

507

Pressure transmitter
Relative -1 ... 600 bar
Absolute 2.5 ... 16 bar



EDITION 01/2002

HUBA-REGISTERED TRADE MARK

Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

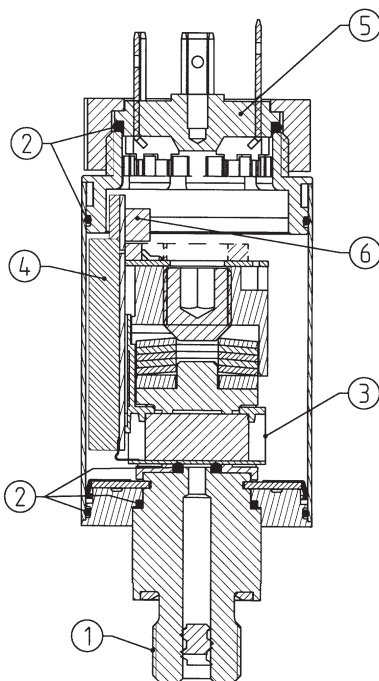


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Technical overview

The pressure transmitter of type series 507 with proved ceramic technology, features calibrated and amplified sensor signals which are available as standardized voltage or current outputs.

Various application-specific pressure and electrical connections can be provided.



Legend to cross-section drawing

- 1 Connection fitting
- 2 Seals
- 3 Ceramic element
- 4 Hybrid electronics
- 5 Connector DIN 43650
- 6 Potentiometer for zero point and full scale

Pressure ranges

Relative pressure (Gage)
(measurement of pressure relative to ambient pressure).
Absolute pressure

Overload

2x measuring range (fs)
max. 1000 bar

Rupture pressure

3x measuring range (fs)
At 600 bar, 1200 bar

Accuracy

Total of linearity, hysteresis and repeatability $< \pm 0.3\%$ fs
Adjustment accuracy zero point and full scale (repeatable, stable)
 $< \pm 0.3\%$ fs

Housing materials in contact with the medium

Stainless steel 1.4305 (AISI 303)
Sealing material:
optionally FPM. EPDM, NBR, MVQ according to order code selection table

Case material

Cover: Stainless steel

Temperature influences

Medium and ambient temperature
 -15°C to $+80^{\circ}\text{C}$
Medium and ambient temperature to -40°C on request

TC zero point
 $< \pm 0.04\%$ fs/ $^{\circ}\text{C}$ (< 60 bar)
 $< \pm 0.05\%$ fs/ $^{\circ}\text{C}$ (> 60 bar)

TC sensitivity
typically $< \pm 0.015\%$ fs/ $^{\circ}\text{C}$

Load cycle

< 50 Hz

Dynamic response

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

Pressure connections

Inside thread G 1/4

Outside thread G 1/4
sealed at back and manometer (combi)

Outside thread G 1/4
sealed at back DIN 3852/E

Weight

G 1/4 outside 160 grams
G 1/4 inside 140 grams

Installation arrangement

Unrestricted

Signal

Power supply

- 0 – 5 V 11 – 33 VDC
3-wire cable
- 1 – 6 V 11 – 33 VDC
3-wire cable
- 0 – 10 V 18 – 33 VDC
3-wire cable
- 4 – 20 mA 11 – 33 VDC
2-wire cable

• Short circuit-proof and protected against polarity reversal, each connection against other with max. \pm supply voltage.

Load

- 0 – 5 V > 10 kOhm/ < 100 nF
- 1 – 6 V > 10 kOhm/ < 100 nF
- 0 – 10 V > 10 kOhm/ < 100 nF
- 4 – 20 mA $\leq \frac{\text{supply voltage} - 11 \text{ V}}{0.02 \text{ A}}$ [Ohm]

Current consumption

With max. signal output:

- 0 – 5 V < 2 mA
- 1 – 6 V < 2 mA
- 0 – 10 V < 3 mA
- 4 – 20 mA < 20 mA

Electrical connections / Protection standard

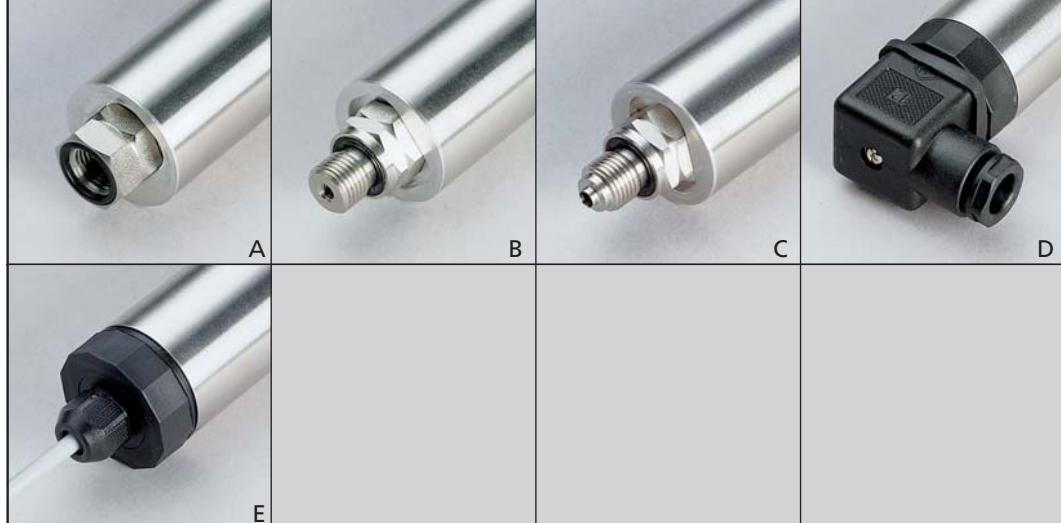
Cable 1.5 meters, IP 65
Connector DIN 43650-A, IP 65

Calibration by customer

Zero point and slope
 $\pm 2\%$ fs

The distinct advantages

- Compact, rugged construction for a wide range of industrial applications
- Ideal from single pieces to small and larger quantities
- High resistance to extreme temperatures
- No mechanical aging
- No mechanical creepage



- A – Inside thread G 1/4
- B – Outside thread G 1/4
- C – Outside thread G 1/4 and manometer (combi)
- D – Female connector DIN 43650-A with seal
- E – Cable 1.5 meters IP 65

Versions

Order code selection table

EDITION 01/2004

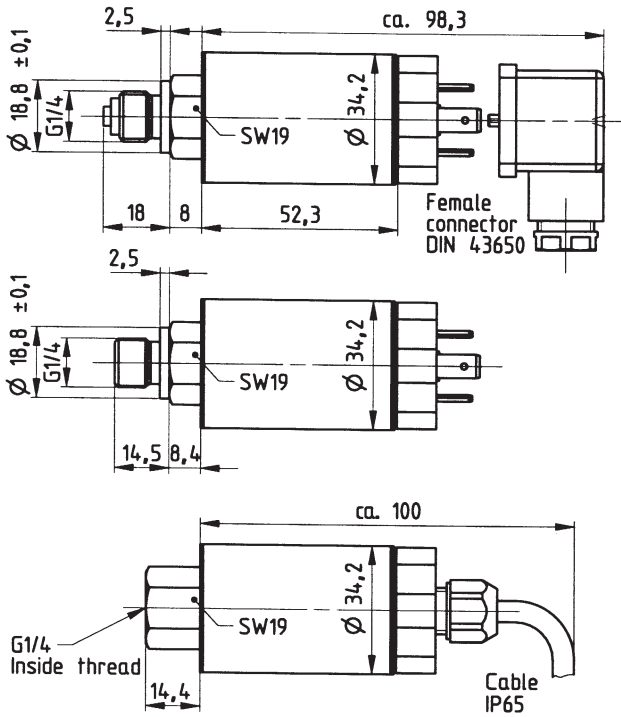
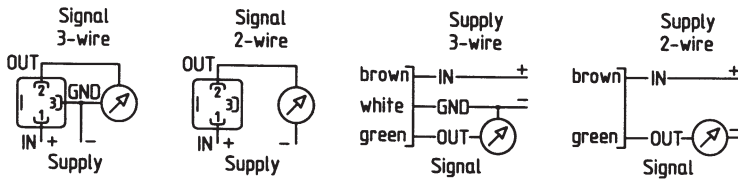
507

		X	X	X	X	X	X	X	X	X	X
Relative pressure		9									
Absolute pressure		8									
Pressure ranges¹ (bar)	-1... + 0	9	0	0							
	0... + 1	9	1	1							
	0... + 1.6	9	1	2							
	0... + 2.5		1	4							
	0... + 4		1	5							
	0... + 6		1	7							
	0... + 10		3	0							
	0... + 16		3	1							
	0... + 25	9	3	2							
	0... + 40	9	3	3							
	0... + 60	9	4	0							
	0... + 100	9	4	1							2
	0... + 160	9	4	2							2
	0... + 250	9	4	3							2
	0... + 400 FPM seal only	9	5	4	0						2
	0... + 600 FPM seal only	9	5	5	0						2
▲ Full scale signal at these pressures											
Sealing materials²	FPM Fluoro-elastomer				0						
	EPDM Ethylene propylene				1						
	NBR Nitrile butadiene				2						
	MVQ Silicone polymer				3						
Calibration	Factory calibrated, zero point and slope adjustable					1					
Outputs and power supply	0 – 5 V 11.0 – 33.0 VDC 3-wire cable							1			
	1 – 6 V 11.0 – 33.0 VDC 3-wire cable							6			
	0 – 10 V 18.0 – 33.0 VDC 3-wire cable							2			
	0 – 10 V 24 VAC +/- 15% 3-wire cable							7			
	4 – 20 mA 11.0 – 33.0 VDC 2-wire cable							3			
Electrical connections³	Cable, 1.5 meters (protection standard IP 65)								0		
	Connector DIN 43650-A (protection standard IP 65)								1		
Pressure connections⁴	Inside thread G 1/4 with O-ring sealing									1	
	Outside thread G 1/4 sealed at back and manometer (combi)									5	
	Outside thread G 1/4 sealed at back DIN 3852/E									4	
Process connection	Stainless steel										1
	Stainless steel with pressure tip orifice (standard with 100 bar)										2
	Stainless steel without pressure tip orifice, free of oil and grease (only seal FPM, not compound-filled)										3
	Stainless steel with pressure tip orifice (standard with 100 bar) free of oil and grease (only seal FPM, not compound-filled)										4
Pressure range variation	Indicate W and mention range on order										W

Accessories Female connector DIN 43650-A with seal 1 0 3 5 1 0

Packaging Mention on order: • single packaging / • multiple packaging (25 pcs)

¹ Other pressure ranges on request.
² According to ISO standard R 1629, other sealing materials on request.
³ Without female connector.
⁴ Other pressure connections and materials on request.



Electromagnetic compatibility:

CE conformity (EMC) by application of harmonized standards: Interference stability EN 50082-2, IEC 61000-6-2 and EN 61326-1, interference emit EN 50081-1, EN 55022, CISPR 22, EN 61326-1

Interference stability	Test standard	Effects
Electrostatic discharge ESD	EN 61000-4-2 15 kV air discharge, 8 kV contact discharge	No effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3 10 V/m, 80...1000 MHz	No effect
Conducted HF interference	EN 61000-4-6 10 V _{RMS} , 0.15 ... 80 MHz	No effect
Fast transients (burst)	EN 61000-4-4 4 kV	No effect
Surge	EN 61000-4-5 1 kV (42 Ohm, 0.5 µF) 500 V (12 Ohm, 9/18 µF)	No failure
Magnetic fields	EN 61000-4-8 30 A/m, 50 Hz	No effect
Insulation voltage	500 VDC 350 VAC	No effect No failure
Interference emit	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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