506

Pressure transmitter for refrigeration technology

Relative Pressure up to 60 bar

EDITION 01/2005

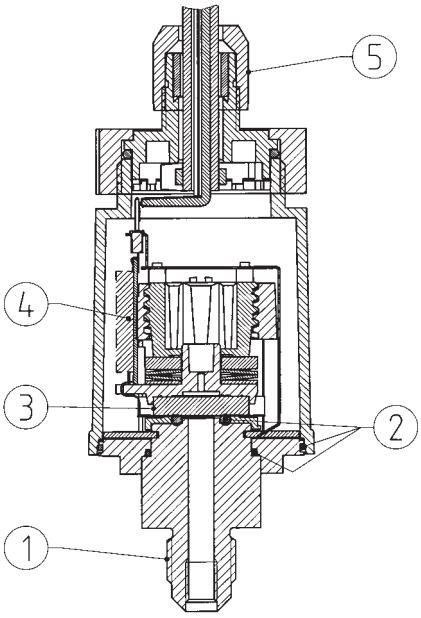
Huba Control

FOR FINE PRESSURE AND FLOW MEASUREMENT

Technical overview

The pressure transmitter type 506 with proven ceramic technology, features calibrated and amplified sensor signals which are available as standardised current outputs.

Specially developed for use in the industrial refrigeration technology.



Legend to cross-section drawing

1 Connection fitting
2 Seals
3 Ceramic element
4 Hybrid electronics
5 Cable joint PG7

The distinct advantages

- Compact construction
- Manufactured by automatic assembly line to give ideal price/performance ratio
- Robust ceramic-sensor technology
- High resistance to extreme temperatures
- No mechanical ageing
- No mechanical creepage

Pressure ranges

Relative pressure/Gauge (measurement of pressure relative to ambient pressure)

Lowest pressure range 7 bar fs

Overload

2 x measuring range (fs) at full scale from 40 ... 60 bar max. 80 bar

Rupture pressure

3 x measuring range (fs) at full scale from 40 - 60 bar max. 90 bar

Accuracy

Total of linearity, hysteresis and repeatability
< +/- 0.5 % fs (> 10 – 60 bar)
< +/- 1.0 % fs (7 – 10 bar)

Adjustment accuracy zero point and full scale (repeatable)

0 – 5 V	± 50 mV
1 – 6 V	± 50 mV
0 – 10 V	± 100 mV
10 – 90%	± 1%

Materials in contact with the medium

Ceramic / Stainless steel 1.4305
Sealing material: CR

Housing material

Cover Pa 6

Temperature influences

Medium and ambient temperature
- 40 °C ... + 80 °C

TC zero point
10 ... 60 bar < +/- 0.04% fs

TC sensitivity
< +/- 0.015% fs
7 ... 10 bar < +/- 0.02% fs

Load cycle

< 50 Hz

Dynamic response

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

Signal and 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 VDC ratiom.	3-wire cable

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	$\leq \frac{\text{supply voltage - 11 V}}{0.02\ \text{A}}$ [Ohm]
10 – 90%	> 10 kOhm/<100 nF

Current consumption

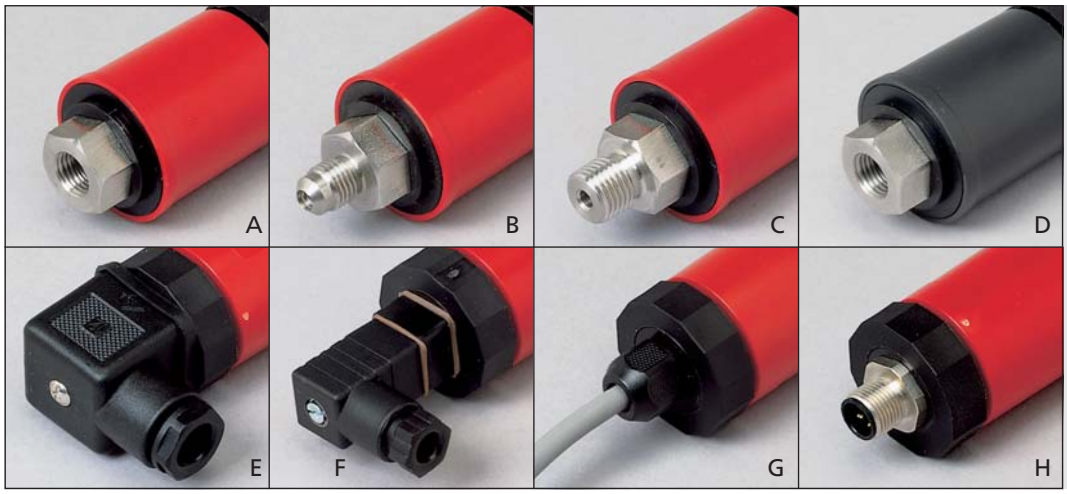
0 – 5 V	2 mA
1 – 6 V	2 mA
0 – 10 V	3 mA
4 – 20 mA	20 mA
10 – 90%	2 mA

Electrical connections / Protection class

Cable 1.5 m	IP 65
Connector DIN EN 175301-803-A	IP 65
Connector Industrial standard	IP 65

Calibration

Calibrated in factory



Versions

A – Inside thread Schrader 7/16-20 UNF

B – Outside thread 7/16-20 UNF

C – Outside thread 1/4-18 NPT

D – Storage version cover black

E – Female connector DIN EN 175301-803-A

F – Female connector Industrial standard

G – Electrical connection with PG 7

H – Connector M12x1 (on request)

Order code selection table

					506.	X	X	X	X	X	X	X	X	X
Relative pressure					9									
Pressure ranges	Customer side	– 1 … + 60 bar	(min. 7 bar fs)			X	X							
Sealing material[1]	CR							A						
Calibration	Factory calibrated								0					
Output and power supply	0 – 5 V	11 – 33 VDC	3-wire cable							1				
	1 – 6 V	11 – 33 VDC	3-wire cable							6				
	0 – 10 V	18 – 33 VDC	3-wire cable							2				
	4 – 20 mA	11 – 33 VDC	2-wire cable							3				
	10 – 90%	4.5 – 6 VDC ratiom.	3-wire cable							4				
Electrical connections[2]	Cable	1.5 m	Protection standard	IP 65							0			
	Connector	DIN EN 175301-803-A	Protection standard	IP 65							1			
	Connector	Industrial standard	Protection standard	IP 65							2			
Pressure connections[3]	Inside thread	7/16-20 UNF Schrader										0		
	Outside thread	7/16-20 UNF										2		
	Outside thread	1/4 - 18 NPT										3		
Housing materials	Stainless steel	1.4305 (AISI 303)											1	
	Stainless steel	1.4305 (AISI 303)	with pressure tip orifice										2	
Pressure range	Indicate W and state range on order													W

Accessories

Accessories	Female connector DIN EN 175301-803-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:

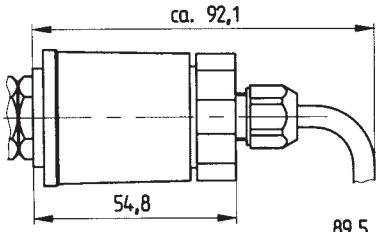
- Single packaging with DIN-connector order-no 103510 or connector industrial standard order-no 104244
- Multiple packaging (25 pcs) DIN-connector order-no 103510 or connector industrial standard order-no 104244, enclosed separatly

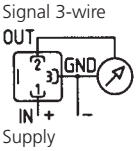
Order example: Specifications of customer: 506.9XXA02121W - 0,5 ... 7 bar turns to factory number: 506.930A02121W - 0,5 ... 7 bar

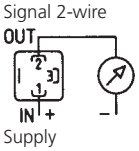
1 According to ISO standard R 1629, other sealing materials on request
2 Without female connector
3 Other connections and materials on request

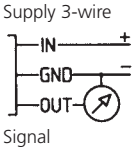
Dimensions in mm

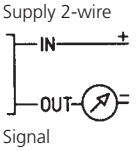
Electrical connections

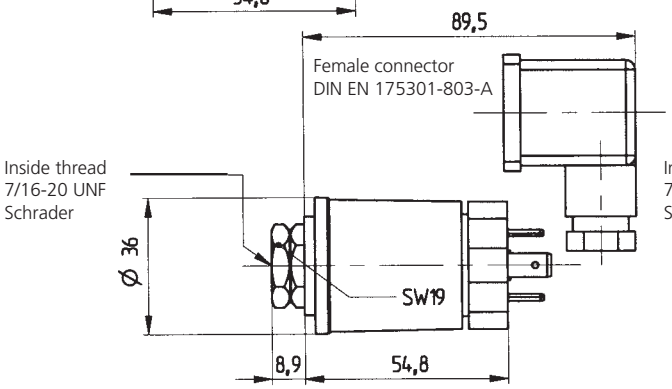


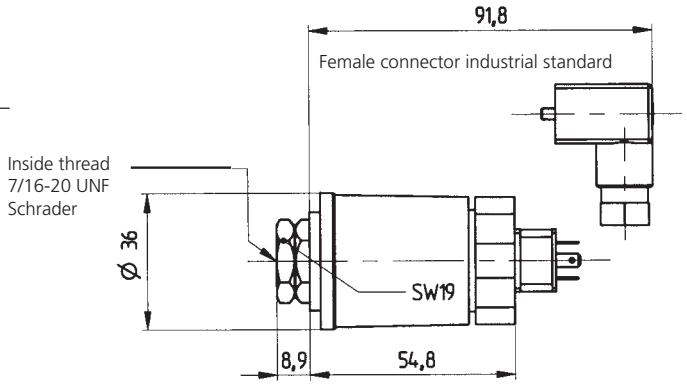


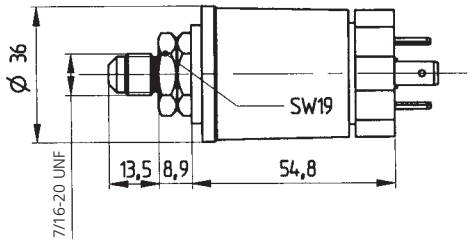


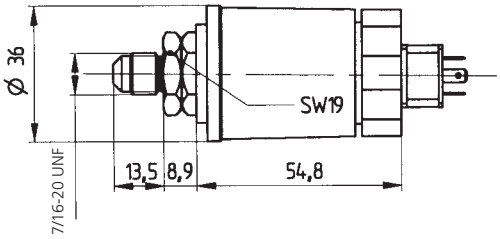


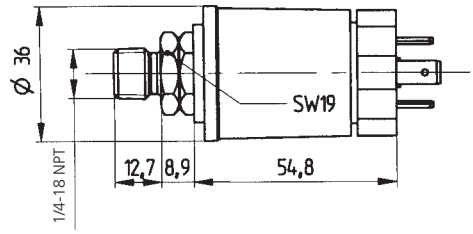


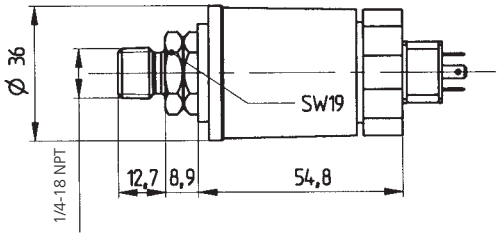












Electromagnetic compatibility: CE conformity (EMC) by application of harmonized standards: Interference stability EN 61000-6-1 and EN 61000-6-3

Interference stability	Test standard	Effect	
Electrostatic discharge (ESD)	EN 61000-4-2	8 kV air, 4 kV contact	no effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3	3 V/m, 80 … 1000 Mz	no effect
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

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

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