

692

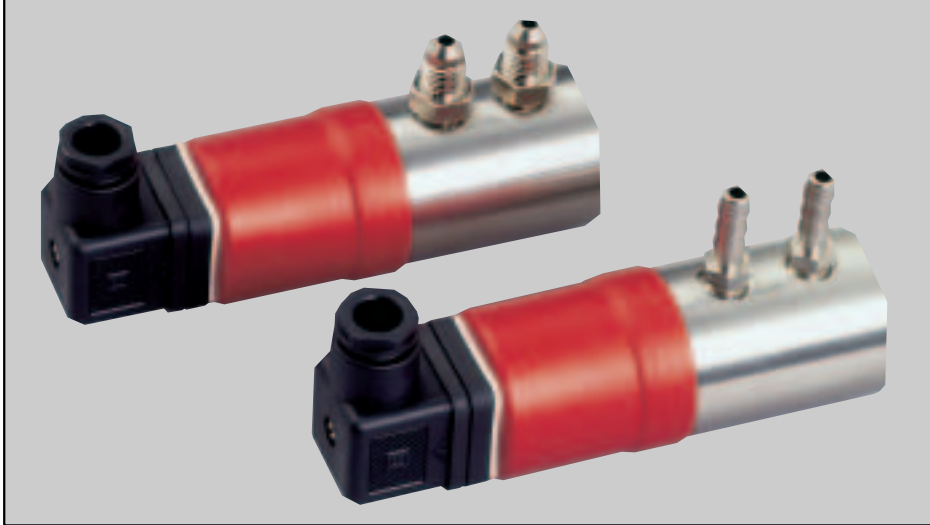
Differential
pressure transmitter
0 to 25 bar



HUBA-REGISTERED TRADE MARK

Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT



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

Pressure connections

Push-on spigot or screw fittings

Weight

approx. 430 grams

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	$\leq \frac{\text{supply voltage} - 11 \text{ V}}{0.02 \text{ A}}$ [Ohm]

Current consumption

At maximum signal output:

0 – 10 V	< 5 mA
0 – 20 mA	< 25 mA
4 – 20 mA	< 25 mA

Electrical connections/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.

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.

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 µA at 2x nominal pressure
 150 µA at 3x nominal pressure
 250 µA at 5x nominal pressure

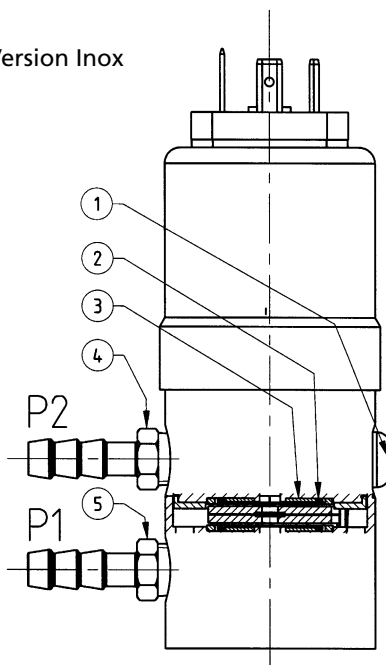
Materials of housing in contact with the medium

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

Temperature influences (linear signals)

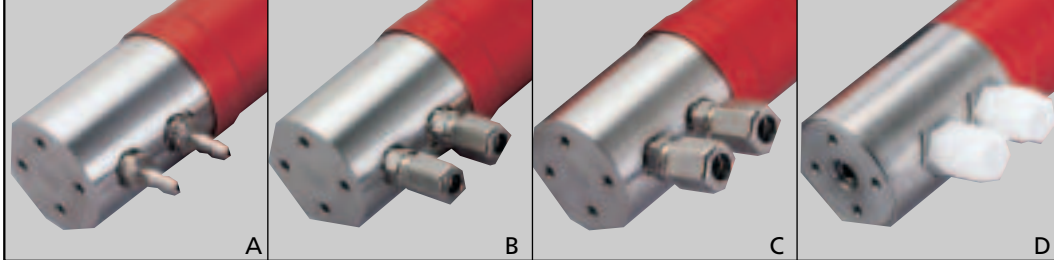
Medium and ambient temperature -15 °C to +80 °C.
 TC zero point see order code selection table

Version Inox



The distinct advantages

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



- A – Pressure tube for tube Δ 4 mm
- B – Screw fitting for pipe Δ 6 mm
- C – Screw fitting for pipe Δ 8 mm
- D – Screw fitting PVDF for pipe Δ 8 mm

Versions

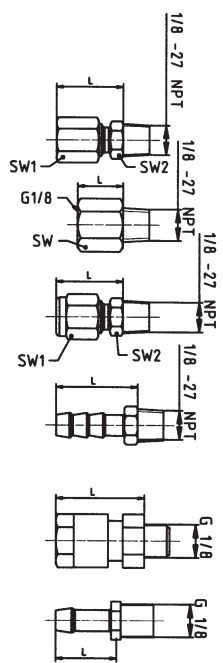
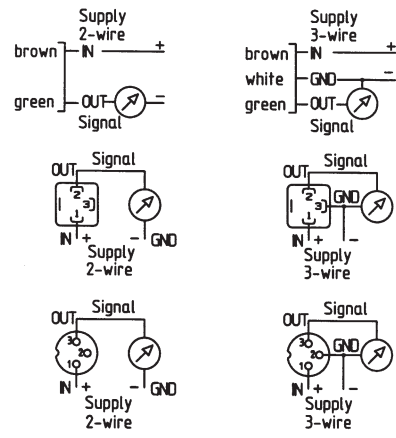
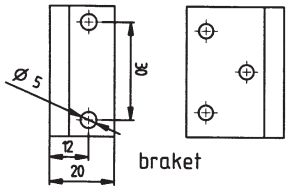
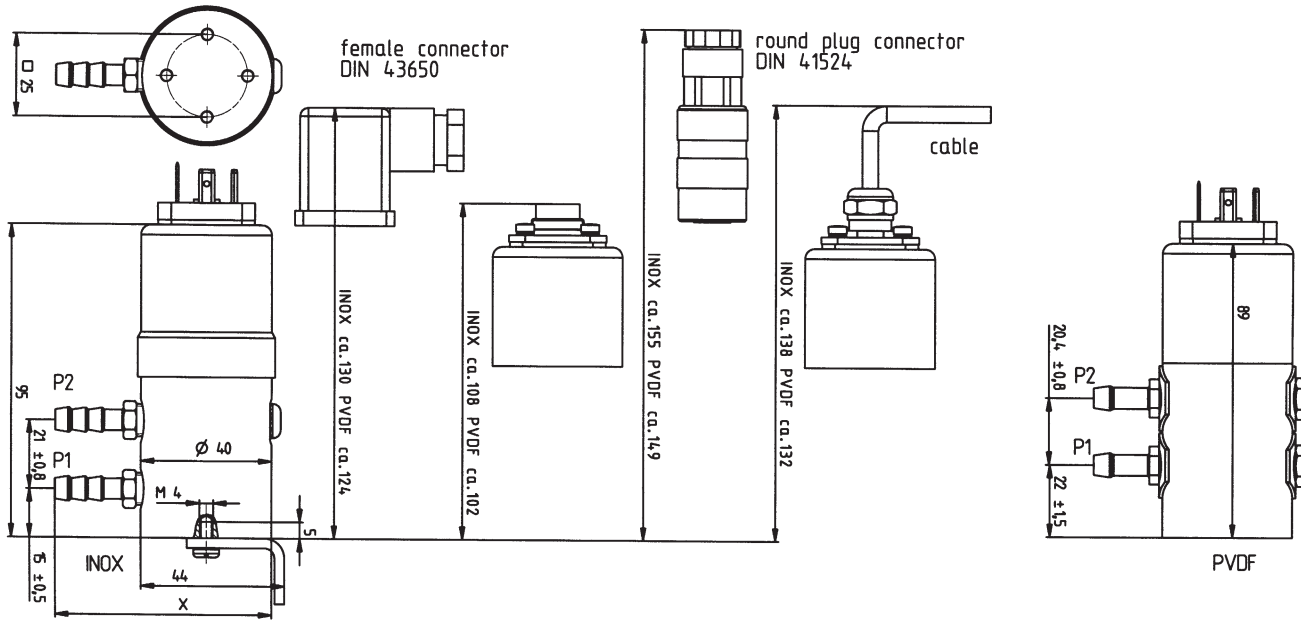
Order code selection table

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			9	X	X	X	X	X	X	X	X		
Pressure ranges¹ (bar)	(bar)	(fs/°C)											
0 ... + 0.1	Overload on one side max. 0.6	TCO < 0.12 %	0	0									
0 ... + 0.2	Overload on one side max. 1.2	TCO < 0.12 %	0	2									
0 ... + 0.2	Overload on one side max. 0.6	TCO < 0.06 %	4	0									
0 ... + 0.25	Overload on one side max. 1.2	TCO < 0.1 %	0	3									
0 ... + 0.25	Overload on one side max. 0.6	TCO < 0.05 %	4	1									
0 ... + 0.3	Overload on one side max. 0.6	TCO < 0.04 %	0	1									
0 ... + 0.4	Overload on one side max. 1.2	TCO < 0.06 %	0	4									
0 ... + 0.4	Overload on one side max. 2	TCO < 0.1 %	0	5									
0 ... + 0.5	Overload on one side max. 1.2	TCO < 0.05 %	0	6									
0 ... + 0.5	Overload on one side max. 3	TCO < 0.12 %	0	7									
0 ... + 0.6	Overload on one side max. 1.2	TCO < 0.04 %	0	8									
0 ... + 0.6	Overload on one side max. 3	TCO < 0.1 %	0	9									
0 ... + 1	Overload on one side max. 2	TCO < 0.04 %	1	1									
0 ... + 1	Overload on one side max. 5	TCO < 0.1 %	1	2									
0 ... + 1.6	Overload on one side max. 3.2	TCO < 0.04 %	1	3									
0 ... + 1.6	Overload on one side max. 12	TCO < 0.15 %	1	4									
0 ... + 2.5	Overload on one side max. 5	TCO < 0.04 %	1	5									
0 ... + 2.5	Overload on one side max. 12	TCO < 0.1 %	1	6									
0 ... + 4	Overload on one side max. 8	TCO < 0.04 %	1	7									
0 ... + 4	Overload on one side max. 12	TCO < 0.06 %	1	8									
0 ... + 6	Overload on one side max. 12	TCO < 0.04 %	1	9									
0 ... + 10	Overload on one side max. 20	TCO < 0.04 %	3	0									
0 ... + 16	Overload on one side max. 32	TCO < 0.04 %	3	1									
0 ... + 25	Overload on one side max. 50	TCO < 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					
Electrical connections²	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 and 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 screwed)							1	0	3	5	1	0
	Round plug connector (coupling socket) DIN 41524 (IP 65)							1	0	3	5	2	4
	Mounting bracket							1	0	1	9	9	9
	Test certificate							1	0	4	5	5	2

¹ Other pressure ranges on request.
² Without female connector.

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

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 interference/Interference susceptibility	Test standard	Effects
Electrostatic 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 effect (criterion A)
Conducted HF interference	ENV 50141 10 V/m / 0.15 ... 80 MHz	No effect (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 effect (criterion A)
Type of interference/Emitted interference	Test standard	Effects
Conducted interference	EN 55022 0.15...30 MHz	No effect
Radiation from housing	30...1000 MHz, 10 meters	No effect

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