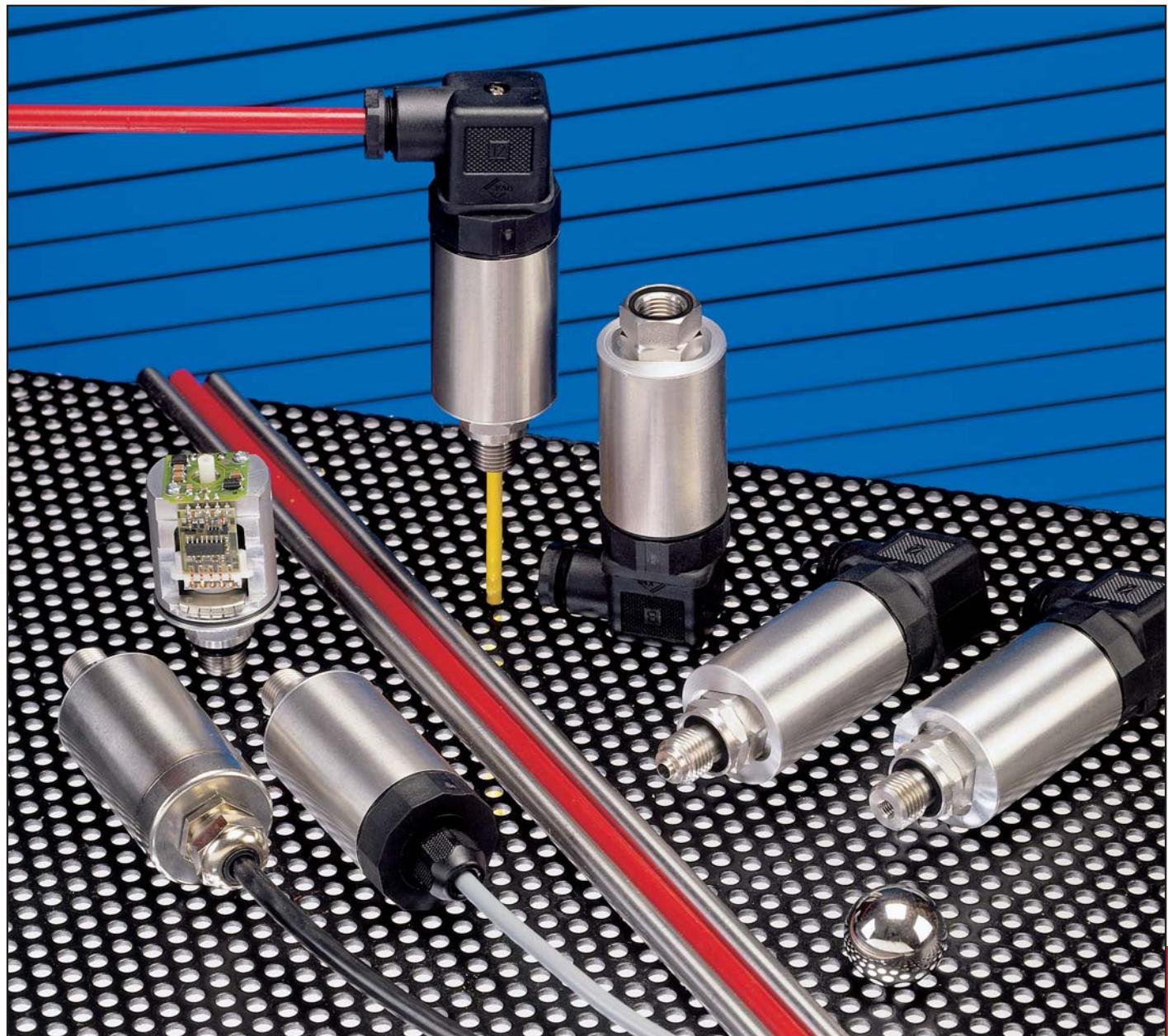


**500**

**OEM**  
**Pressure transmitter**  
**Relative -1 ... 600 bar**  
**Absolute 2,5 ... 16 bar**



EDITION 12/2003

HUBA-REGISTERED TRADE MARK

**Huba Control**

FOR FINE PRESSURE AND FLOW MEASUREMENT

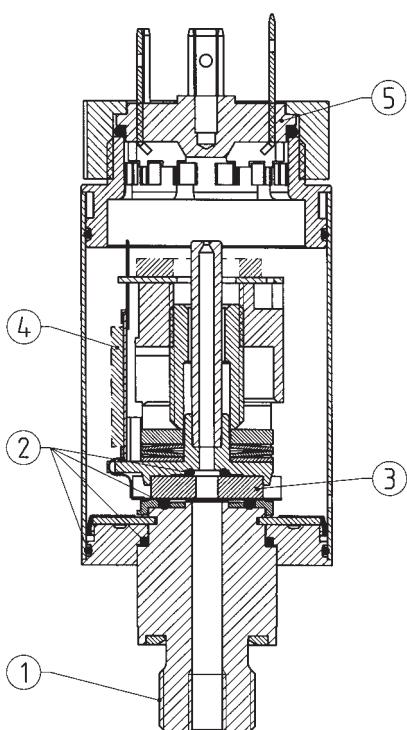


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### Technical overview

The pressure transmitter of type series 500 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.



### 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 aging
- No mechanical creepage

### Legend to cross-section drawing

- 1 Connection fitting
- 2 Seals
- 3 Ceramic element
- 4 Hybrid electronics
- 5 Connector DIN 43650

### 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, repeatability  $< +/- 0.4 \% \text{ fs}$   
Adjustment accuracy zero point and full scale (repeatable)

0 – 5 V	$\pm 30 \text{ mV}$
1 – 6 V	$\pm 30 \text{ mV}$
0 – 10 V	$\pm 60 \text{ mV}$
4 – 20 mA	$\pm 0.1 \text{ mA}$
10 – 90 %	$\pm 30 \text{ mV}$

### Housing materials in contact with the medium

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

TC zero point  
 $< +/- 0.04 \% \text{ fs/K} (< 60 \text{ bar})$   
 $< +/- 0.05 \% \text{ fs/K} (> 60 \text{ bar})$

TC sensitivity  
typically  $< +/- 0.015 \% \text{ fs/K}$

### Load cycle

$< 50 \text{ Hz}$

### Dynamic response

Suitable for static and dynamic measurements.  
Response time  $< 5 \text{ ms}$

### 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
• 1 – 6 V	11 – 33 VDC
• 0 – 10 V	18 – 33 VDC
• 4 – 20 mA	11 – 33 VDC
• 10 – 90 %	4.5 – 6.0 VDC 3-wire cable ratio metric

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

### Load

0 – 5 V	$> 10 \text{ kOhm} / < 100 \text{ nF}$
1 – 6 V	$> 10 \text{ kOhm} / < 100 \text{ nF}$
0 – 10 V	$> 10 \text{ kOhm} / < 100 \text{ nF}$
4 – 20 mA	$\leq \frac{\text{supply voltage} - 11 \text{ V}}{0.02 \text{ A}} [\text{Ohm}]$
10 – 90 %	$> 10 \text{ kOhm} / < 100 \text{ nF}$

### Current consumption

With max. signal output:	
0 – 5.0 V	$< 2 \text{ mA}$
1 – 6.0 V	$< 2 \text{ mA}$
0 – 10.0 V	$< 3 \text{ mA}$
4 – 20 mA	$< 20 \text{ mA}$
10 – 90 %	$< 2 \text{ mA}$

### Electrical connections / Protection standard

Cable 1.5 meters, IP 65  
Cable 1.5 meters, IP 67  
Connector DIN 43650-A, IP 65  
Connector M 12x1, IP 67

### Calibration

Calibrated in the factory.



Versions

## Order code selection table

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500

X X X X X X X X X X

**Relative pressure**  
**Absolute pressure**

9									
8									

Pressure ranges <sup>1</sup> (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					
	0... + 160	9	4	2					
	0... + 250	9	4	3					
	0... + 400	9	5	4	0				
	0... + 600	9	5	5	0				

▲ Full scale signal at these pressures.

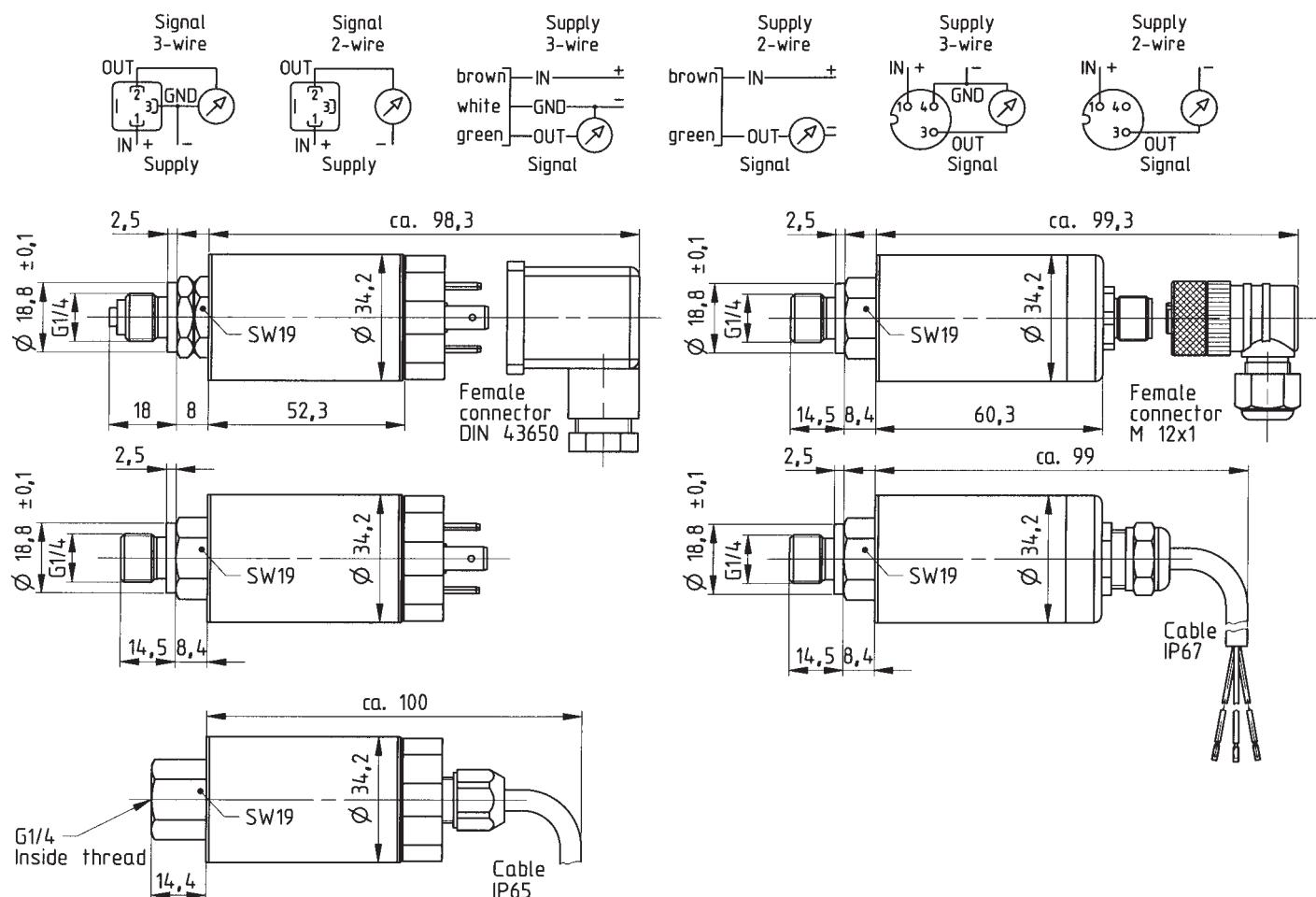
Sealing materials <sup>2</sup>	FPM Fluoro-elastomer	0							
	EPDM Ethylene propylene	1							
	NBR Nitrile butadiene	2							
	MVQ Silicone polymer	3							
Calibration	Factory calibrated	0							
Outputs and power supply	0 – 5 V	11.0 – 33.0 VDC 3-wire cable	1						
	1 – 6 V	11.0 – 33.0 VDC 3-wire cable	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						
	ratiometric (10 – 90%)	4.5 – 6.0 VDC 3-wire cable	4						
Electrical connections <sup>3</sup>	Cable, 1.5 meters	(protection standard IP 65)	0						
	Cable, 1.5 meters	(protection standard IP 67, cable PUR)	4						
	Connector DIN 43650-A	(protection standard IP 65)	1						
	Connector M12 x 1	(protection standard IP 67)	5						
Pressure connections <sup>4</sup>	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 connections	Stainless steel without pressure tip orifice		1						
	Stainless steel with pressure tip orifice (standard from 100 bar on)		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 from 100 bar on) 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		
	Female connector M12 x 1	1	0	6	9	7	5		
Packaging	Mention on order: • single packaging / • multiple packaging (25 pcs)								

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

<sup>2</sup> According to ISO standard R 1629, other sealing materials on request.

<sup>3</sup> Without female connector.

<sup>4</sup> 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

<b>Interference stability</b>	<b>Test standard</b>	<b>Effects</b>
Electrostatic discharge ESD	EN 61000-4-2 15 kV air discharge, 8 kV contact discharge	No effet
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, 0.15 ... 80 MHz	No effect
Fast transients (burst)	EN 61000-4-4 2 kV	No effet
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 effet No failure
<b>Interference emit</b>	<b>Test standard</b>	<b>Effects</b>
Conducted interference Radiation from housing	EN 55022 0.15...30 MHz 30...1000 MHz, 10 meters	No effect No effect

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