

# Relative pressure transmitter type 519

Pressure range

0 ... 0.4 – 60 bar



The pressure transmitter type 519 has a compact and robust design and a very high measurement accuracy.

The flush diaphragm offers the use in the process technique of pasty media.

Beside various pressure- and electrical connectors there are pressure ranges from 400 mbar to 60 bar full scale available.

This sensor utilises a ceramic technology, developed by Huba Control and for the last 20 years, in millions of applications.

- Flush diaphragm
- High measurement accuracy
- Available with integrated temperature measurement
- There are low pressure ranges from 400 mbar full scale available.
- Compact and rugged construction

## Technical Overview

### Pressure range

Relative 0 ... 0.4 – 60 bar

### Operating conditions

Medium		Liquids, pasty media and gases
Temperature	Medium	-25 ... +125 °C
	Ambient	-25 ... +85 °C
	Storage	-40 ... +100 °C
Tolerable overload / rupture pressure	≤ 1.6 bar	max. 4.8 bar
	> 1.6 bar	3x FS

### Materials

Cover		Stainless steel 1.4404 / AISI 316L
Materials in contact with medium	Pressure connection	Stainless steel 1.4404 / AISI 316L
	Sensor	Ceramic Al <sub>2</sub> O <sub>3</sub> (99.6%)
	Sealing material	FPM, EPDM

### Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	10 ... 30 VDC	< $\frac{\text{Supply voltage} \cdot 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
	0 ... 5 V	7 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
3 wire	0 ... 10 V	12 ... 33 VDC	>10 kOhm / < 100 nF	< 7 mA
	ration. 10 ... 90%	5 VDC ±10%	>10 kOhm / < 100 nF	< 5 mA
4 wire (with temperature)	Pressure	ration. 10 ... 90%	5 VDC ±10%	>10 kOhm / < 100 nF
	Temperature (-40 ... +150 °C)	ration. 10 ... 90%	5 VDC ±10%	>10 kOhm / < 100 nF
Polarity reversal protection	Short circuit proof and protected against polarity reversal. Each connection is protected against crossover up to max. supply voltage.			< 5 mA
Insulation voltage				1000 VDC

### Dynamic response

Start-up time		< 100 ms
Response time	Pressure	< 5 ms
	Temperature T90	< 5 s
Load cycle		< 100 Hz

### Electrical connection

	Protection standard	Protection class
Connector DIN EN 175301-803-A	IP 65	III
Connector DIN EN 175301-803-C (Industrial standard 9.4 mm)	IP 65	III
Connector M12x1	IP 67	III

### Pressure connection

Outside thread	G ½	sealed at back DIN 3852-E with profile seal ring in FPM (-30 ... +135 °C)
	G ½	dual sealed with profile seal ring in FPM (-30 ... +135 °C)
	G ¾	dual sealed with profile seal ring in FPM (-30 ... +135 °C)

### Installation arrangement

Unrestricted

### Tests / Admissions

Electromagnetic compatibility	CE conformity acc. EN 61326-2-3
Shock acc. IEC 60068-2-27	100 g, 11ms, half sine wave, 1x, all 6 directions
Vibration nach IEC 60068-2-6	40 g, 6 ms, half sine wave, 1000x, all 6 directions
	10 g, 10 ... 2000 Hz, 1 Octave/min., all 3 directions, 50 constant load

### Weight

110 ... 140 g

### Packaging (Please state on order)

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

## Accuracy

Parameter pressure (> 1 bar)	Unit	
Characteristic line <sup>1)</sup> (at 25 °C)	% FS	± 0.3
Resolution	% fs	< 0.1
Long term stability acc. IEC 60770-1	% fs	± 0.25
Temperature error (at -25 °C ... +125 °C) <sup>2)</sup>	% fs/10K	± 0.15

Parameter pressure (< 1 bar)	Unit	
Characteristic line <sup>1)</sup> (at 25 °C)	% fs	± 0.5
Resolution	% fs	< 0.1
Long term stability acc. IEC 60770-1	% fs	± 0.25
Temperature error (at -25 °C ... +125 °C) <sup>2)</sup>	% fs/10K	± 0.15

Parameter temperature	Unit	
Characteristic line	°C	± 3.0
Resolution	°C	0.2

Test conditions: 45% rF  
Balance position: vertical, pressure connection down

<sup>1)</sup> incl. zero point, full scale, linearity, hysteresis and repeatability

<sup>2)</sup> temperature compensated on request

			1	2	3	4	5	6	7	8	9	10	11		
<b>Order code selection table in bar</b>			<b>519. X X X X X X X X X X X X</b>												
Pressure range <sup>1)</sup>	0 ... 0.4 bar		9	2	7										
	0 ... 0.6 bar		9	2	8										
	0 ... 1.0 bar		9	1	1										
	0 ... 1.6 bar		9	1	2										
	0 ... 2.5 bar		9	1	4										
	0 ... 4.0 bar		9	1	5										
	0 ... 6.0 bar		9	1	7										
	0 ... 10.0 bar		9	3	0										
	0 ... 16.0 bar		9	3	1										
	0 ... 25.0 bar		9	3	2										
0 ... 40.0 bar		9	3	3											
0 ... 60.0 bar		9	4	0											
Sealing material	FPM	Fluoro elastomer					0								
	EPDM	Ethylene propylene					1								
Version	standard						0								
Output / power supply	0 ... 5 V	7 ... 33 VDC						1							
	0 ... 10 V	12 ... 33 VDC						2							
	4 ... 20 mA	10 ... 30 VDC						3							
	ratiom. 10 ... 90%	5VDC ±10%						7							
	ratiom. 10 ... 90%	5VDC ±10% with temperature						5	3						
Electical connection <sup>2)</sup>	Connector	M12x1 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3 / Opt. T=2													
		M12x1 3L: IN=1 / OUT=3 / GND=4						1,2	M						
		DIN EN 175301-803-A							1						
		DIN EN 175301-803-C							2						
Pressure connection <sup>1)</sup>	Outside thread	G ½ sealed at back DIN 3852-E									0	1	1		
		G ½ dual sealed									0	2	1		
		G ¾ dual sealed									0	3	1		
Pressure range variation (optional)	Indicate W and state range on order (e.g. W0... + 0.5bar/OUT0.5...4.5V)												W		

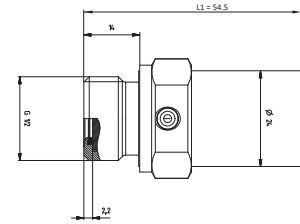
			1	2	3	4	5	6	7	8	9	10	11		
<b>Order code selection table in psi</b>			<b>519. X X X X X X X X X X X X</b>												
Pressure range <sup>1)</sup>	0 ... 6 psi		9	A	7										
	0 ... 10 psi		9	A	8										
	0 ... 15 psi		9	B	1										
	0 ... 20 psi		9	B	2										
	0 ... 30 psi		9	B	4										
	0 ... 60 psi		9	B	5										
	0 ... 100 psi		9	B	7										
	0 ... 150 psi		9	C	0										
	0 ... 200 psi		9	C	1										
	0 ... 300 psi		9	C	2										
	0 ... 500 psi		9	C	3										
	0 ... 750 psi		9	D	0										
Sealing material	FPM	Fluoro elastomer					0								
	EPDM	Ethylene propylene					1								
Version	standard						0								
Output / power supply	0 ... 5 V	7 ... 33 VDC						1							
	0 ... 10 V	12 ... 33 VDC						2							
	4 ... 20 mA	10 ... 30 VDC						3							
	ratiom. 10 ... 90%	5VDC ±10%						7							
	ratiom. 10 ... 90%	5VDC ±10% with temperature						5	3						
Electical connection <sup>2)</sup>	Connector	M12x1 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3 / Opt. T=2													
		M12x1 3L: IN=1 / OUT=3 / GND=4						1,2	M						
		DIN EN 175301-803-A							1						
		DIN EN 175301-803-C							2						
Pressure connection <sup>1)</sup>	Outside thread	G ½ sealed at back DIN 3852-E									0	1	1		
		G ½ dual sealed									0	2	1		
		G ¾ dual sealed									0	3	1		
Pressure range variation (optional)	Indicate W and state range on order (e.g. W0... + 0.5bar/OUT0.5...4.5V)												W		

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

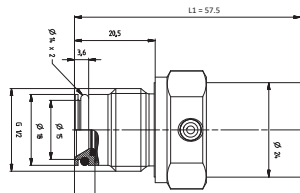
<sup>2)</sup> Delivery without female connector

Female connector DIN EN 175301-803-A with seal	103510
Connector DIN EN 175301-803-C with seal	104244
Corner-wire box for connector M12x1	106975
Corner-wire box for connector M12x1 with cable 2.0 m	114604
Straight-wire box for connector M12x1	114570
Straight-wire box for connector M12x1 with cable 2.0 m	114605
Calibration certificate	104551

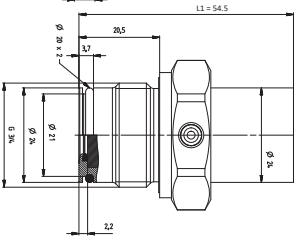
Dimensions in mm / Electrical connections



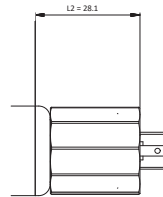
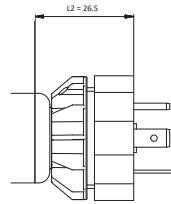
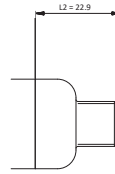
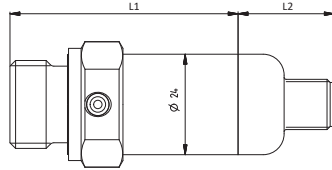
27  
25 Nm  
Code Nr.: 1



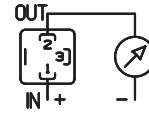
27  
25 Nm  
Code Nr.: 2



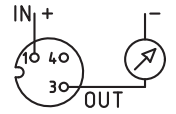
34  
30 Nm  
Code Nr.: 3



2 wire

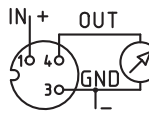


1 (IN) 2 (OUT)

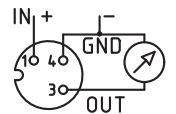


1 (IN) 3 (OUT)

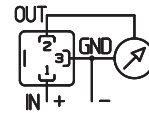
3 wire



1 (IN) 3 (GND) 4 (OUT)

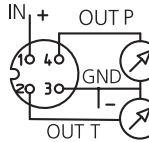


1 (IN) 3 (OUT) 4 (GND)



1 (IN) 2 (OUT) 3 (GND)

4 wire



1 (IN) 2 (OUT T) 3 (GND) 4 (OUT P)

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