Differential pressure transmitter

Huba Control

Relative and differential pressure transmitter

Type 692

The Type 692 pressure transmitters feature the unique, well proven ceramic technology. They offer a range of pressure and electrical connections, coupled with various standardised output signals.
This wide variety of options make these transmitters ideally suited for applications in a wide range of industries.

Pressure range

0 ... 0.1 – 25 bar

+ Very low temperature sensitivity
+ High temperature resistance
+ No mechanical creep
+ Modular system and choice of materials to suit individual applications

Technical overview

Pressure range

Relative and differential	0 ... 0.1 – 25 bar

Operating conditions

Medium			Liquids and neutral gases
Temperature		Medium / ambient	-15 ... +85 °C
		Storage	-40 ... +85 °C
Tolerable overload on one side			See order code selection table
System pressure	≤ 6 bar	PVDF	12 bar
		Stainless steel 1.4305 / AISI 303	25 bar
	≥ 10 bar		50 bar
Rupture pressure			1.5x system pressure

Materials

Case		Stainless steel 1.4305 / AISI 303
Materials in contact with the medium	Pressure connection	Stainless steel 1.4305 / AISI 303, PVDF, CuZn nickel plated
	Sensor	ceramic Al_2O_3 (96%)
	Sealing material	FPM, EPDM, NBR, MVQ

Electrical overview

	Output	Power supply	Load	Current consumption (at nominal pressure)
2 wire	4 ... 20 mA	11 ... 33 VDC	$< \frac{\text{supply voltage - 11 V}}{0.02\ \text{A}}$ [Ohm]	< 20 mA
3 wire	0 ... 5 V	11 ... 33 VDC / 24 VAC ±15%	>10 kOhm	< 5 mA
	0 ... 10 V	18 ... 33 VDC / 24 VAC ±15%	>10 kOhm	< 5 mA
	ratiom. 10 ... 90%	5 VDC ±5%	>10 kOhm	< 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

Electrical connection	**Protection standard**
Connector DIN EN 175301-803-A	IP 65
Connector DIN EN 60130-9	IP 65
Cable 1.5 m (PG7)	IP 65

Pressure connection

Pressure tube tip	Ø 4 mm
	Ø 6 mm
Pipe fitting	Ø 6 mm
	Ø 8 mm
Outside thread	$^{7}/_{16}$-20 UNF
	G ⅛
Inside thread	⅛ -27 NPT
	G ⅛

Mounting instruction

Installation arrangement	Unrestricted
Mounting	Mounting bracket

Tests / Admissions

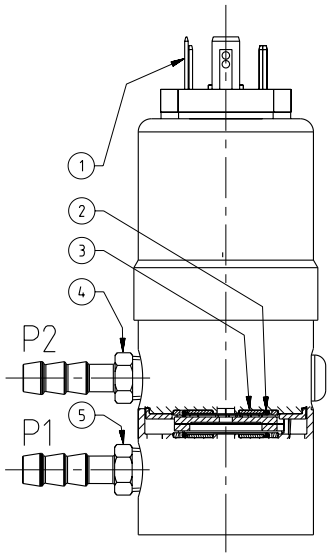
Electromagnetic compatibility	CE conformity acc. EN 61326-2-3

Weight

~ 430 g

Packaging

Single packaging in cardboard	accessories included



Legend to cross-section drawing

1 Electrical connection
2 Seals
3 Ceramic element
4 P2 Pressure connection (lower pressure)
5 P1 Pressure connection (higher pressure)

Accuracy

Parameter		Unit	Versions with overload on one side < 2x nominal pressure	Versions with overload on one side < 3x nominal pressure	Versions with overload on one side < 7.5x nominal pressure
Tolerance zero point	max.	% fs	±0.4	±0.75	±1.25
Tolerance full scale	max.	% fs	±0.4	±0.75	±1.25
Resolution		% fs	0.1	0.15	0.25
Total of linearity, hysteresis and repeatability	max.	% fs	±0.5	±0.75	±1.25
Long term stability acc. to DIN EN 60770		% fs	±0.5	±0.5	±0.5
TC zero point [1]	max.	% fs/10K	See order code selection table	See order code selection table	See order code selection table
TC sensitivity [1]	max.	% fs/10K	±0.15	±0.23	±0.38

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

Order code selection table

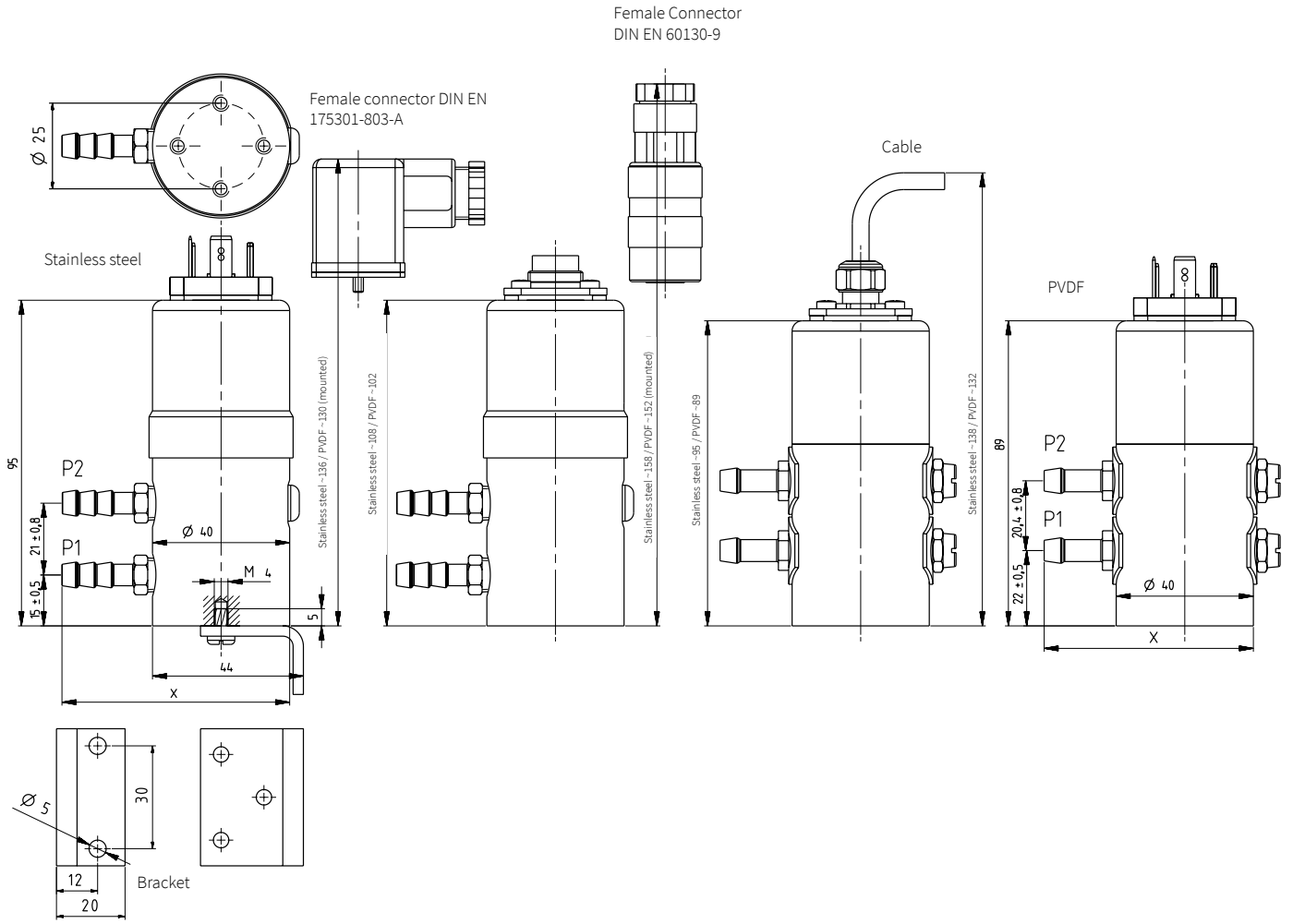
						1	2	3	4	5	6	7	8	9	10
						692.	X	X	X	X	X	X	X	X	X	X
		Tolerable overload on one side P1		P2	TC z.p. (fs/10K)										
Pressure range [2]	0 ... 0.1 bar	max. 0.6 bar	(6 x Nominal pressure)	0.6 bar	± 1.2 %	9	0	0							
	0 ... 0.2 bar	max. 1.2 bar	(6 x Nominal pressure)	1.2 bar	± 1.2 %	9	0	2							
	0 ... 0.2 bar	max. 0.6 bar	(3 x Nominal pressure)	0.6 bar	± 0.6 %	9	4	0							
	0 ... 0.25 bar	max. 1.2 bar	(4.8 x Nominal pressure)	1.2 bar	± 1.0 %	9	0	3							
	0 ... 0.25 bar	max. 0.6 bar	(2.4 x Nominal pressure)	0.6 bar	± 0.5 %	9	4	1							
	0 ... 0.3 bar	max. 0.6 bar	(2 x Nominal pressure)	0.6 bar	± 0.4 %	9	0	1							
	0 ... 0.4 bar	max. 1.2 bar	(3 x Nominal pressure)	1.2 bar	± 0.6 %	9	0	4							
	0 ... 0.4 bar	max. 2 bar	(5 x Nominal pressure)	2 bar	± 1.0 %	9	0	5							
	0 ... 0.5 bar	max. 1.2 bar	(2.4 x Nominal pressure)	1.2 bar	± 0.5 %	9	0	6							
	0 ... 0.5 bar	max. 3 bar	(6 x Nominal pressure)	3 bar	± 0.8 %	9	0	7							
	0 ... 0.6 bar	max. 1.2 bar	(2 x Nominal pressure)	1.2 bar	± 0.4 %	9	0	8							
	0 ... 0.6 bar	max. 3 bar	(5 x Nominal pressure)	3 bar	± 0.7 %	9	0	9							
	0 ... 1 bar	max. 2 bar	(2 x Nominal pressure)	2 bar	± 0.4 %	9	1	1							
	0 ... 1 bar	max. 5 bar	(5 x Nominal pressure)	5 bar	± 1.0 %	9	1	2							
	0 ... 1.6 bar	max. 3.2 bar	(2 x Nominal pressure)	3.2 bar	± 0.4 %	9	1	3							
	0 ... 1.6 bar	max. 12 bar	(7.5 x Nominal pressure)	12 bar	± 1.0 %	9	1	4							
	0 ... 2.5 bar	max. 5 bar	(2 x Nominal pressure)	5 bar	± 0.4 %	9	1	5							
	0 ... 2.5 bar	max. 12 bar	(4.8 x Nominal pressure)	12 bar	± 0.6 %	9	1	6							
	0 ... 4 bar	max. 8 bar	(2 x Nominal pressure)	8 bar	± 0.4 %	9	1	7							
	0 ... 4 bar	max. 12 bar	(3 x Nominal pressure)	12 bar	± 0.5 %	9	1	8							
	0 ... 6 bar	max. 12 bar	(2 x Nominal pressure)	12 bar	± 0.4 %	9	1	9							
	0 ... 10 bar	max. 20 bar	(2 x Nominal pressure)	20 bar	± 0.4 %	9	3	0						1,4	
	0 ... 16 bar	max. 32 bar	(2 x Nominal pressure)	32 bar	± 0.4 %	9	3	1						1,4	
	0 ... 25 bar	max. 50 bar	(2 x Nominal pressure)	50 bar	± 0.4 %	9	3	2						1,4	
	▲ Fullscale signal at these pressures														
Sealing material	FPM	Fluoro elastomer							0						
	EPDM	Ethylene propylene							1						
	NBR	Butadiene Acrylonitrile							2						
	MVQ	Silicone polymer							3						
Adjustment	Factory									0					
Output / power supply	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				
	ratiom. 10 ... 90%	5 VDC ±5%									9				
Electrical connection	Cable 1.5 m, PG7											0			
	Connector [3]	DIN EN 175301-803-A										1			
		DIN EN 60130-9										3			
Pressure connection	Inside thread	Stainless steel ⅛ -27 NPT or PVDF G ⅛											0		
	Hose connection	CuZn nickel plated		for tube inside Ø 4 mm									1	1,4	
		Stainless steel 1.4571 / AISI 316Ti		for tube inside Ø 4 mm									E	1,4	
		CuZn nickel plated		for tube inside Ø 6 mm									2	1,4	
		PVDF		for tube inside Ø 6 mm									3	2	
		Stainless steel 1.4571 / AISI 316Ti		for tube inside Ø 6 mm									D	1,4	
	Pipe fitting	CuZn nickel plated		for pipe outside Ø 6 mm									4	1,4	
		Stainless steel 1.4305 / AISI 303		for pipe outside Ø 6 mm									5	1,4	
		PVDF		for pipe outside Ø 6 mm									8	2	
		CuZn nickel plated		for pipe outside Ø 8 mm									6	1,4	
		Stainless steel 1.4305 / AISI 303		for pipe outside Ø 8 mm									7	1,4	
		PVDF		for pipe outside Ø 8 mm									9	2	
	Outside thread	7/16-20 UNF CuZn nickel plated											A	1,4	
	Adapter inside	G ⅛ Stainless steel 1.4305 / AISI 303											B	1,4	
	Adapter outside	G ⅛ CuZn nickel plated with union nut											C	1,4	
Case	Stainless steel1.4305 / AISI 303													1	
	PVDF to 6 bar max.													2	
	Stainless steel with pressure tip orifice													4	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 8bar/OUT1...6V)														W

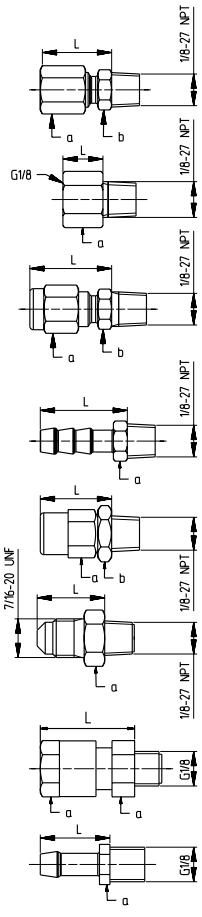
Accessories *(supplied loose)* — Order number

Female connector DIN EN 175301-803-A with seal	IP 65, when installed and screwed	103510
Female connector DIN EN 60130-9	IP 65, when installed and screwed	103524
Mounting bracket incl. screws		101999
Calibration certificate		104551

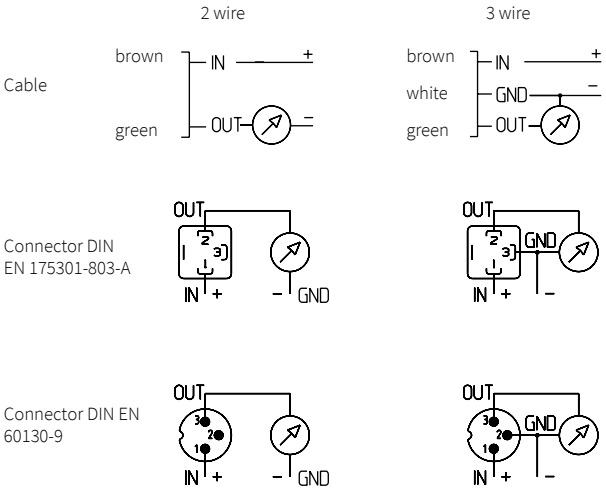
[1] TC = Temperature coefficient
[2] Other pressure range on request
[3] Delivery without female connector

Dimensions in mm / Electrical connections





Stainless steel 1.4305 AISI 303	Screw fitting for pipe outside Ø 6	L~24 X~65	a=10 b=12
	Screw fitting for pipe outside Ø 8	L~26 X~67	a=12 b=14
Stainless Steel 1.4305 AISI 303	Inside thread G ⅛	L~12 X~53	a=14
CuZn nickel plated	Screw fitting for pipe outside Ø 6	L~24 X~65	a=10 b=12
	Screw fitting for pipe outside Ø 8	L~25 X~66	a=12 b=14
CuZn nickel plated Stainless steel 1.4571 AISI 316Ti	Hose connection for tube Ø 4	L~20 X~61	a=10
	Hose connection for tube Ø 6	L~25 X~66	a=10
CuZn nickel plated	Outside thread G ⅛	L~20 X~61	a=10 b=12
CuZn nickel plated	Outside thread $^{7}/_{16}$-20 UNF	L~18 X~59	a=14
PVDF	Screw fitting for pipe Ø 6	L~20 X~61	a=12
	Screw fitting for pipe Ø 8	L~23 X~64	a=14
PVDF	Hose connection for tube Ø 6	L~20 X~61	a=10



Huba Control

Huba Control AG
Headquarters Schweiz
Industriestrasse 17
CH-5436 Würenlos
Telefon +41 56 436 82 00
Fax +41 56 436 82 82
info.ch@hubacontrol.com

Huba Control AG
Vestiging Nederland
Hamseweg 20A
NL-3828 AD-Hoogland
Telefoon +31 33 433 03 66
Telefax +31 33 433 03 77
info.nl@hubacontrol.com

Huba Control AG
Niederlassung Deutschland
Schlattgrabenstrasse 24
D-72141 Walddorfhäslach
Telefon +49 7127 2393 00
Fax +49 7127 2393 20
info.de@hubacontrol.com

Huba Control USA, Inc.
Office United States of America
303 Wyman Street
Suite #300
Waltham MA 02451
Tel: +1 866-6HUBACO (+1 866-648-2226)
info.usa@hubacontrol.com

Huba Control SA
Succursale France
Rue Lavoisier
Technopôle Forbach-Sud
F-57602 Forbach Cedex
Téléphone +33 3 87 84 73 00
Télécopieur +33 3 87 84 73 01
info.fr@hubacontrol.com

Huba Control AG
Branch Office United Kingdom
Unit 13 Berkshire House, County Park Business Centre, Shrivenham Road
Swindon Wiltshire SN1 2NR
Phone +44 1993 77 66 67
Fax +44 1993 77 66 71
info.uk@hubacontrol.com

www.hubacontrol.com