

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
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Operating conditions

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

Materials

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

Electrical overview

	Output	Power supply	Load	Current consumption
2 wire	4 ... 20 mA	10 ... 30 VDC	< $\frac{\text{Supply voltage} - 10 \text{ V}}{0.02 \text{ A}}$ [Ohm]	< 23 mA
3 wire	0 ... 5 V 0 ... 10 V ratiom. 10 ... 90%	7 ... 33 VDC 12 ... 33 VDC 5 VDC ±10%	>10 kOhm / < 100 nF >10 kOhm / < 100 nF >10 kOhm / < 100 nF	< 7 mA < 7 mA < 5 mA
4 wire (with temperature)	Pressure Temperature (-40 ... +150 °C) ratiom. 10 ... 90%	5 VDC ±10% 5 VDC ±10%	>10 kOhm / < 100 nF >10 kOhm / < 100 nF	< 5 mA < 5 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	1000 VDC			

Dynamic response

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

Electrical connection

	Protection class	Protection standard
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 G ½ G ¾	sealed at back DIN 3852-E with profile seal ring in FPM (-30 ... +135 °C) dual sealed with profile seal ring in FPM (-30 ... +135 °C) dual sealed with profile seal ring in FPM (-30 ... +135 °C)
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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 40 g, 6 ms, half sine wave, 1000x, all 6 directions
Vibration nach IEC 60068-2-6	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 ¹⁾ (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) ²⁾	% fs/10K	± 0.15

Parameter pressure (< 1 bar)	Unit	
Characteristic line ¹⁾ (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) ²⁾	% fs/10K	± 0.15

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

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

¹⁾ incl. zero point, full scale, linearity, hysteresis and repeatability

²⁾ temperature compensated on request

			1	2	3	4	5	6	7	8	9	10	11
Order code selection table in bar			519.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	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					
	ratim. 10 ... 90%	5VDC ±10%						7					
	ratim. 10 ... 90%	5VDC ±10% with temperature						5	3				
Electical connection ²⁾	Connector	M12x1 2L: IN=1 / OUT=3 3L: IN=1 / OUT=4 / GND=3 / Opt. T=2							3				
		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 ¹⁾	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

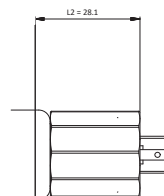
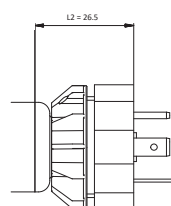
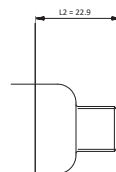
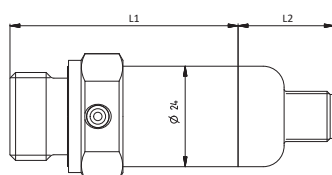
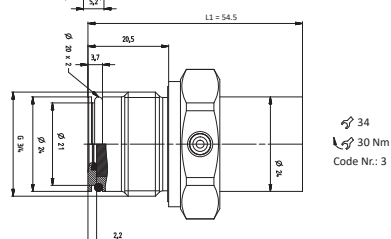
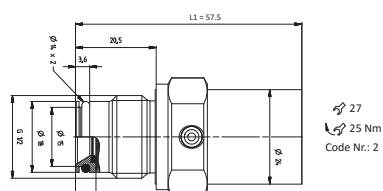
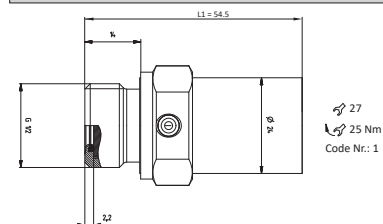
			1	2	3	4	5	6	7	8	9	10	11
Order code selection table in psi			519.	X	X	X	X	X	X	X	X	X	X
Pressure range ¹⁾	0 ... 6 psi		9	A	7								
	0 ... 10 psi		9	A	8								
	0 ... 15 psi		9	B	1								
	0 ... 20 psi		9	B	2								
	0 ... 30 psi		9	B	4								
	0 ... 60 psi		9	B	5								
	0 ... 100 psi		9	B	7								
	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					
	ratim. 10 ... 90%	5VDC ±10%						7					
	ratim. 10 ... 90%	5VDC ±10% with temperature						5	3				
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		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 ¹⁾	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⁾ Other pressure ranges on request

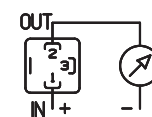
²⁾ Delivery without female connector

Accessories <i>(supplied loose)</i>	Order number
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

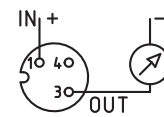
Dimensions in mm / Electrical connections



2 wire

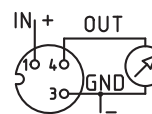


1 (IN) 2 (OUT)

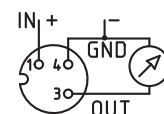


1 (IN) 3 (OUT)

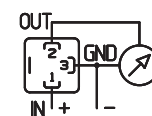
3 wire



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

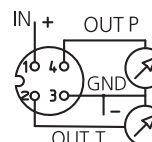


1 (IN) 3 (OUT) 4 (GND)



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

4 wire



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

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