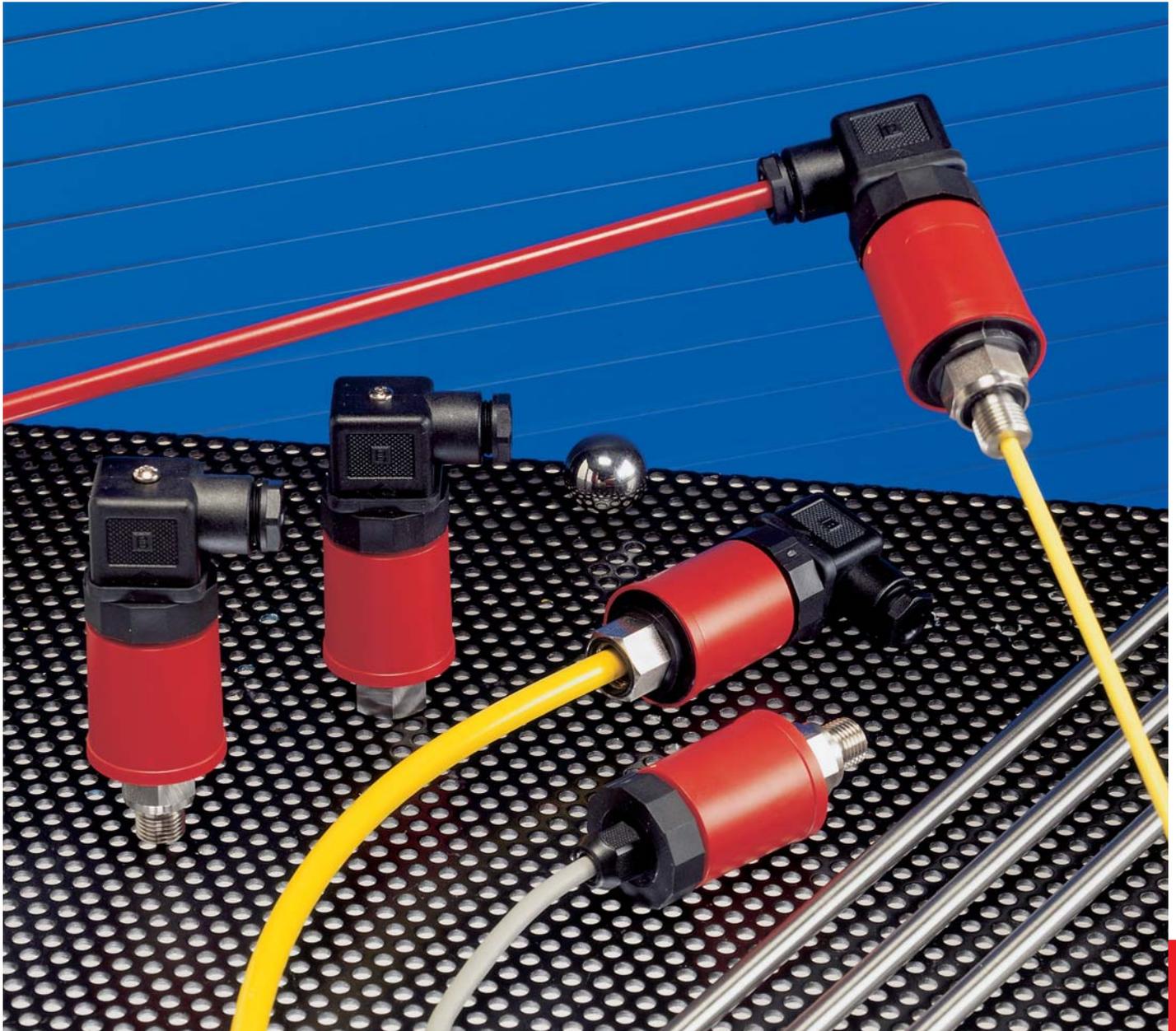


501

Pressure transmitter
Relative 0 – 40 bar
Absolute 2,5 – 16 bar



EDITION 07/2004

HUBA-REGISTERED TRADE MARK

 **Huba Control**

FOR FINE PRESSURE AND FLOW MEASUREMENT

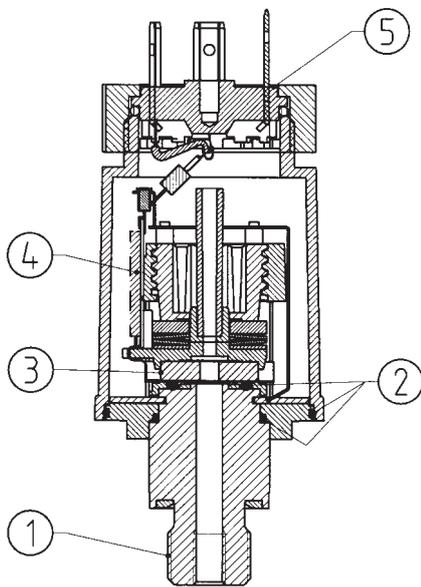


EDITION 07/2004

Technical overview

The pressure transmitter of type series 501 with proved ceramic technology, features calibrated and amplified sensor signals which are available as standardized 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

Pressure ranges

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

Overload

2x measuring range (fs)

Rupture pressure

3x measuring range (fs)
(0 – 40 bar max. 90 bar)

Accuracy

Total of linearity, hysteresis and repeatability
< +/- 0.5 % fs
Adjustment accuracy zero point and full scale (repeatable)

0 – 5 V	± 50 mV
1 – 6 V	± 50 mV
0 – 10 V	± 100 mV
4 – 20 mA	± 0.16 mA
10 – 90 %	± 1 %

Housing material

Cover Pa 6

Materials in contact with the medium

Ceramic/Stainless steel 1.4305 (AISI 303)
Sealing materials:
optionally FPM, EPDM, NBR, silicone, according to order code selection table.

Temperature influences

Medium and ambient temperature
–15 °C to + 80 °C
TC zero point 2.5 to 40 bar
< +/- 0.04 % fs/K
TC sensitivity
typically < +/- 0.015 % fs/K

The distinct advantages

- Compact construction
- Automated manufacture in large quantities for ideal price/performance ratio
- Robust ceramic sensor technology
- High resistance to extreme temperatures
- No mechanical aging
- No mechanical creepage

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
DIN 3852 form E

Weight

Inside thread	50 grams
Outside thread	70 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
• 10 – 90 %	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 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]
10 – 90 %	> 10 kOhm/<100 nF

Current consumption

With max. signal output:

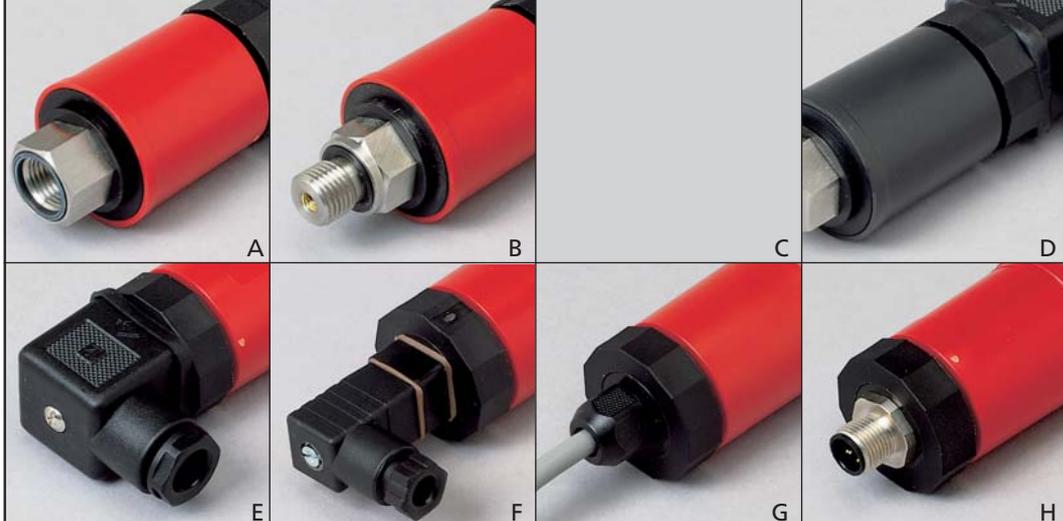
0 – 5 V	< 2 mA
1 – 6 V	< 2 mA
0 – 10 V	< 3 mA
4 – 20 mA	< 20 mA
10 – 90 %	< 2 mA

Electrical connections/protection class

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

Calibration by customer

Calibrated in the factory



- A – Inside thread G 1/4
- B – Outside thread G 1/4
- D – Storage version cover black
- E – Female connector DIN 43650-A
- F – Female connector industrial standard
- G – Electrical connection with PG 7
- H – Connector M12x1 (on request)

Versions

Order code selection table

EDITION 01/2004

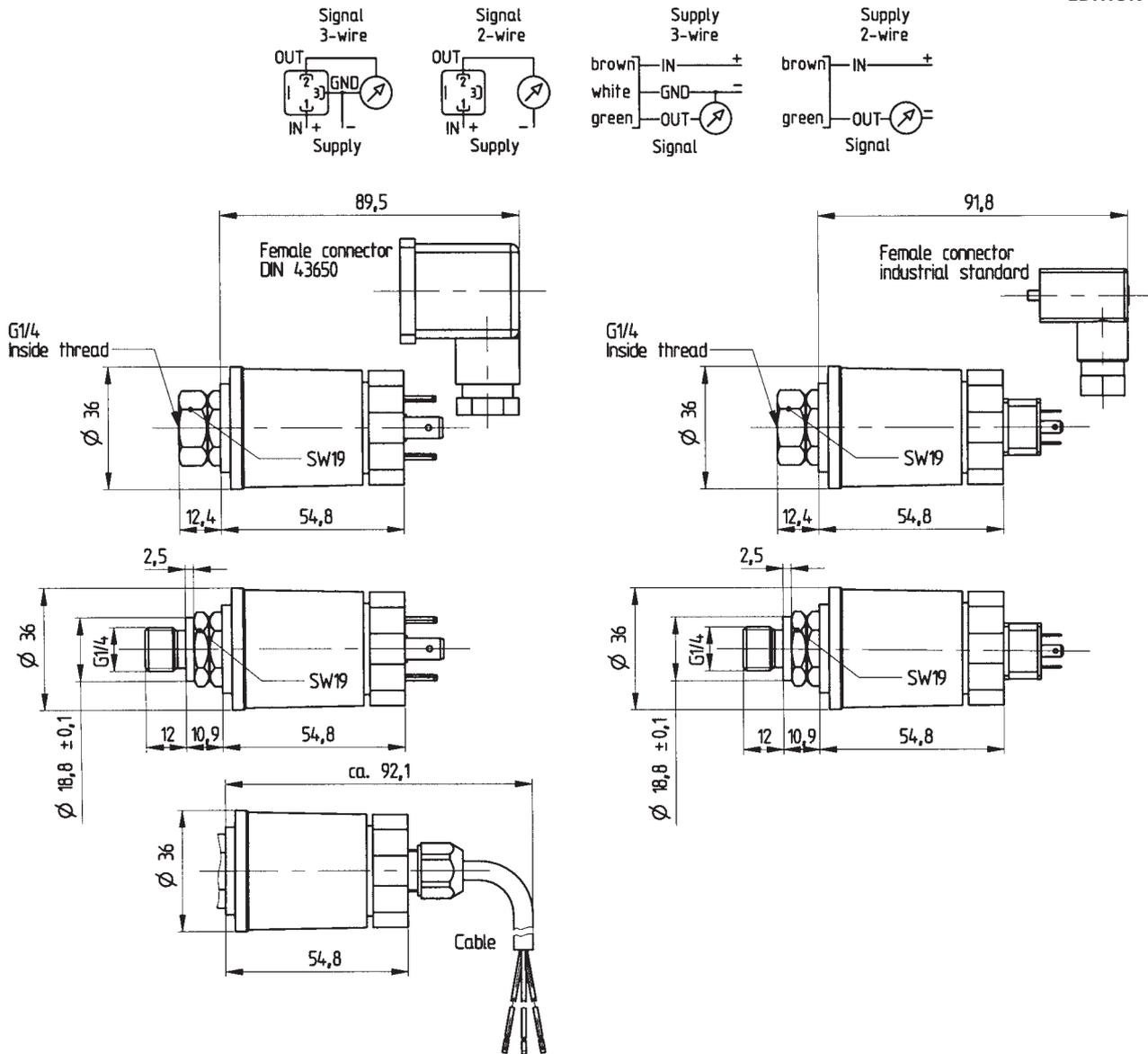
501

		X	X	X	X	X	X	X	X	X	X
Relative pressure / Gage		9									
Absolute pressure		8									
Pressure ranges¹ (bar)											
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							
▲											
Full scale signal at that pressure											
Sealing materials²											
FPM	Fluoro-elastomer					0					
EPDM	Ethylene propylene					1					
NBR	Nitrile butadiene					2					
MVQ	Silicone polymer					3					
Calibration											
Factory calibrated						0					
Outputs and											
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			
power supply											
Electrical connections³											
Cable, 1.5 meters	(protection standard IP 65)							0			
Connector DIN 43650-A	(protection standard IP 65)							1			
Connector industrial standard	(protection standard IP 65)							2			
Pressure connections⁴											
Inside thread	G 1/4 with O-ring seal									1	
Outside thread	G 1/4 sealed at back, DIN 3852 form E									4	
Housing materials											
Stainless steel											1
Stainless steel with pressure tip orifice											2
Pressure range variation											
Indicate W and mention range on order											W

Accessories	Female connector DIN 43650-A with seal (IP 65 when installed and latched)	1	0	3	5	1	0				
	Female connector (industrial standard) with seal (IP 65 when installed and latched)	1	0	4	2	4	4				
Packaging	Mention on order:										
	<ul style="list-style-type: none"> • single packaging • single packaging with DIN-connector order-no 103510 or Connector industrial standard order-no 104244 • multiple packaging (25 pcs) • multiple packaging (25 pcs) DIN-connector order-no 103510 or Connector industrial standard order-no 104244 enclosed separatly 										

Storage versions according separate specification.

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



Electromagnetic compatibility:
 CE conformity to EC directive 89/336 EEC (EMC) by application of harmonized standards EN 61000-6-1 and EN 61000-6-3.

Type of interference/Interference susceptibility	Test standard	Effects
Electrostatic discharge ESD	EN 61000-4-2 8 kV air, 4 kV contact	No failure except ratiometric types
High-frequency electromagnetic radiation (HF)	EN 6100-4-3 3 V/m, 80...1000 MHz	No effect up to 3 V/m
Conducted HF interference	EN 61000-4-6 3 V, 0.15 ... 80 MHz	No effect
Fast transients (burst)	EN 61000-4-4 1 kV	No effect
Surge	EN-61000-4-5 max. tolerable cable length 10 m	No test
Magnetic fields	EN 61000-4-8 30 A/m, 50 Hz	No effect
Type of interference/Emitted interference	Test standard	Effects
Conducted interference	EN 55022 (CISPR 22) 0.15...30 MHz	No effect
Radiation from housing	30...1000 MHz, 10 meters	No effect

Huba Control Switzerland
 Headquarters
 Industriestrasse 17
 CH-5436 Würenlos
 Phone ++41 (0) 56 436 82 00
 Fax ++41 (0) 56 436 82 82
 e-mail: info.ch@hubacontrol.com

Huba Control United Kingdom
 Unit 3 Network Point
 Range Road
 GB-Witney Oxfordshire OX29 0YD
 Phone 01 993 776 667
 Fax 01 993 776 671
 e-mail: info.uk@hubacontrol.com

Huba Control France
 e-mail: info.fr@hubacontrol.com
Huba Control Germany
 e-mail: info.de@hubacontrol.com
Huba Control Netherlands
 e-mail: info.nl@hubacontrol.com

Agent for:

Internet: www.hubacontrol.com