

# DIFFERENTIAL PRESSURE TRANSMITTER 0 TO 25 BAR

## TYPE 692



### Technical Overview

The differential pressure transmitter of TYPE series 692 with proved, unique ceramic technology, features calibrated and amplified sensor signals which are available as standardized voltage or current outputs.

Various application-specific pressure and electrical connections and housing materials suitable for different media can be provided.

### The Distinct Advantages

- Very low temperature sensitivity
- High resistance to extreme temperature
- No mechanical aging
- No mechanical creepage
- Modular system and choice of materials to suit individual applications

### Legend to Cross-section Drawing

- 1 Fixing screw (do not loosen)
- 2 Seals
- 3 Ceramic element
- 4 P2 lower pressure, higher vacuum
- 5 P1 higher pressure, lower vacuum

### Pressure Ranges See Order Code Selection Table

### Overload See Order Code Selection Table

### System Pressure

(P1 and P2 simultaneously)  
25 bar to pressure range 6 bar  
50 bar on pressure range 10/16/25 bar

### Rupture Pressure

1.5 x system pressure

### Accuracy (linear signals)

Total of linearity, hysteresis and repeatability  
<+/- 0.5 % fs at 2x nominal pressure  
<+/- 0.8 % fs at 3x nominal pressure  
<+/- 1.3 % fs at 5x nominal pressure  
Zero point residual voltage  
< 50 mV at 2x nominal pressure  
< 75 mV at 3x nominal pressure  
< 125 mV at 5x nominal pressure  
Zero point residual current (0 - 20 mA)  
100  $\mu$ A at 2x nominal pressure  
150  $\mu$ A at 2x nominal pressure  
250  $\mu$ A at 2x nominal pressure

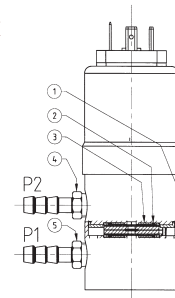
### Pressure Connections

Push-on spigot or screw fittings

### Weight

Approx. 430 grams

### Version Inox



### Materials of Housing in Contact with the Medium

Ceramic / Inox 1.4305, PTFE  
Sealing material: optionally FPM, EPDM, NBR, MVQ, according to order code selection table.

### Temperature Influences (Linear Signals)

Medium and ambient temperature -15°C to +80°C  
TC zero point see order code selection table  
TC sensitivity (% fs/°C)  
< +/- 0.015 at 2x nominal pressure  
< +/- 0.022 at 3x nominal pressure  
< +/- 0.037 at 5x nominal pressure

### Load Cycle

< 50 Hz

### Dynamic Response

Suitable for static and dynamic measurements.  
Response time < 5 ms

### Installation Arrangement

Unrestricted

Signal	Power Supply
0 - 5 V	11 - 33 VDC 24 VAC +/-15% 3-wire cable
0 - 10 V	18 - 33 VDC 24 VAC +/-15% 3-wire cable
0 - 20 mA	18 - 33 VDC 24 VAC +/-15% 3-wire cable
4 - 20 mA	11 - 33 VDC 2-wire cable

Short circuit proof and protected against polarity reversal. Each connection against the other with max. +/- supply voltage.

Electromagnetic compatibility: CE conformity to EC directive 89/336 EEC (EMC) by application of harmonized standards EN 50081-1, EN 50081-2 and EN 50082-2.

### Load

0 - 10 V > 10 kOhm  
0 - 20 mA < 300 Ohm  
4 - 20 mA  $\leq \frac{\text{supply voltage} - 11V}{0.02 A}$  [Ohm]

### Current Consumption

At output signal output:  
0 - 10 V < 5 mA  
0 - 20 mA < 25 mA  
4 - 20 mA < 25 mA

### Electrical Connection / Protection Class

Cable 1.5 meters, IP 65, with cable gland  
Cable 1.5 meters, IP 65, with cable gland (threaded)  
Round plug connector DIN 41524, 3-pole, IP 65  
Connector DIN 43650-A, IP 65

### Calibration by Customer

Adjustable versions (zero point / slope approx. +/- 10 %), only with IP 65 versions



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Order Code Selection Table

				692 .	9	X	X	X	X	X	X	X	X
Pressure ranges <sup>1</sup> (bar)		(bar)											
*		P1	P2	(fs/°C)									
0 ... + 0.1	Overload on one side max.	0.6	0.6	TC0 < 0.12 %	0	0							
0 ... + 0.2	Overload on one side max.	1.2	1.2	TC0 < 0.12 %	0	2							
0 ... + 0.2	Overload on one side max.	0.6	0.6	TC0 < 0.06 %	4	0							
0 ... + 0.25	Overload on one side max.	1.2	1.2	TC0 < 0.1 %	0	3							
0 ... + 0.25	Overload on one side max.	0.6	0.6	TC0 < 0.05 %	4	1							
0 ... + 0.3	Overload on one side max.	0.6	0.6	TC0 < 0.04 %	0	1							
0 ... + 0.4	Overload on one side max.	1.2	1.2	TC0 < 0.06 %	0	4							
0 ... + 0.4	Overload on one side max.	2	2	TC0 < 0.1 %	0	5							
0 ... + 0.5	Overload on one side max.	1.2	1.2	TC0 < 0.05 %	0	6							
0 ... + 0.5	Overload on one side max.	3	3	TC0 < 0.12 %	0	7							
0 ... + 0.6	Overload on one side max.	1.2	1.2	TC0 < 0.04 %	0	8							
0 ... + 0.6	Overload on one side max.	3	3	TC0 < 0.1 %	0	9							
0 ... + 1	Overload on one side max.	2	2	TC0 < 0.04 %	1	1							
0 ... + 1	Overload on one side max.	5	5	TC0 < 0.1 %	1	2							
0 ... + 1.6	Overload on one side max.	3.2	3.2	TC0 < 0.04 %	1	3							
0 ... + 1.6	Overload on one side max.	12	12	TC0 < 0.15 %	1	4							
0 ... + 2.5	Overload on one side max.	5	5	TC0 < 0.04 %	1	5							
0 ... + 2.5	Overload on one side max.	12	12	TC0 < 0.1 %	1	6							
0 ... + 4	Overload on one side max.	8	8	TC0 < 0.04 %	1	7							
0 ... + 4	Overload on one side max.	12	12	TC0 < 0.06 %	1	8							
0 ... + 6	Overload on one side max.	12	12	TC0 < 0.04 %	1	9							
0 ... + 10	Overload on one side max.	20	12	TC0 < 0.04 %	3	0							
0 ... + 16	Overload on one side max.	32	12	TC0 < 0.04 %	3	1							
0 ... + 25	Overload on one side max.	50	12	TC0 < 0.04 %	3	2							
*Full scale signal at these pressures.													
Sealing materials	FPM	Fluoro-elastomer (Viton)					0						
	EPDM	Ethylene propylene					1						
	NBR	Nitrile butadiene					2						
	MVQ	Silicone polymer					3						
Calibration	factory calibrated						0						
	factory calibrated, with adjustable zero point and slope						1						
Outputs and power supply	0 - 5 V	11 - 33 VDC/24 VAC +/-15 % 3-wire cable						0					
	0 - 10 V	18 - 33 VDC/24 VAC +/-15 % 3-wire cable						1					
	0 - 20 mA	18 - 33 VDC/24 VAC +/-15 % 3-wire cable						5					
	4 - 20 mA	11 - 33 VDC 2-wire cable						7					
Electrica connections <sup>2</sup>	Cable, 1.5 meters, Pg 7 (Protection class IP 65)										0		
	Connector DIN 43650-A (Protection class IP 65)										1		
	Round plug connector DIN 41524, 3-pole (Protection class IP 65)										3		
Pressure connections	without connections (1/8-27 NPT / PVDF G 1/8) (only adjustable version)											0	
	Pressure-tube tip (CuZn nickel plated)		for tube Ø 4 mm									1	
	Pressure-tube tip (CuZn nickel plated)		for tube Ø 6 mm									2	
	Pressure-tube tip (PVDF)		for tube Ø 6 mm									3	
	Screw fitting (CuZn nickel plated)		for pipe Ø 6 mm									4	
	Screw fitting Inox 1.4305		for pipe Ø 6 mm									5	
	Screw fitting (CuZn nickel plated)		for pipe Ø 8 mm									6	
	Screw fitting Inox 1.4305		for pipe Ø 8 mm									7	
	Screw tip (PVDF)		for pipe Ø 6 mm									8	
	Screw tip (PVDF)		for pipe Ø 8 mm									9	
	Outside thread 7/16-20 UNF (CuZnvni)											A	
	Adapter G 1/8 inside		for pipe Ø 6 mm									B	
	Adapter G 1/8 outside with union nut (CuZn)		for pipe Ø 6 mm									C	
Case in contact with medium	Inox 1.4305											1	
	PVDF (all ranges up to 6 bar max., overload & system pressure 12 bar max.)											2	
	2 pressure tip orifice (only Inox)											4	

## Accessories

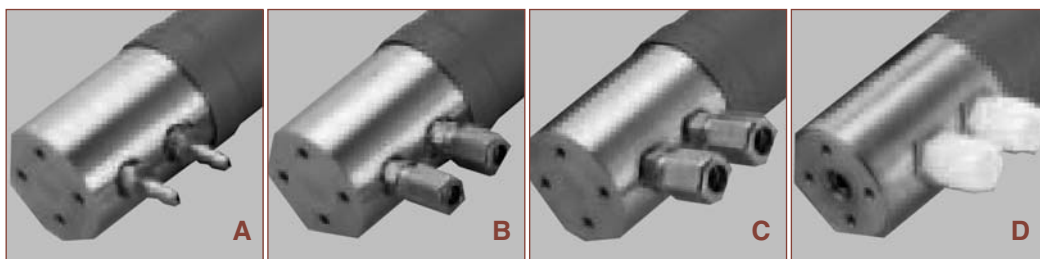
Female connector DIN 43650-A with seal (IP 65 when installed and latched)	1	0	3	5	1	0
Round plug connector (coupling socket) DIN 41524 (IP65)	1	0	3	5	2	4
Mounting bracket	1	0	1	9	9	9
Test certificate	1	0	4	5	5	2

<sup>1</sup> Other pressure ranges on request.

<sup>2</sup> Without female connector.

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## Versions



- A - Pressure tube for tube  $\Delta$  4 mm
- B - Screw fitting for pipe  $\Delta$  6 mm
- C - Screw fitting for pipe  $\Delta$  8 mm
- D - Screw fitting PVDF for pipe  $\Delta$  8 mm

## Electromagnetic Compatibility:

**CE conformity to EC directive 89/336 EEC (EMC) by application of harmonized standards EN 50081-1, EN 50081-2 and EN 50082-2.**

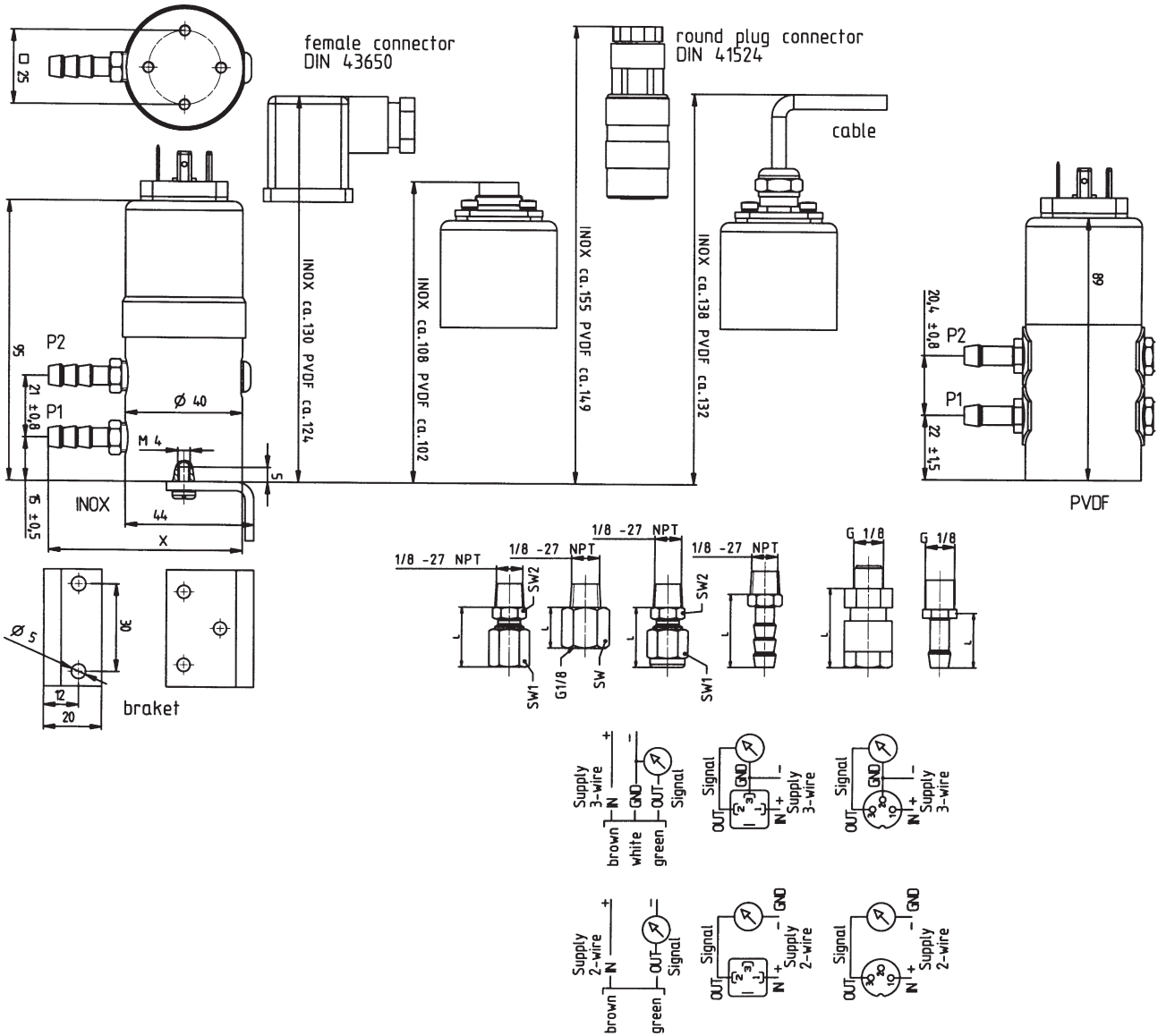
Type of interface / Interference susceptibility	Test standard	Effects
Electronic discharge ESD	IEC 1000-4-2 8 kV air discharge / 4 kV contact discharge	No failure (criterion B)
High-frequency electromagnetic radiation (HF)	ENV 50140 10 V/m / 80...1000 MHz	No failure (criterion A)
Conducted HF interference	ENV 50141 10 V/m / 0.15...80 MHz	No failure (criterion A)
Fast transients (burst)	IEC 801-4 2 kV	No failure (criterion B)
Magnetic fields 50 Hz 30 A/m	EN 61000-4-8	No failure (criterion A)

Type of interference / Emitted interference	Test standard	Effects
Conducted interface Radiation from housing	EN 55022 0.15...30 MHz 30...1000 MHz, 10 meters	No effect No effect

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## Dimensions in mm / Electrical Connections



Measure X

Inox	Screw fitting for pipe on the outside Ø 6	SW1=10 SW2=12	L=ca.28.5	L=ca.69.5
	Screw fitting for pipe on the outside Ø 8	SW1=12 SW2=14	L=ca.30.5	L=ca.71.5
Inox	Adapter G1/8 inside thread	SW=14	L=ca.14	L=ca.55
CuZn	Screw fitting for pipe on the outside Ø 6	SW1=10 SW2=12	L=ca.28.5	L=ca.69.5
	Screw fitting for pipe on the outside Ø 8	SW1=12 SW2=14	L=ca.30.5	L=ca.71.5
CuZn	Pressure tube for tube Ø 4	SW=10	L=28	L=69
	Pressure tube for tube Ø 6	SW=10	L=33	L=74
PVDF	Pressure fitting for pipe on the outside Ø 6	SW1=12	L=ca.29.5	L=ca.70.5
	Pressure fitting for pipe on the outside Ø 8	SW1=14	L=ca.32.5	L=ca.73.5
PVDF	Pressure tube for tube Ø 6	SW=10	L=30	L=ca.71