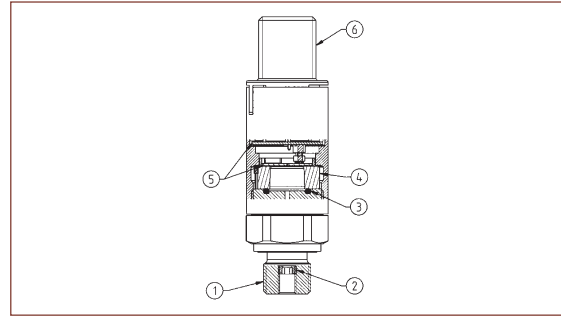


# OEM PRESSURE TRANSMITTER RELATIVE -1... 600 BAR ABSOLUTE 0... 25 BAR

## TYPE 511



### Technical Overview

These compact OEM pressure transmitters TYPE series 511 meet the highest specification for mechanical stress, EMC compatibility, and operational reliability, which means that this range is particularly suitable for all demanding industrial applications.

This sensor utilizes a ceramic technology, developed by Huba Control and for the last 10 years, in millions of application with unique integrated electronic design, means that the TYPE 511 series has a high degree of accuracy for all temperature ranges. These units are available in small or production quantities, with an excellent price to performance ratio.

### The Distinct Advantages

- Compact, rugged construction for highest operational reliability
- Protection IP 67 standard
- No media egress when exceeding rupture pressure (patented)
- Negligible temperature influence on accuracy
- Excellent EMC-capacity
- Saving time by quick cable mounting by the customer with Quiconk-System

### Legend to Cross-section Drawing

1. Connection fitting
2. Protection of media leakage
3. Sealing
4. Ceramic cell
5. Electronic with EMC-protection
6. Electrical connection (Example Quiconk)

### Pressure Ranges

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

### Overload

3.0x Full scale at -1...4 bar  
2.5x Full scale at 6...400 bar  
1.5x Full scale at 600 bar  
Higher overload on request

### Rupture Pressure

3.0x Full scale at -1...4 bar  
2.5x Full scale at 6...400 bar  
1.5x Full scale at 600 bar  
Higher rupture pressure on request  
Patented media stop system to prevent media egress when exceeding rupture pressure range ( $\geq 40$  bar nominal value)

### Accuracy

Total of linearity, hysteresis and repeatability  
Adjustment bar Adjustment psi  
<+/- 0.3 % fs. <+/- 0.5 % fs.  
Adjustment accuracy zero point and full scale  
Adjustment bar Adjustment psi  
<+/- 0.3 % fs. <+/- 0.5 % fs.

### Housing Material

Casing: Stainless steel 1.4305 (AISI 303)

### Materials in Contact with the Medium

Ceramic  $Al_2O_3$  / Stainless steel 1.4305 (AISI 303)  
Media stopper: PPS  
Sealing material: optionally FPM, NBR, others in request

### Application Temperature

Medium temperature with sealing:

FPM -15... + 125°C

NBR -25... + 85°C

FPM spec. -40... + 150°C

Ambient temperature:

For all versions max. 85°C

For versions with connector AMP and ratiometric output max. 125°C

(Versions up to 150°C on request)

### Temperature Influences

	Adjustment bar	Adjustment psi
TKO	< $\pm 0.015\%$ fs/K	< $\pm 0.025\%$ fs/K
TKE	< $\pm 0.015\%$ fs/K	< $\pm 0.015\%$ fs/K
Temperature range -40 ... +125°C		

### Dynamic Response

Suitable for static and dynamic measurements.

Response time < 2 ms

typ. 1 ms

### Pressure Connections

See order code selection table

### Weight

Version inside thread 85 grams

Version outside thread 95 grams

### Installation Arrangement

Unrestricted

### Signal / Power Supply

See order code selection table

- Short circuit-proof and protected against polarity reversal.

Each connection against other with max. +/- supply voltage.

**Electric strength 500 VDC, on request 1000 VDC**

### Load

Voltage outputs: > 10 kOhm / < 100 nF

Output

4 - 20 mA  $\leq \frac{\text{supply voltage} - 11V}{0.02 A}$  8V [Ohm]

Ratiometric >10 kOhm/, 100 nF

### Current Consumption

With max. signal output

Voltage output: < 4 mA

4 - 20 mA < 20 mA

Ratiometric < 4 mA

### Electrical Connections / Protection Standard

See order code selection table

### Tests / Admissions

**Shock acc. IEC 68-2-27**, 75 G, 11 ms half sine wave, all 3 directions.

Free fall from 1 m on concrete (6x).

**Constant shock acc. IEC 68-2-29**

40 G for 6 ms, 1000x all 3 directions.

**Vibration acc. IEC 68-2-6**, 20 G, 9 ... 200 Hz, 2 ... 9 Hz with amplitude +/- 15mm, 1 Octave / min., all 3 directions, 50 constant load.

**EMC** - behaviour see on the back.

**UL** according to standard 873



# OEM PRESSURE TRANSMITTER RELATIVE -1... 600 BAR ABSOLUTE 0... 25 BAR

Order Code Selection Table

				511 .	X	X	X	X	X	X	X	X	X	X	
Relative pressure					9										
Absolute pressure					8										
see calibration															
Pressure ranges <sup>1</sup>	-1 ... + 0 bar	30" hg vac		9	0	0									
	0 ... + 1 bar	15 psi			1	1									
	0 ... + 1.6 bar				1	2									
	0 ... + 2.5 bar	30 psi			1	4									
	0 ... + 4 bar	60 psi			1	5									
	0 ... + 6 bar	100 psi			1	7									
	0 ... + 10 bar				3	0									
	0 ... + 16 bar	200 psi			3	1									
	0 ... + 25 bar	300 psi			3	2									
	0 ... + 40 bar	500 psi		9	3	3									
	0 ... + 60 bar	750 psi		9	4	0									
	0 ... + 100 bar	1000 psi		9	4	1									
	0 ... + 160 bar	2000 psi		9	4	2									
	0 ... + 250 bar	3000 psi		9	4	3									
	0 ... + 400 bar Viton seal only	5000 psi		9	5	4	6								
	0 ... + 600 bar Viton seal only	7500 psi		9	5	5	6								
▲ Full scale signal at these pressures ▲															
Sealing materials <sup>2</sup>	FPM Fluoro-elastomer (Viton)	-15 ... + 125°C				0									
	NBR butadiene-acrylic nitrile-caoutchouc	-25 ... + 85°C				2									
	FPM Fluoro-elastomer (Viton) spec.	-40 ... + 150°C				6									
Calibration	Factory calibrated in bar						0								
	Factory calibrated in psi						3								
Outputs and	0 - 5V	8.0 - 33.0 VDC	3-wire cable					1							
Power supply	1 - 6V	8.0 - 33.0 VDC	3-wire cable					6							
	0 - 10V	11.4 - 33.0 VDC	3-wire cable					2							
	0 - 10V	16 - 34 VDC/24 VAC +/- 15%	3-wire cable					7							
	4 - 20 mA	8.0 - 33.0 VDC	2-wire cable					3							
	0.5 - 4.5 V, ratiometric	5 VDC (4.75 - 5.25)	3-wire cable					4							
Electrical	Cable, 1.5 meters		IP 67 max. 85°C					0							
connections	Quickon including cable screwing		IP 67 max. 85°C					1							
	Connector AMP (without female connector)		IP 67 max. 125°C					2							
	Connector M 12 x 1 (without female connector)		IP 67 max. 85°C					5							
Pressure	Inside thread	G 1/4 with O-ring sealing											1		
connections <sup>3</sup>	Outside thread	G 1/4 sealed at back DIN 3852/E											4		
	Outside thread	R 1/4 , DIN 2999											7		
	Outside thread	M 12 x 1.5											5		
	Outside thread	M 14 x 1.5											6		
Process	Stainless steel without pressure tip orifice													1	
connection	Stainless steel with pressure tip orifice (standard from ≥ 40 bar on)													2	
	Stainless steel without pressure tip orifice, free of oil and grease														3
	(only seal Viton, not compound-filled)														4
	Stainless steel without pressure tip orifice (standard from ≥ 40 bar on)														
	Free of oil and grease (only seal Viton, not compound-filled)														
Pressure range	Indicate W and mention range on order														W
variation															

## Accessories

Female connector for connector M12 x 1	(not included in delivery)	1	0	6	9	7	5
Female connector AMP (Junior Power Timer)	(not included in delivery)	1	0	8	7	6	7
Quickon cable screwing	(included in delivery)	1	0	7	3	5	9

## Packaging

Mention on order:	<ul style="list-style-type: none"> <li>• Single packaging / • multiple packaging (25 pcs)</li> <li>• Single packaging, accessories integrated</li> <li>• Multiple packaging (25 pcs), Quickon cable screwing enclosed</li> <li>• Multiple packaging (25 pcs), AMP and M12 connector separately enclosed</li> </ul>
-------------------	--

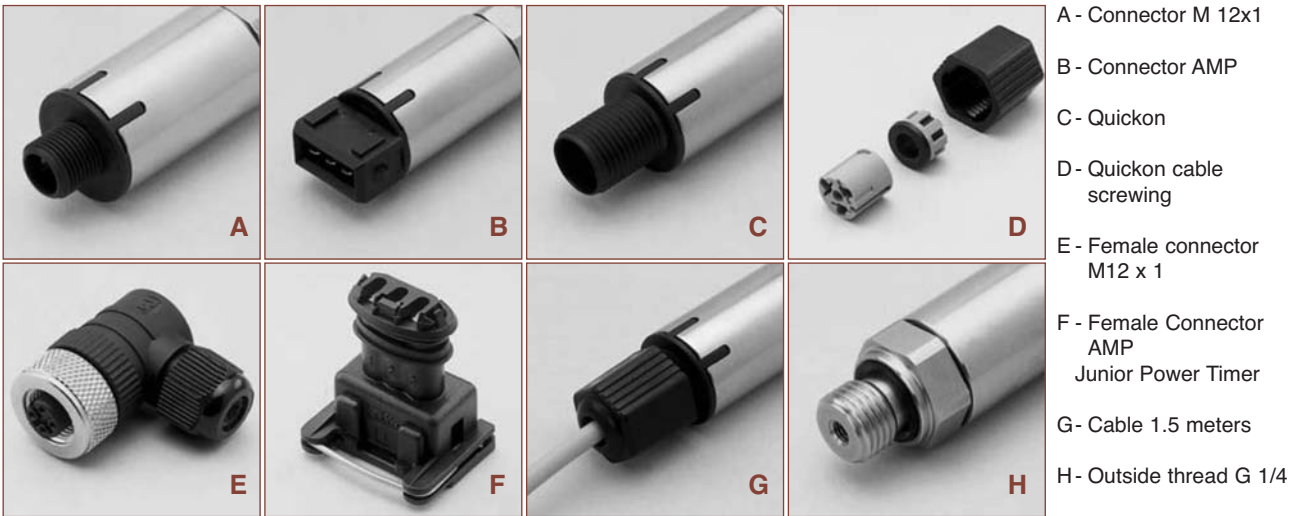
<sup>1</sup> Other pressure ranges on request.

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

<sup>3</sup> Other pressure connections and materials on request.

# OEM PRESSURE TRANSMITTER RELATIVE -1... 600 BAR ABSOLUTE 0... 25 BAR

## Versions



## Electromagnetic compatibility:

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

Interference Stability	Test standard	Effects
Electronic discharge (ESD)	EN 61000-4-2 15 kV air discharge / 8 kV contact discharge	No effect
High-frequency electromagnetic radiation (HF)	EN 61000-4-3 200 V/m, 80 ... 1000 Mz	No effect
Conducted HF interference	EN 61000-4-6 30 V, 0.15 ... 80 MHz	No effect
Fast transients (burst)	EN 61000-4-4 4 kV	No effect
Surge	EN 61000-4-5 Line-Line, Line-Case 500 V, 12 Ohm, 9µF 1kV, 42 Ohm, 0.5µF Ratiometric Line-Line 500 V, 2 Ohm, 18µF	No failure
Magnetic fields	EN 61000-4-8 30 A/m, 50 Hz	No effect
Insulation voltage	500 VDC (optional 1000 VDC) 350 VAC (optional 700 VAC)	No effect

Interference Emit	Test standard	Effects
Conducted interference	EN 55022 0.15... 30 MHz	No emission
Radiation from housing	30... 1000 MHz, 10 meters	No emission

# OEM PRESSURE TRANSMITTER RELATIVE -1... 600 BAR ABSOLUTE 0... 25 BAR

## Dimensions in mm / Electrical Connections

