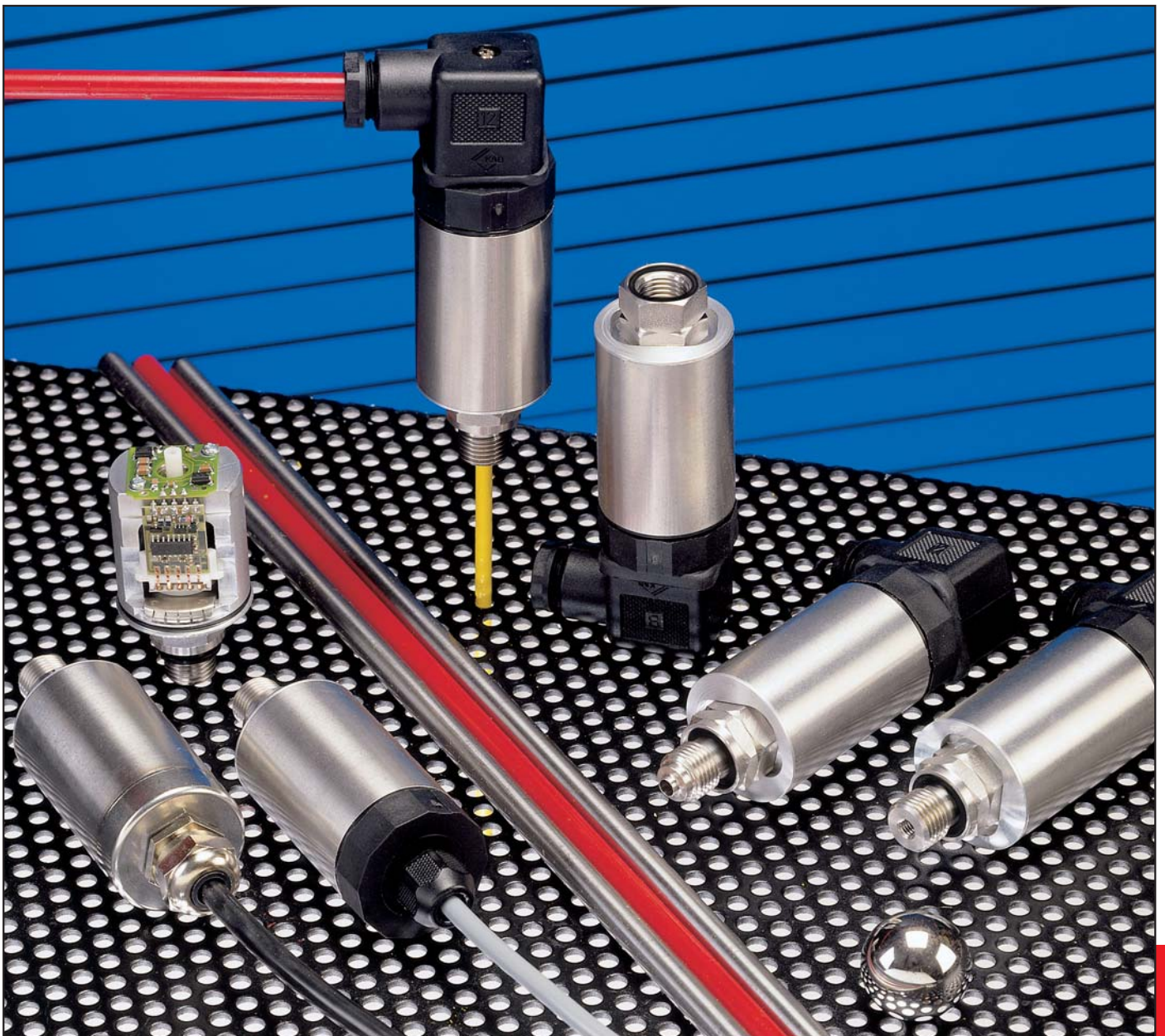


500

OEM Pressure transmitter

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



EDITION 5/2005

HUBA-REGISTERED TRADE MARK

Huba Control

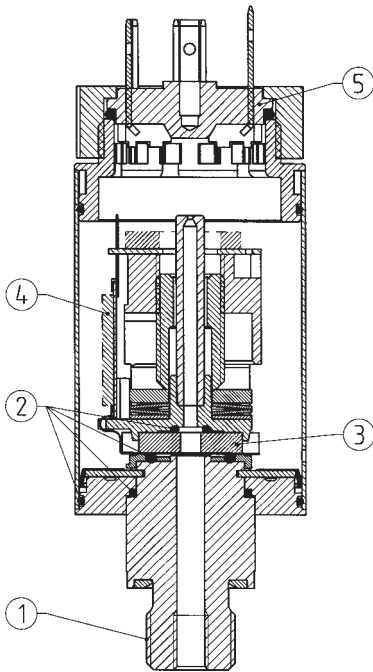
FOR FINE PRESSURE AND FLOW MEASUREMENT



Technical overview

The pressure transmitter of type series 500 with proven 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 EN 175301-803

The distinct advantages

- Compact, rugged construction for a wide range of industrial applications
- Ideal for OEM batch quantities from 50 pieces on
- High resistance to extreme temperatures
- No mechanical ageing
- No mechanical creepage

Pressure ranges

Absolute pressure, Relative pressure (Gauge) (differential measurement of pressure relative to ambient 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
< +/- 0.4% fs

Adjustment accuracy zero point and full scale (repeatable)

0 – 5 V	± 30 mV
1 – 6 V	± 30 mV
0 – 10 V	± 60 mV
4 – 20 mA	± 0.1 mA
10 – 90%	± 30 mV

Case material

Cover stainless steel

Materials in contact with the medium

Ceramic/Stainless steel 1.4305
Sealing material:
optional FPM, EPDM, NBR, MVQ
acc. to order code selection table

Temperature influences

Medium and ambient temperature
– 15 ...+ 80 °C

Medium and ambient temperature
– 15 ...- 40 °C on request

TC zero point < +/- 0.04% fs (< 60 bar)
TC sensitivity < +/- 0.015% fs/K typ.

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 DIN 3852/E sealed at back

Weight

Version inside thread 140 g
Version outside thread 160 g

Installation arrangement

Unrestricted

Signal

0 – 5 V

1 – 6 V

0 – 10 V

4 – 20 mA

10 – 90%

Power supply

11 – 33 VDC

3-wire cable

11 – 33 VDC

3-wire cable

18 – 33 VDC

3-wire cable

11 – 33 VDC

2-wire cable

4.5 – 6.0 VDC

3-wire cable ratiometric

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

Load

0 – 5 V > 10 k Ohm/<100 nF

1 – 6 V > 10 k Ohm/<100 nF

0 – 10 V > 10 k Ohm/<100 nF

4 – 20 mA $\leq \frac{\text{supply voltage} - 11 \text{ V}}{0.02 \text{ A}}$ [Ohm]

10 – 90 % > 10 k Ohm/<100 nF

Current consumption

With max. signal output:

0 – 5 V < 2 mA

1 – 6 V < 2 mA

0 – 10 V < 3 mA

4 – 20 mA $\leq 20 \text{ mA}$

10 – 90% < 2 mA

Electrical connection / Protection standard

Cable 1.5 meters, IP 65 or IP 67

Connector DIN EN 175301-803-A, IP 65

Connector M 12x1, IP 67

Calibration

Calibrated in the factory



Versions

- A – Inside thread G 1/4
- B – Outside thread G 1/4
- C – Outside thread G 1/4 and manometer (combi)
- D – Female connector with seal DIN EN 175301-803-A
- E – Cable 1.5 m, IP 65
- F – Cable 1.5 m, IP 67
Cable PUR
- G – Connector M 12x1, IP 67
- H – Female connector M 12x1, IP 67

Order code selection table

500. X X X X X X X X X X

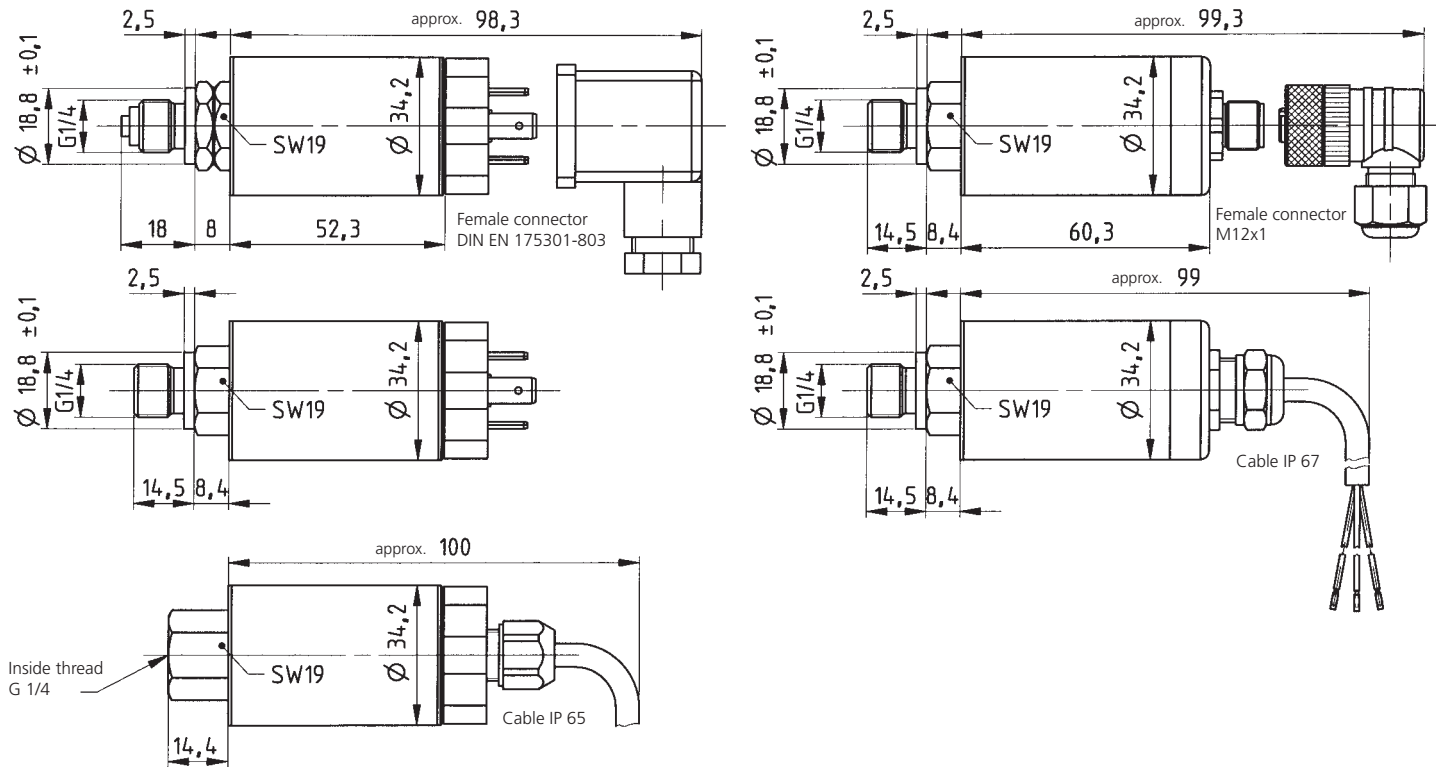
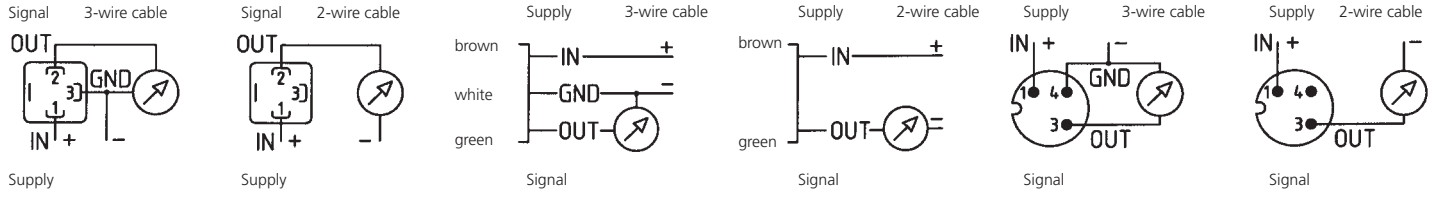
Relative pressure				9																
Absolute pressure				8																
Pressure ranges ¹	-1 ...+ 0 bar			9	0	0														
	0 ...+ 0.6 bar			9	1	0														
	0 ...+ 1 bar			9	1	1														
	0 ...+ 1.6 bar			9	1	2														
	0 ...+ 2.5 bar				1	4														
	0 ...+ 4 bar				1	5														
	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														2
	0 ...+ 160 bar			9	4	2														2
	0 ...+ 250 bar			9	4	3														2
	0 ...+ 400 bar	FPM seal only		9	5	4	0													2
	0 ...+ 600 bar	FPM seal only		9	5	5	0													2
	▲	Fullscale-Signal at these pressures																		
Sealing materials ²	FPM	Fluoro-elastomer					0													
	EPDM	Ethylene propylene					1													
	NBR	Butadiene Acrylonitrile					2													
	MVQ	Silicone polymer					3													
Calibration ³	Factory calibrated									0										
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
	4 – 20 mA	11.0 – 33.0 VDC	2-wire cable																	3
	10 – 90% ratiom.	4.5 – 6.0 VDC	3-wire cable																	4
Electrical connections ³	Cable	1.5 m	IP 65																	0
	Cable	1.5 m	IP 67 Cable PUR																	4
	Connector	DIN EN 175301803	IP 65																	1
	Connector	M 12 x 1	IP 67																	5
Pressure connections ⁴	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 1.4305 (AISI 30)																			1
	Stainless steel 1.4305 (AISI 303)	with pressure tip orifice (standard from 100 bar)																		2
	Stainless steel 1.4305 (AISI 303)	free of oil and grease (only seal FPM, not compound-filled)																		3
	Stainless steel 1.4305 (AISI 303)	with pressure tip orifice (standard from 100 bar)																		4
	Stainless steel 1.4305 (AISI 303)	free of oil and grease (only seal FPM, not compound-filled)																		4
Pressure range variation	Indicate W and state range on order																			W

Accessories / Packaging

Accessories	Female connector	DIN EN 175301-803-A with seal		1	0	3	5	1	0											
	Female connector	M12 x 1		1	0	6	9	7	5											

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 61000-6-2 and EN 61326-1, interference emit EN 61000-6-3 and EN 61326-1		
Interference stability	Test standard	Effect
Electrostatic discharge (ESD)	EN 61000-4-2	15 kV air, 8 kV contact no effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3	10 V/m, 80 ... 1000 Mz no effect
Conducted HF interference	EN 61000-4-6	10 V, 0.15 ... 80 MHz no effect
Fast transients (burst)	EN 61000-4-4	4 kV no effect
Surge	EN 61000-4-5	Line-Case 1 kV, 42 Ohm, 0.5 µF Line-Case, Line-Line 500 V, 12 Ohm, 9 µF ration. Line-Line 500 V, 2 Ohm, 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 effect
Interference emit	Test standard	Effect
Conducted interference	EN 55022 (CISPR 22) 0.15... 30 MHz	no emission
Radiation from housing	30...1000 MHz, 10 m	no emission

<p>Headquarters Huba Control Schweiz Industriestrasse 17 CH-5436 Würenlos Telefon ++ 41 (0) 56 436 82 00 Telefax ++ 41 (0) 56 436 82 82 info.ch@hubacontrol.com</p>	<p>Huba Control United Kingdom Unit 3 Network Point, Range Road Witney Oxfordshire OX29 0YD Tel 01993 776667 Fax 01993 776671 info.uk@hubacontrol.com www.hubacontrol.com</p>	<p>Agent for:</p>
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