

# OEM relative and absolute pressure transmitter type 511

Pressure range  
-1 ... 0 – 600 bar



Type 511 pressure transmitters meet the highest specifications for longevity, accuracy, temperature stability and EMC characteristics, making them suitable for an extremely wide range of demanding industrial applications.

- Compact, rugged construction for highest operational reliability
- No media egress when exceeding rupture pressure
- Negligible temperature influence on accuracy
- Excellent EMC capacity
- Saving time by quick cable mounting by the customer with swift connector

## Technical overview

### Pressure range

Relative	-1 ... 0 – 600 bar
Absolute	0 ... 25 bar

### Operating conditions

Medium		Liquids and gases
Temperature		FPM
		EPDM
		NBR
		FPM spec.
	Ambient <sup>1)</sup>	ration. output, AMP JPT all other versions
Tolerable overload / Rupture pressure <sup>2)</sup>	< 6	3.0 x fs
	≥ 6	2.5 x fs (max. 900 bar)

### Materials

Case		Stainless steel 1.4305 / AISI 303
Materials in contact with the medium	Pressure connection	Stainless steel 1.4305 / AISI 303
	Sensor	Ceramic Al <sub>2</sub> O <sub>3</sub> (96%)
	Media stop system	PPS
	Sealing material	FPM, EPDM, NBR, FPM spec.

### Media stop system

Huba-patented media stop system to prevent media egress when exceeding rupture pressure range (> 40 bar nominal value).

### Electrical overview

	Output	Power supply	Load	Current consumption <sup>4)</sup>
2 wire	4 ... 20 mA	8.0 ... 33 VDC	< $\frac{\text{supply voltage} - 8 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 20 mA
	0 ... 5 V	8.0 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
	1 ... 6 V	8.0 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
3 wire	0 ... 10 V	11.4 ... 33 VDC	>10 kOhm / < 100 nF	< 4 mA
	0 ... 10 V	24 VAC ±15%	>10 kOhm / < 100 nF	< 4 mA
	ration. 10 ... 90%	5 VDC ±5%	>10 kOhm / < 100 nF	< 4 mA
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			
Insulation voltage			standard	500 VDC
			optional	1000 VDC

### Dynamic response

Response time	< 2 ms, typ. 1 ms
Load cycle	< 100 Hz

### Protection standard

With connector DIN EN 175301-803-C	IP 65
All other versions	IP 67

### Electrical connection

Cable 1.5 m
Swift connector
Connector AMP (Junior power time)
Connector M12x1 plastic thread
Connector M12x1 metal thread
Connector DIN EN 175301-803-C (mini-DIN)

### Pressure connection

Inside thread	G ¼ with O-Ring seal
	G ¼, sealed at back, DIN 3852, form E
Outside thread	G ½, sealed at front
	G ½, sealed at back and manometer (combi)
	¼ -18 NPT
	R ¼, DIN 2999
	M12x1.5, sealed at back, DIN 3852, form E
	M14x1.5, sealed at back, DIN 3852, form E

### Installation arrangement

Unrestricted
--------------

### Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
UL	acc. Standard 61010-1
Shock acc. IEC 60068-2-27	100 g, 11 ms half sine wave, all 6 directions. Free fall from 2 m on concrete (6x)
Constant shock acc. IEC 60068-2-29	40 g for 6 ms, 1000x all 3 directions
Vibration acc. IEC 60068-2-6	20 g, 2 ... 2000 Hz with amplitude ± 15 mm, 1 Octave/min. all 3 directions, 50 constant load

### Weight

Version with inside thread	~ 85 g
Version with outside thread	~ 95 g

### Packaging (Please state on order)

Single packaging in cardboard	accessories integrated
Multiple packaging in cardboard (25 pcs)	accessories integrated

<sup>1)</sup> Version until +150 °C on request

<sup>2)</sup> higher overload and rupture pressure on request

<sup>3)</sup> at nominal pressure

## Accuracy

Parameter		Unit	
Tolerance zero point	max.	% fs	±0.3
Tolerance full scale	max.	% fs	±0.3
Resolution		% fs	0.1
Total of linearity, hysteresis and repeatability	max.	% fs	±0.3
Long term stability acc. DIN EN 60770		% fs	±1.0
TC zero point <sup>1)</sup>	max.	% fs/10K	±0.15
TC sensitivity <sup>1)</sup>	max.	% fs/10K	±0.15

Test conditions: 25 °C, 45% RH, power supply 24 VDC  
TC z.p. / TC s. -40 ... +125 °C

## Order code selection table in bar 511. X X X X X X X X X X X

Pressure mode	Relative			9																		
	Absolute			8																		
Pressure range <sup>2)</sup>	-1 ... 0 bar			9	0	0																
	0 ... 1 bar				1	1																
	0 ... 1.6 bar				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				3	2																
	0 ... 40 bar				9	3	3														2	
	0 ... 60 bar				9	4	0															2
	0 ... 100 bar				9	4	1															2,5
	0 ... 160 bar				9	4	2															2,5
	0 ... 250 bar				9	4	3															2,5
0 ... 400 bar		(FPM spec. seal only)		9	5	4	6														2,5	
0 ... 600 bar		(FPM spec. seal only)		9	5	5	6														2,5	
▲ Full scale signal at these pressures																						
Sealing material <sup>2)</sup>	FPM	Fluoro elastomer																			0	
	EPDM	Ethylene propylene																			1	
	NBR	Butadiene Acrylonitrile																			2	
	FPM spec.	Fluoro elastomer spec.																			6	
Adjustment	Factory																				0	
Output / power supply	0 ... 5 V	8.0 ... 33 VDC	IN=1 / OUT=3 / GND=4																		1	
	1 ... 6 V	8.0 ... 33 VDC	IN=1 / OUT=3 / GND=4																		6	
	0 ... 10 V	11.4 ... 33 VDC	IN=1 / OUT=3 / GND=4																		2	
	0 ... 5 V	8.0 ... 33 VDC	IN=1 / OUT=4 / GND=3																		F 5,7	
	1 ... 6 V	8.0 ... 33 VDC	IN=1 / OUT=4 / GND=3																		G 5,7	
	0 ... 10 V	11.4 ... 33 VDC	IN=1 / OUT=4 / GND=3																		H 5,7	
	0 ... 10 V	24 VAC ±15%																			7 1,0	
	4 ... 20 mA	8.0 ... 33 VDC																			3	
	ration. 10 ... 90%	5 VDC ±5%																			4	
	Electrical connection	Cable 1.5 m																				0
Swift connector																					1	
Connector AMP JPT <sup>4)</sup>																					2	
Connector M12x1 plastic thread <sup>4)</sup>																					5	
Connector M12x1 metal thread <sup>4)</sup>																					7	
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=3 / OUT=1 3 w: IN=3 / OUT=2 / GND=1																						8
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=1 / OUT=2 3 w: IN=1 / OUT=3 / GND=2																						9
Pressure connection <sup>5)</sup>	Inside thread	G ¼ mit O-Ring seal (no pressure tip orifice possible)																			1 1,2	
	Outside thread	G ¼ sealed at back, DIN 3852, form E																			4	
	Outside thread	G ½ sealed at front																			9	
	Outside thread	G ½ sealed at back and manometer (combi)																			8	
	Outside thread	¼ -18 NPT																			3	
	Outside thread	R ¼, DIN 2999																			7	
	Outside thread	M12x1.5, sealed at back, DIN 3852, form E																			5	
	Outside thread	M14x1.5, sealed at back, DIN 3852, form E																			6	
Version	Stainless steel without media stopper (< 60 bar)																				1	
	Stainless steel with media stopper (standard > 40 bar)																				2	
	Stainless steel with pressure tip orifice (> 100 bar)																				5	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 8bar/OUT1...6V)																			W		

## Accessories

	Order number
Female connector for connector M12x1	106975
Female connector AMP (Junior power timer) 2-wire	110442
Female connector AMP (Junior power timer) 3-wire	108767
Female connector swift connector (included in delivery)	107359
Female connector mini DIN	104244
Calibration certificate	104551

<sup>1)</sup> TC = Temperature coefficient

<sup>2)</sup> Other pressure range on request

<sup>3)</sup> Other sealing material on request

<sup>4)</sup> Delivery without female connector

<sup>5)</sup> Other pressure connection on request

Order code selection table in psi		511. X X X X X X X X X X										
Pressure mode	Relative	9										
	Absolute	8										
Pressure range <sup>1)</sup>	-30 ... 0" hg	9	A	0								
	0 ... 15 psi		B	1								
	0 ... 30 psi		B	4								
	0 ... 60 psi		B	5								
	0 ... 100 psi		B	7								
	0 ... 200 psi		C	1								
	0 ... 300 psi		C	2								
	0 ... 500 psi	9	C	3							2	
	0 ... 750 psi	9	D	0							2	
	0 ... 1000 psi	9	D	1							2,5	
	0 ... 2000 psi	9	D	2							2,5	
	0 ... 3000 psi	9	D	3							2,5	
	0 ... 5000 psi (FPM spec. seal only)	9	E	4	6						2,5	
	0 ... 7500 psi (FPM spec. seal only)	9	E	5	6						2,5	
▲ Full scale signal at these pressures												
Sealing material <sup>2)</sup>	FPM Fluoro elastomer									0		
	EPDM Ethylene propylene									1		
	NBR Butadiene Acrylonitrile									2		
	FPM spec. Fluoro elastomer spec.									6		
Adjustment	Factory								0			
Output / power supply	0 ... 5 V 8.0 ... 33 VDC IN=1 / OUT=3 / GND=4										1	
	1 ... 6 V 8.0 ... 33 VDC IN=1 / OUT=3 / GND=4										6	
	0 ... 10 V 11.4 ... 33 VDC IN=1 / OUT=3 / GND=4										2	
	0 ... 5 V 8.0 ... 33 VDC IN=1 / OUT=4 / GND=3									F	5,7	
	1 ... 6 V 8.0 ... 33 VDC IN=1 / OUT=4 / GND=3									G	5,7	
	0 ... 10 V 11.4 ... 33 VDC IN=1 / OUT=4 / GND=3									H	5,7	
	0 ... 10 V 24 VAC ±15%										7	1,0
	4 ... 20 mA 8.0 ... 33 VDC											3
	ratiom. 10 ... 90% 5 VDC ±5%											4
	Electrical connection	Cable 1.5 m										0
Swift connector											1	
Connector AMP JPT <sup>4)</sup>											2	
Connector M12x1 plastic thread <sup>4)</sup>											5	
Connector M12x1 metal thread <sup>4)</sup>											7	
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=3 / OUT=1 3 w: IN=3 / OUT=2 / GND=1												8
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=1 / OUT=2 3 w: IN=1 / OUT=3 / GND=2												9
Pressure connection <sup>5)</sup>	Inside thread G ¼ mit O-Ring seal (no pressure tip orifice possible)										1	1,2
	Outside thread G ¼ sealed at back, DIN 3852, form E										4	
	Outside thread G ½ sealed at front										9	
	Outside thread G ½ sealed at back and manometer (combi)										8	
	Outside thread ¼ -18 NPT										3	
	Outside thread R ¼, DIN 2999										7	
	Outside thread M12x1.5, sealed at back, DIN 3852, form E										5	
	Outside thread M14x1.5, sealed at back, DIN 3852, form E										6	
Version	Stainless steel without media stopper (< 700 psi)											1
	Stainless steel with media stopper (standard > 500 psi)											2
	Stainless steel with pressure tip orifice (> 1000 psi)											5
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 120psi/OUT1...6V)											W

<sup>1)</sup> Other pressure range on request

<sup>2)</sup> Other sealing material on request

<sup>3)</sup> Delivery without female connector

<sup>4)</sup> Other pressure connection on request

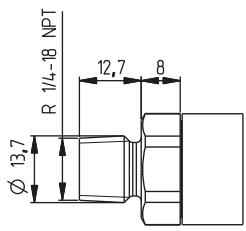
Order code selection table in MPa		511. X X X X X X X X X X																					
Pressure mode	Relative	9																					
	Absolute	8																					
Pressure range <sup>1)</sup>	-0.1 ... 0 MPa	9	F	0																			
	0 ... 0.1 MPa		G	1																			
	0 ... 0.16 MPa		G	2																			
	0 ... 0.25 MPa		G	4																			
	0 ... 0.4 MPa		G	5																			
	0 ... 0.6 MPa		G	7																			
	0 ... 1 MPa		H	0																			
	0 ... 1.6 MPa		H	1																			
	0 ... 2.5 MPa		H	2																			
	0 ... 4 MPa	9	H	3																	2		
	0 ... 6 MPa	9	K	0																		2	
	0 ... 10 MPa	9	K	1																		2,5	
	0 ... 16 MPa	9	K	2																		2,5	
	0 ... 25 MPa	9	K	3																		2,5	
	0 ... 40 MPa (FPM spec. seal only)	9	L	4	6																	2,5	
0 ... 60 MPa (FPM spec. seal only)	9	L	5	6																	2,5		
	▲ Full scale signal at these pressures																						
Sealing material <sup>2)</sup>	FPM																				0		
	EPDM																					1	
	NBR																					2	
	FPM spec.																					6	
Adjustment	Factory																				0		
Output / power supply	0 ... 5 V	8.0 ... 33 VDC	IN=1 / OUT=3 / GND=4																			1	
	1 ... 6 V	8.0 ... 33 VDC	IN=1 / OUT=3 / GND=4																			6	
	0 ... 10 V	11.4 ... 33 VDC	IN=1 / OUT=3 / GND=4																			2	
	0 ... 5 V	8.0 ... 33 VDC	IN=1 / OUT=4 / GND=3																			F 5,7	
	1 ... 6 V	8.0 ... 33 VDC	IN=1 / OUT=4 / GND=3																			G 5,7	
	0 ... 10 V	11.4 ... 33 VDC	IN=1 / OUT=4 / GND=3																			H 5,7	
	0 ... 10 V	24 VAC ±15%																				7 1,0	
	4 ... 20 mA	8.0 ... 33 VDC																				3	
	ration. 10 ... 90%	5 VDC ±5%																				4	
	Electrical connection	Cable 1.5 m																					0
Swift connector																						1	
Connector AMP JPT <sup>4)</sup>																						2	
Connector M12x1 plastic thread <sup>4)</sup>																						5	
Connector M12x1 metal thread <sup>4)</sup>																						7	
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=3 / OUT=1 3 w: IN=3 / OUT=2 / GND=1																							8
Connector DIN EN 175301-803-C (mini DIN) 2 w: IN=1 / OUT=2 3 w: IN=1 / OUT=3 / GND=2																							9
Pressure connection <sup>5)</sup>	Inside thread	G ¼ mit O-Ring seal (no pressure tip orifice possible)																				1 1,2	
	Outside thread	G ¼ sealed at back, DIN 3852, form E																				4	
	Outside thread	G ½ sealed at front																				9	
	Outside thread	G ½ sealed at back and manometer (combi)																				8	
	Outside thread	¼ -18 NPT																				3	
	Outside thread	R ¼, DIN 2999																				7	
	Outside thread	M12x1.5, sealed at back, DIN 3852, form E																				5	
	Outside thread	M14x1.5, sealed at back, DIN 3852, form E																				6	
Version	Stainless steel without media stopper (< 6 MPa)																					1	
	Stainless steel with media stopper (standard ≥ 4 MPa)																					2	
	Stainless steel with pressure tip orifice (≥ 10 MPa)																					5	
Pressure range variation (optional)	Indicate W and state range on order (e.g.: W0... + 0.8MPa/OUT1...6V)																				W		

<sup>1)</sup> Other pressure range on request

<sup>2)</sup> Other sealing material on request

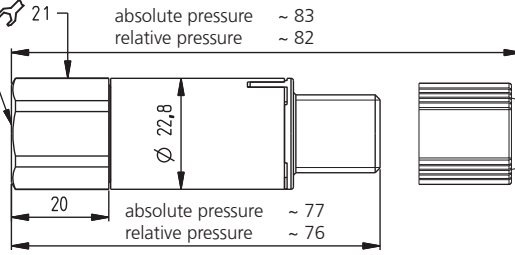
<sup>3)</sup> Delivery without female connector

<sup>4)</sup> Other pressure connection on request

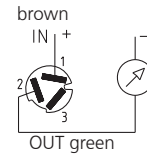


G 1/4  
Inside thread

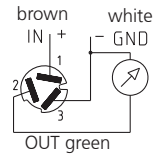
Female connector  
swift connector



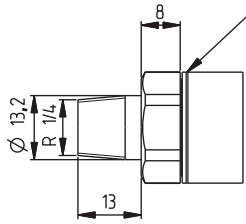
2 wire  
(4 ... 20 mA)



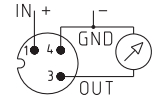
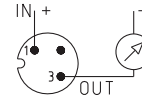
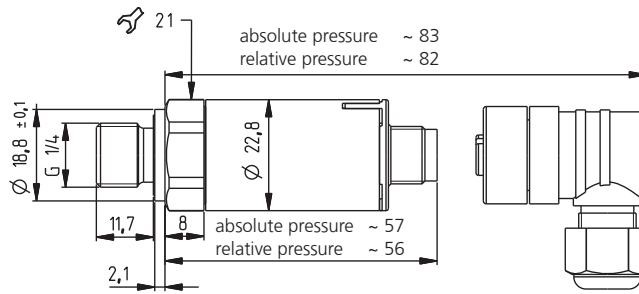
3 wire



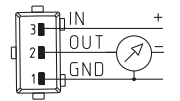
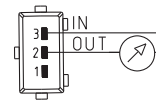
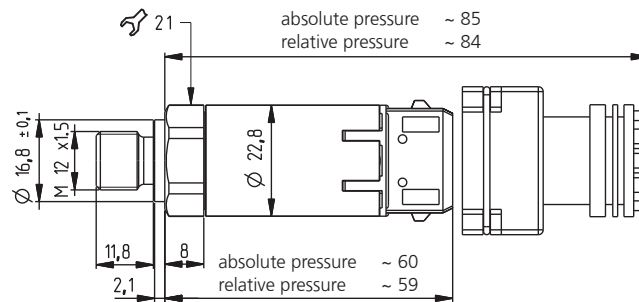
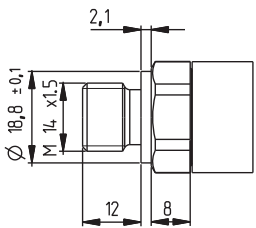
All absolute versions  
are especially marked  
with an indentation.



Female connector M12x1



Female connector AMP JPT



Female connector  
DIN EN 175301-803-C

