

Sensor technologies ▶ Pressure sensors

Series PE5

Brochure



Sensor technologies ▶ Pressure sensors

Series PE5

	<p>Pressure sensor, Series PE5</p> <ul style="list-style-type: none"> ▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin 	3
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▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin



23003

Certificates	CE declaration of conformity cULus RoHS Conforms with REACH Free of substances that impair surface wetting in the coating process
Measurement	Relative pressure
Display	LCD display, 4 digits Color setting: green or red
Units displayed	bar, psi, kPa, MPa, inHg
Switching logic	NO/NC (adjustable)
Ambient temperature min./max.	+0 °C / +60 °C
Medium temperature min./max.	+0 °C / +60 °C
Medium	Compressed air (max. 40 µm)
Max. oil content of compressed air	40 mg/m³
Shock resistance max. (XYZ direction)	30 g
Vibration resistance (XYZ direction)	5 g (10 - 150 Hz)
Precision (% of full scale value)	±1.5% in temperature range of 10 - 30 °C ± 2 % including temperature drift
Repeatability (% of full scale value)	± 0,2 %
Switching time	< 5 ms
Switching point	adjustable 0-100%
Resetting point	adjustable 0-100%
Hysteresis	adjustable
Delayed hysteresis	adjustable
Window function	adjustable
DC operating voltage min./max.	17 V DC - 30 V DC
Analog output	0 - 10 V DC, 4 - 20 mA
Quiescent current consumption	<40 mA
Analog output linearity	<± 0.5% of the final value
Maximum load (analog current output)	600 Ω
Short circuit resistance	Max. 600 ohms (current output) Min. 3K ohms (voltage output)
Mounting types	Directly on hat rail and wall mounting For panel installation using mounting kit via double nipple
Protection class	IP65 IP67 with connections assembled
Weight	0.04 kg
Materials:	
Housing	Polycarbonate
Seals	Acrylonitrile butadiene rubber
Blanking plug	Polyoxymethylene
Electr. connection	Aluminum, black anodized

Technical Remarks

- Alternative pressure connection (G1/4) on the rear side (closed with plug)
- Display color selectable, red or green
- The IO-Link device description (IODD) for the PE5 pressure sensor is available for download in the Media Centre.

Pressure sensor, Series PE5

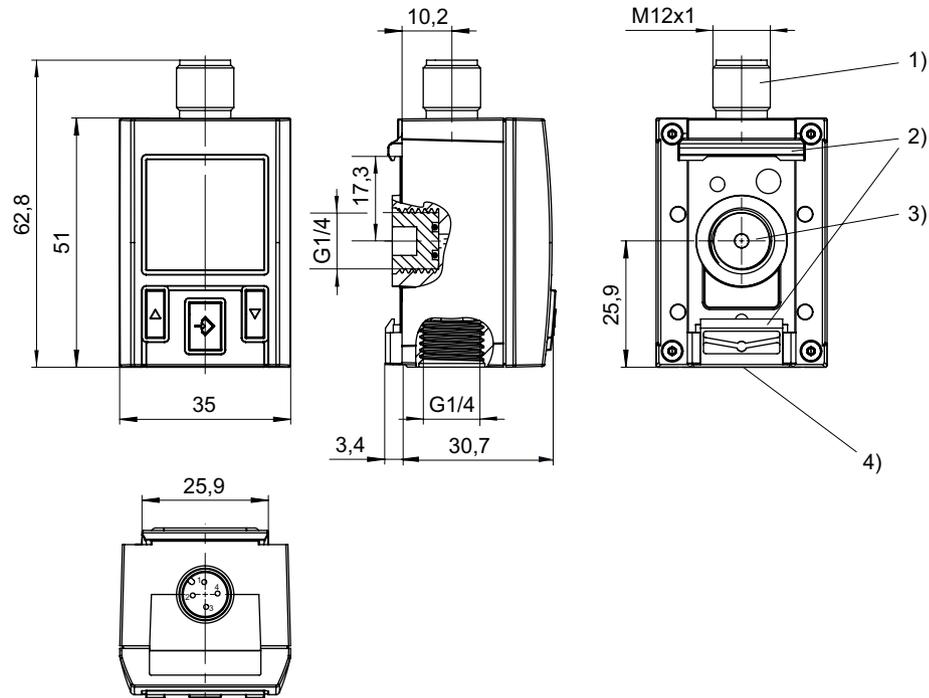
▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

	Operating pressure range min./max.	Protection against overpressure	Output signal		Compressed air connection	Fig.	Part No.
			Analog	digital			
	[bar]						
	-1 / 0	5 bar	-	2 outputs, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010761
					push-in fitting, Ø 4	Fig. 2	R412010760
	-1 / 0	5 bar	1 output, 0 - 10 V DC, 4 - 20 mA	1 output, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010769
					push-in fitting, Ø 4	Fig. 2	R412010768
	-1 / 0	5 bar	-	1 output, PNP, NPN, push-pull, 1x IO-Link	Internal thread, G 1/4	Fig. 1	R412010775
	-1 / 0			1 output, PNP, NPN, push-pull, 1x IO-Link	push-in fitting, Ø 4	Fig. 2	R412010774
	-1 / 1			2 outputs, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010763
	-1 / 1			2 outputs, PNP, NPN, Push-pull	push-in fitting, Ø 4	Fig. 2	R412010762
	0 / 6	15 bar	1 output, 0 - 10 V DC, 4 - 20 mA	1 output, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010771
					push-in fitting, Ø 4	Fig. 2	R412010770
	0 / 6	15 bar	-	2 outputs, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010765
				2 outputs, PNP, NPN, Push-pull	push-in fitting, Ø 4	Fig. 2	R412010764
				1 output, PNP, NPN, push-pull, 1x IO-Link	Internal thread, G 1/4	Fig. 1	R412010777
				1 output, PNP, NPN, push-pull, 1x IO-Link	push-in fitting, Ø 4	Fig. 2	R412010776
	0 / 10	15 bar	1 output, 0 - 10 V DC, 4 - 20 mA	1 output, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010773
					push-in fitting, Ø 4	Fig. 2	R412010772
	0 / 10	15 bar	-	2 outputs, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010767
	0 / 10	15 bar		2 outputs, PNP, NPN, Push-pull	push-in fitting, Ø 4	Fig. 2	R412010766
	0 / 10	15 bar		1 output, PNP, NPN, push-pull, 1x IO-Link	Internal thread, G 1/4	Fig. 1	R412010779
	0 / 10	15 bar		1 output, PNP, NPN, push-pull, 1x IO-Link	push-in fitting, Ø 4	Fig. 2	R412010778
	0 / 12	16 bar		2 outputs, PNP, NPN, Push-pull	Internal thread, G 1/4	Fig. 1	R412010782
	0 / 12	16 bar		2 outputs, PNP, NPN, Push-pull	push-in fitting, Ø 4	Fig. 2	R412010781
	0 / 12	16 bar		1 output, PNP, NPN, push-pull, 1x IO-Link	Internal thread, G 1/4	Fig. 1	R412010806
	0 / 12	16 bar		1 output, PNP, NPN, push-pull, 1x IO-Link	push-in fitting, Ø 4	Fig. 2	R412010805

Pressure sensor, Series PE5

▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

Fig. 1



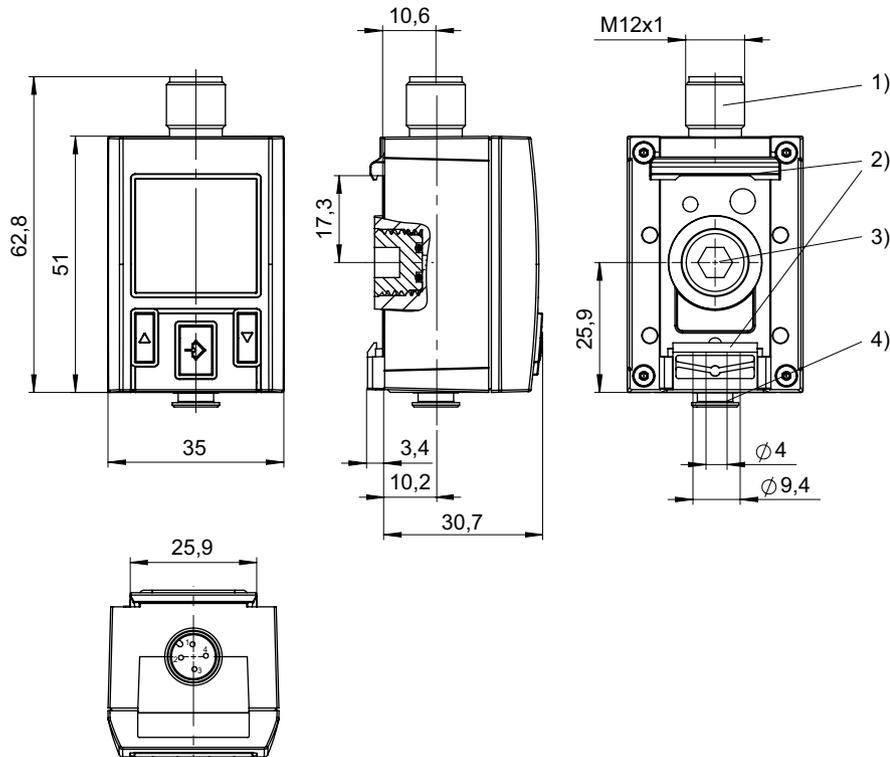
- 1) M12x1 electrical connection
- 2) Mounting for hat rail and wall mounting
- 3) Alternative pressure connection (G1/4) closed with plug
- 4) Pressure connection G1/4

22838

Pressure sensor, Series PE5

▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

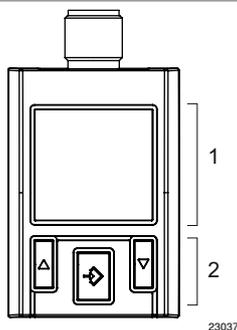
Fig. 2



22841

- 1) M12x1 electrical connection
- 2) Mounting for hat rail and wall mounting
- 3) Alternative pressure connection (G1/4) closed with plug
- 4) Pressure connection, tubing Ø 4 mm

Display and operation area



- 1) LCD display
- 2) Control panel with 3 buttons

Pin assignments, M12x1



00129833

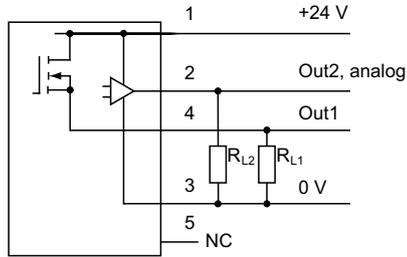
- Pin 1: operational voltage + UB
 Pin 2: switch output Out2, analog: A or V, digital: PNP, NPN, push-pull
 Pin 3: 0 V
 Pin 4: switch output Out1, digital: PNP, NPN, push-pull

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Pressure sensor, Series PE5

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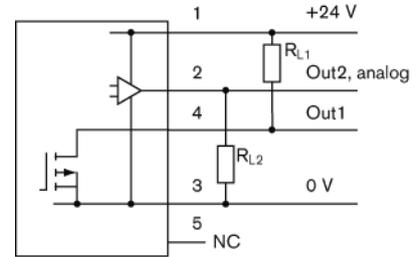
Block diagram, 1x PNP and 1x analog



00129834

RL = storable position

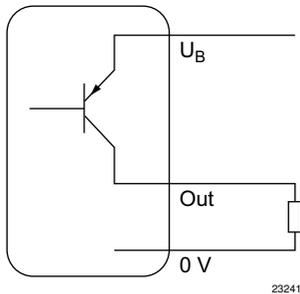
Block diagram, 1x NPN and 1x analog



00129836

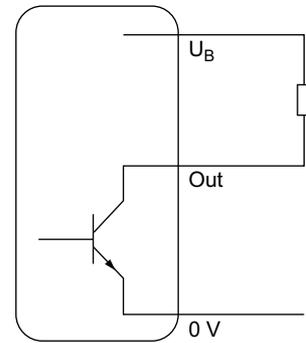
RL = storable position

Operating mode, PNP



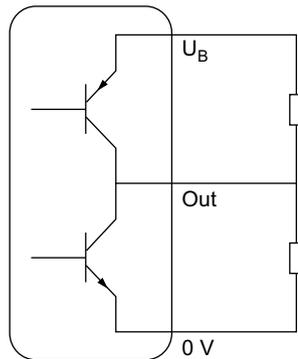
23241

Operating mode, NPN



23242

Operating mode, Push-pull



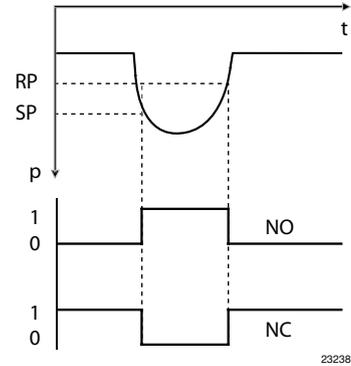
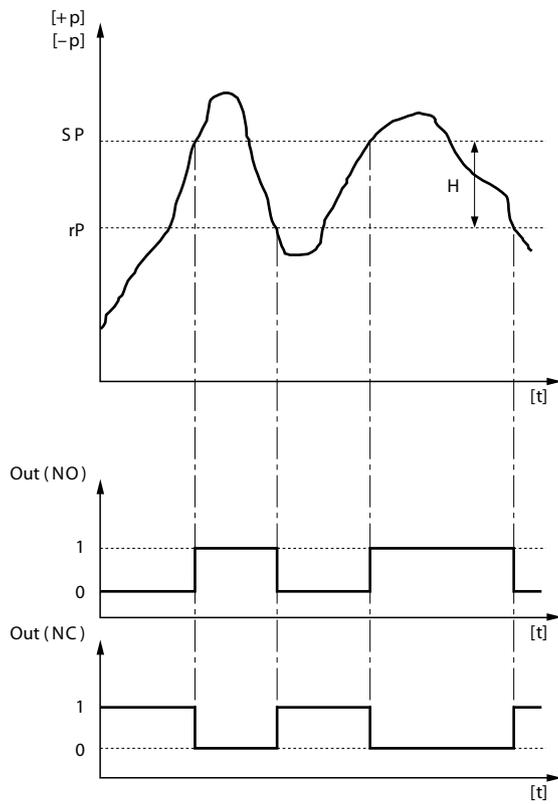
23243

Pressure sensor, Series PE5

▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

Hysteresis function: switching and resetting behavior dependent on pressure p and time t , In case of overpressure

Hysteresis function: switching and resetting behavior dependent on pressure p and time t , In case of underpressure

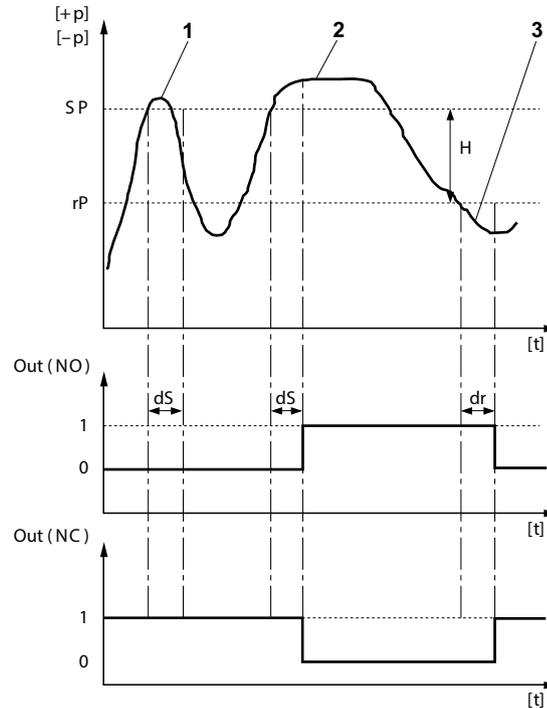


H: Hysteresis
 SP = switching point
 RP = resetting point
 Out (NC): switch output, break contact
 Out (NO): switch output, make contact

Pressure sensor, Series PE5

▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

Delayed hysteresis function: switching and resetting behavior depending on pressure p and time t



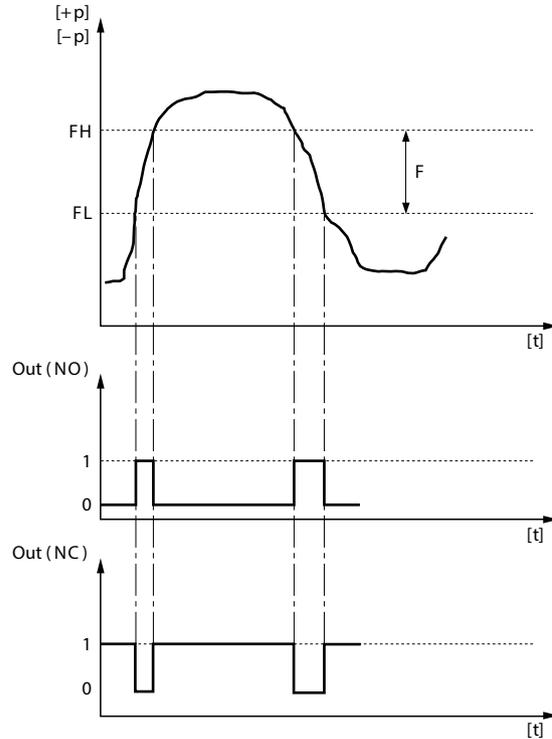
00129814

- H: Hysteresis
- SP = switching point
- RP = resetting point
- Out (NC): switch output, break contact
- Out (NO): switch output, make contact
- dS: switching delay
- dR = reset delay
- 1) period of pressure over the switching point < dS: pressure sensor does not switch
- 2) Period of pressure over the switching point > dS: pressure sensor switches
- 3) Period of pressure under the resetting point > dR: pressure sensor switches

Pressure sensor, Series PE5

▶ Operating pressure: -1 - 12 bar ▶ electronic ▶ Output signal digital: 2 outputs - 1 output ▶ IO-Link ▶ electr. connection: Plug, M12x1, 4-pin

Window function: switching and resetting behavior depending on pressure p and time t



00129815

FH: pressure band, upper value
 FL: pressure band, lower value
 Out (NC): switch output, break contact
 Out (NO): switch output, make contact

Sensor technologies ▶ Pressure sensors

Series PE5 Accessories

Connecting cable, Series CN2

▶ Socket, M12x1, 5-pin, A-coded, angled ▶ without wire end ferrule, tin-plated, 4-pin ▶ for CANopen, DeviceNet



00107009_c

Ambient temperature min./max.

-40°C / +85°C

Protection class

IP65

Materials:

Cable sheath

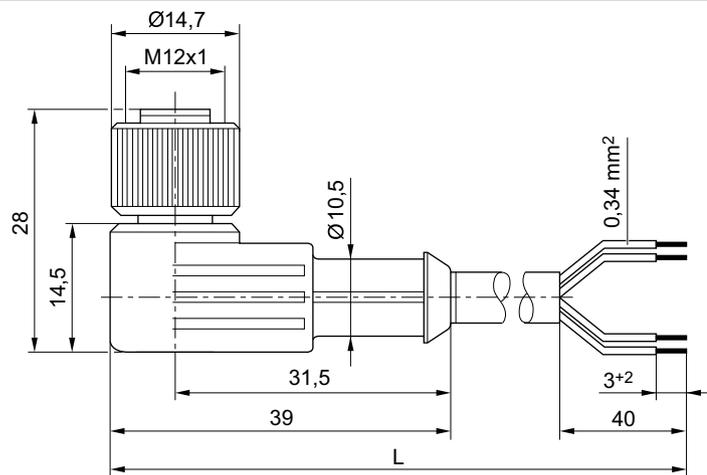
Polyurethane

Technical Remarks

- The specified protection class is only valid in assembled and tested state.

	Operational voltage max.	Max. current	Number of wires	Wire cross-section	Cable length L	Weight	Part No.										
	[V AC]	[A]		[mm ²]	[m]	[kg]											
<table border="1"> <tr><td>1</td><td>BN</td></tr> <tr><td>2</td><td>WH</td></tr> <tr><td>3</td><td>BU</td></tr> <tr><td>4</td><td>BK</td></tr> <tr><td>5</td><td></td></tr> </table>	1	BN	2	WH	3	BU	4	BK	5		48	4	4	0.34	3	0.13	1834484259
1	BN																
2	WH																
3	BU																
4	BK																
5																	
5	0.202	1834484260															
10	0.387	1834484261															

Dimensions



00107205_b

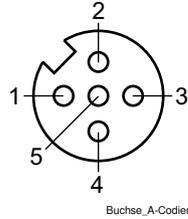
L = length

Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

Pneumatics catalog, online PDF, as of 2017-03-02, ©AVENTICS S.à r.l., subject to change

Series PE5 Accessories

Pin assignment



- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) not assigned

Connecting cable, Series CN2

▶ Socket, M12, 5-pin, A-coded, angled ▶ without wire end ferrule, tin-plated, 5-pin ▶ screened



Ambient temperature min./max. -25 °C / +80 °C
Wire cross-section 0.34 mm²

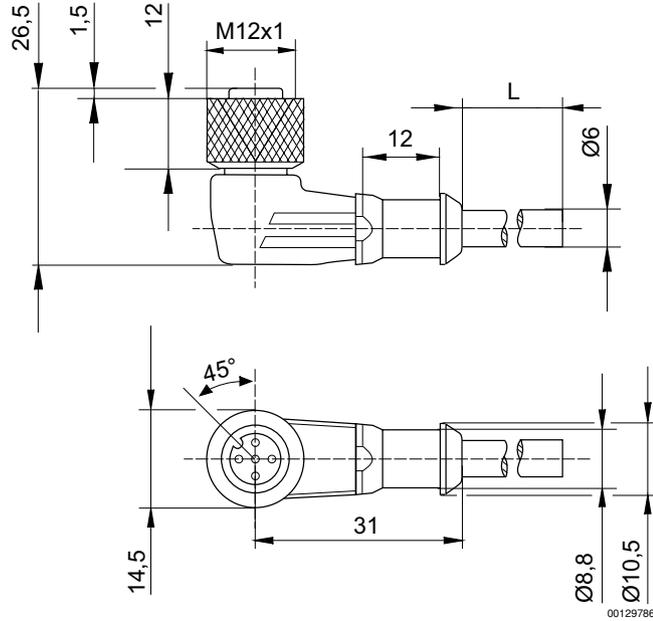
Materials:
Cable sheath Polyurethane

00129794

Max. current	Number of wires	Cable-Ø	Cable length L	Weight	Part No.
[A]		[mm]	[m]	[kg]	
4	5	6	2.5	0.153	R419800109
			5	0.285	R419800110

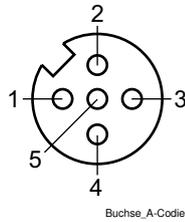
Series PE5
Accessories

Dimensions



L = length

Pin assignment



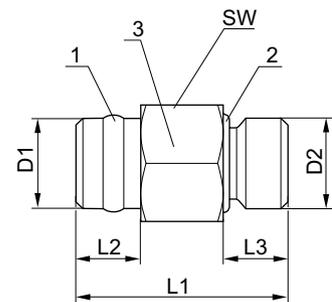
- (1) = brown
- (2) = white
- (3) = blue
- (4) = black
- (5) = grey

Double nipple, Series PE5



00130375

- 1) sealing ring Polytetrafluorethylen
- 2) O-ring - acrylonitrile butadiene rubber
- 3) Housing - brass, nickel-plated



00129846

Series PE5 Accessories

Delivery quantity	Weight	Part No.
[piece]	[kg]	
2	0.04	R412010015 R412010016

Part No.	D1	D2	L1	L2	L3	SW						
R412010015	G 1/8	G 1/4	30	10	8,5	17						
R412010016	G 1/4	G 1/4	30	10	8,5	17						

Double nipple

▶ external thread ▶ G 1/4 ▶ external thread ▶ G 1/8 - G 1/4 ▶ FPT-S-RDO



00136365

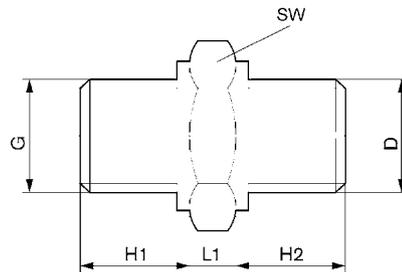
Ambient temperature min./max.
Working pressure min./max.

-20°C / +80°C
0 bar / 16 bar

Materials:
Screw
Housing
Seal
Thread

Brass, nickel-plated
Brass, nickel-plated
Polyvinyl chloride, hard
Brass, nickel-plated

Dimensions



00107922

Part No.	Port D	Port G	H1	H2	L1	SW	Delivery quantity [Piece]					
1823391016	G 1/8	G 1/4	10	7	5	17	10					
1823391017	G 1/4	G 1/4	10	10	5	17	10					

Series PE5
Accessories

Part No.	Ambient temperature min./max.	Material	Material Seal	Order quantity [Piece]			
R412010406	0 / 60	Acrylonitrile butadiene styrene	Polyurethane	1			

Included in scope of delivery: 1 front frame (1), 1 wall mounting (2), 2 attachment screws M4x40 (3), 2 hexagonal nuts (4)

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02-03-2017

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. © AVENTICS S.à r.l.
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