Tolerable overload	2x fs (max. 1000 bar)	
Rupture pressure	3x fs (max. 1200 bar)	

### Materials

Case	Aluminium	
Materials in contact with the medium	Pressure connection	Stainless steel 1.4305 / AISI 303 or PVDF
	Sensor	Ceramik Al <sub>2</sub> O <sub>3</sub> (96%)
	Sealing material	FPM, EPDM, NBR, MVQ

### Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	11 ... 33 VDC	$< \frac{\text{supply voltage} - 11 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 20 mA
3 wire	0 ... 5 V	11 ... 33 VDC / 24 VAC ±15 %	>10 kOhm / < 100 nF	< 5 mA
	0 ... 10 V	18 ... 33 VDC / 24 VAC ±15 %	>10 kOhm / < 100 nF	< 5 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			

### Dynamic response

Response time	< 5 ms
Load cycle	< 50 Hz

### Protection standard

With connector	IP 65
With cable	IP 67
	IP 65

### Electrical connection

Connector DIN EN 175301-803-A
Connector DIN EN 60130-9
Cable 1.5 m

### Pressure connections

Inside thread	G 1/4
	7/16 -20 UNF (Schrader)
	G 1/8
Outside thread	G 1/4
	G 1/2
	7/16 -20 UNF
	1/4 -18 NPT
	1/2 -14 NPT
Manometer	G 1/4 DIN EN 837
	G 1/2 DIN EN 837

### Mounting instruction

Installation arrangement	Unrestricted	Recommend: Pressure connection downwards
Mounting		Bracket (accessories)

### Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
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### Weight

With inside thread	G 1/4, 7/16 -20 UNF	~ 200 g
	G 1/8, 7/16 -20 UNF	~ 212 g
With outside thread	G 1/4, 1/4 -18 NPT	~ 245 g
	G 1/2, 1/2 -18 NPT	~ 280 g

### Packaging

Single packaging in cardboard	accessories integrated
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## Accuracy

Parameter		Unit	
Tolerance zero point	max.	% fs	± 0.3
Tolerance full scale	max.	% fs	± 0.3
Resolution		% fs	0.1
Total of linearity, hysteresis and repeatability	max.	% fs	± 0.3
Long term stability acc. to DIN EN 60770		% fs	± 0.5
TC zero point <sup>2)</sup>	max.	% fs/10K	± 0.3
TC sensitivity <sup>2)</sup>	max.	% fs/10K	± 0.15

Test conditions: 25 °C, 45% RH, Power supply 24 VDC  
TC z.p. / TC s. -15 ... +80 °C



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<sup>1)</sup> Heat sink for high media temperatures available.

<sup>2)</sup> TC = Temperature coefficient

Order code selection table		691.	X	X	X	X	X	X	X	X	X	X	X	X	
Pressure version	Relative	9													
	Absolute	5													
Pressure range <sup>1)</sup>	-1 ... 0 bar	9	0	0											
	-1 ... 0.6 bar	9	0	1											
	-1 ... 1 bar	9	0	2											
	-1 ... 1.5 bar	9	0	3											
	-1 ... 3 bar	9	0	4											
	-1 ... 5 bar	9	0	5											
	-1 ... 9 bar	9	0	6											
	0 ... 0.1 bar (TC zero point ±0.9% fs/10K)		2	2											
	0 ... 0.2 bar (TC zero point ±0.6% fs/10K)		2	4											
	0 ... 0.3 bar		2	6											
	0 ... 0.6 bar		1	0											
	0 ... 1 bar		1	1											
	0 ... 1.6 bar		1	2											
	0 ... 2 bar		1	3											
	0 ... 2.5 bar		1	4											
	0 ... 4 bar		1	5											
	0 ... 5 bar		1	6											
	0 ... 6 bar		1	7											
	0 ... 10 bar		3	0											
	0 ... 16 bar		3	1											
	0 ... 25 bar		9	3	2										
	0 ... 40 bar		9	3	3										
	0 ... 60 bar		9	4	0										
	0 ... 100 bar		9	4	1										
	0 ... 160 bar		9	4	2										
	0 ... 250 bar		9	4	3										
	0 ... 400 bar only seal FPM		9	5	4	0									
0 ... 600 bar only seal FPM		9	5	5	0										
▲ Fullscale signal at these pressures															
Sealing material <sup>2)</sup>	FPM Fluoro elastomer													0	
	EPDM Ethylene propylene													1	
	NBR Nitrile butadiene													2	
	MVQ Silicone polymer													3	
Adjustment	Factory													0	
Output / power supply <sup>3)</sup>	0 ... 5 V	11 ... 33 VDC / 24 VAC ±15%												0	
	0 ... 10 V	18 ... 33 VDC / 24 VAC ±15%												1	
	4 ... 20 mA	11 ... 33 VDC												7	
Electrical connection	Cable, 1.5 m, M10x1.5 <sup>4)</sup>	IP 65												0	
	Cable, 1.5 m, M10x1.5 <sup>4)</sup>	IP 67												2	
	Connector DIN EN 175301-803-A <sup>5)</sup>													1	
	Connector DIN EN 60130-9 <sup>5)</sup>													3	
Pressure connection <sup>6)</sup>	Inside thread	G ¼	(no pressure tip orifice possible)											0	
	Inside thread	7/16-20 UNF (Schrader)	(no pressure tip orifice possible)											B	
	Outside thread	G 7/8 (... 250 bar)	sealed at front											1	
	Outside thread	G ¼	sealed at front											2	
	Outside thread	G ½	sealed at front											3	
	Outside thread	7/16-20 UNF												4	
	Outside thread	¼-18 NPT												5	
	Outside thread	½-14 NPT												6	
	Outside thread	G 7/8 (... 250 bar)	sealed at back											7	
	Outside thread	G ¼	sealed at back											8	
	Outside thread	G ½	sealed at back											9	
	Outside thread	R ¼ DIN 2999												G	
	Manometer	G ¼ DIN EN 837												K	
	Manometer	G ½ DIN EN 837												L	
Special version (optional)	Stainless steel 1.4305 / AISI 303 with pressure tip orifice (standard from 100 bar on)													3	
	PVDF outside thread sealed at front for G 7/8, G ¼, G ½, max. ≤ 25 bar													2	
Pressure range variation (optional)	Indicate W and state on order (e.g.: W0... + 8bar/OUT1...6V)													W	

## Accessories

	Order number
Female connector DIN EN 175301-803-A with seal (IP 65 when installed and latched)	103510
Female connector DIN EN 60130-9 (IP 65 when installed and latched)	103524
Mounting bracket	104954
Calibration certificate	104551



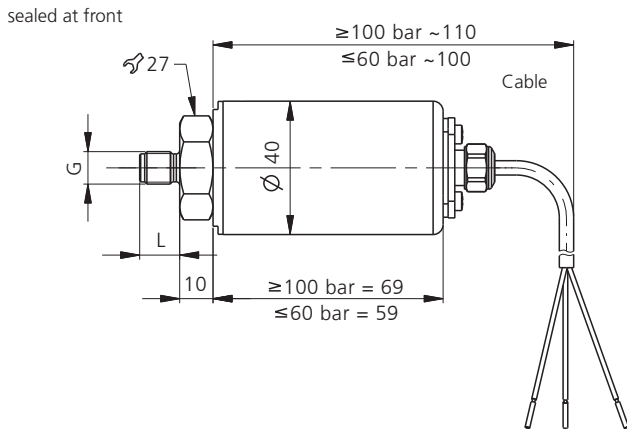
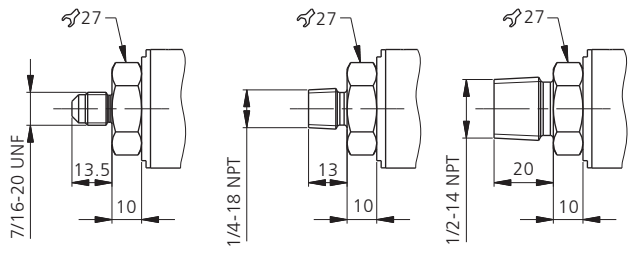
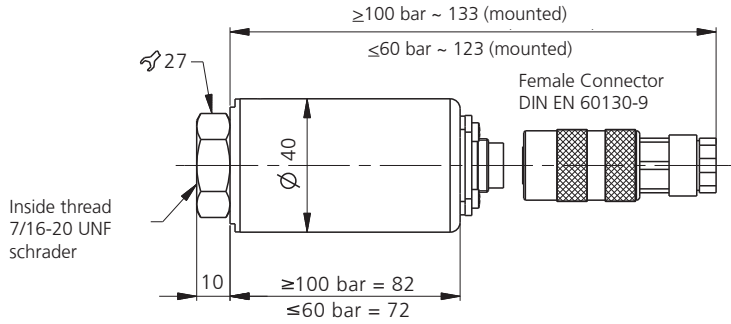
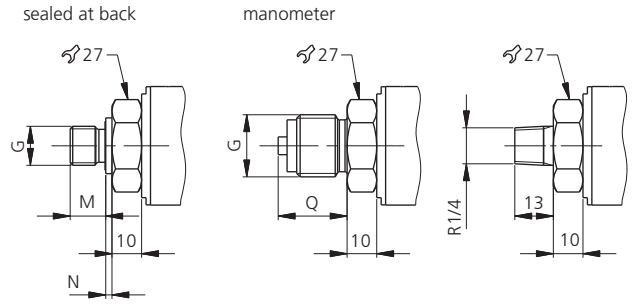
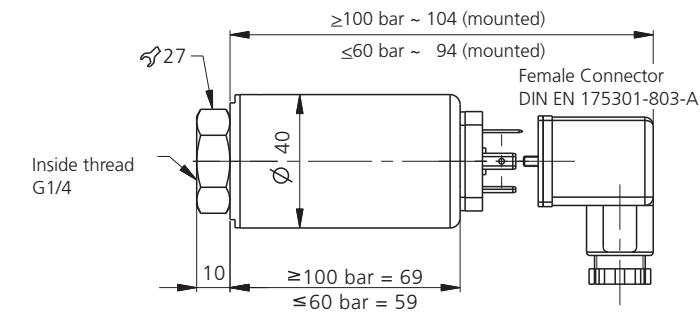
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<sup>1)</sup> Other pressure ranges on request  
<sup>4)</sup> Other cable length on request

<sup>2)</sup> Other sealing material on request  
<sup>5)</sup> Delivery without female connector

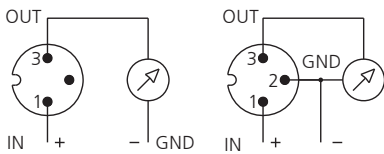
<sup>3)</sup> Other output and power supply on request  
<sup>6)</sup> Other pressure connection on request



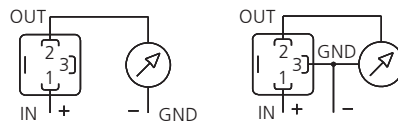
Legend of dimensions

G	G1/8	G1/4	G1/2
L	12	16	20
M	8	12	14
N	1.6	2.1	3.1
Q		15.3	23.3

Connector DIN EN 60130-9



Connector DIN EN 175301-803-A



Cable

