



Pressure Switches 901, adjustable

With adjustable setting



- Very reliable
- Any installation position
- For monitoring of liquid, gaseous and aggressive media
- Switching contact variably adjustable

DBE-901-einstellbar-20180124



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Application

Adjustable pressure switch monitoring overpressure, vacuum or differential pressure of liquid and gaseous – also aggressive – media.

The pressure switch uses a scaled adjustment knob to enable the adjustment of trip and reset pressure without the use of a screwdriver.

Temperature range

Ambient temperature from -20°C to 85°C .
Temperature of media from 85°C or 130°C depending on material of pressure connection and diaphragm.

Diaphragm material

Depending on media NBR, Silicone, FKM (Viton®), EPDM. For 901.8x Silicone, others upon request.

CE Conformity

each depending on technical specification: Low Voltage Directive 2006/95/EC; RoHS Directive 2011/65/EC; ATEX-Directive 94/9/EC; Gas Appliance Directive 90/396/EC (only for Type 901.61 to 901.65 with brass pressure connection).

Life

Minimum 10^6 cycles.

Electrical rating

Values indicated for resistive load

AgNi-contacts: 6(1,5) A/250 VAC
2 A/24 VDC

Gold-plated contacts: 100 mA/24 VAC
30 mA/24 VDC

AgNi-contacts up to 10 A/250 VAC can be supplied upon request.

Electrical connection

AMP connection 6.3 mm x 0.8 mm DIN 46244.

Arrangement of contacts

for 901.6x, 901.8x, 901.9x only for 901.7x



Damping

Restrictors alternatively with 0.3/0.5/0.8 mm diameter.

Accessories

Various mounting brackets and protection caps with IP 44, IP 54 and IP 65.

Mounting position

Mounting in any position, to be specified for settings below 100 mbar.

Important instructions!

Technical changes and errors reserved.

The operating instructions belonging to this device must be observed! Download at www.schmidt-messtechnik.de



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Pressure connection							
Type	Tube connection			Threaded connection			
	5,0mm	6,5mm	10,0mm	M10x1	G1/8	G1/4	G1/2
901.61-65	PA	PA, PPS	PA, PPS	PA, PVDF CuZn40, V ₂ A	PA, PVDF CuZn40, V ₂ A	CuZn40, V ₂ A	CuZn40
901.66-68				CuZn40, V ₂ A	CuZn40, V ₂ A	CuZn40, V ₂ A	CuZn40
901.71-76	PA	PA, PPS	PA, PPS	PA, PVDF CuZn40, V ₂ A	PA, PVDF CuZn40, V ₂ A	CuZn40, V ₂ A	
901.77-78				CuZn40, V ₂ A	CuZn40, V ₂ A	CuZn40, V ₂ A	CuZn40
901.8x		PA					
901.91-93				CuZn40	CuZn40, V ₂ A	CuZn40, V ₂ A	

PA = polyamide, PVDF = polyvinylidendifluoride, PPS = polyphenylensulfide, CuZn40 = brass, V₂A = stainless steel

For temperature above 85° C metal or PPS pressure connection is required. Upon request pressure connections of other sizes, other plastics or brass nickel-plated are available.

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Overpressure range						
Type	Adjustment range for trip pressure		Tolerance band in % of	Switching differential	Maximum positive working pressure	Maximum negative working pressure
	from	to			standard/extended	standard/extended
901.61	5	20 mbar	±10%	3 mbar	0,5/4 bar	-/-1 bar
901.62	10	50 mbar	±10%	5 mbar	0,5/4 bar	-/-1 bar
901.63	25	100 mbar	±10%	10 mbar	0,5/4 bar	-/-1 bar
901.64	50	250 mbar	±10%	20 mbar	1/4 bar	-/-1 bar
901.65	100	500 mbar	±10%	50 mbar	1/4 bar	-/-1 bar
901.66	250	1000 mbar	±10%	150 mbar	10 bar	-1 bar
901.67	500	1500 mbar	±10%	250 mbar	10 bar	-1 bar
901.68	1000	3000 mbar	±10%	500 mbar	10 bar	-1 bar
901.91	1,0	6,0 bar	±10%	0,5-2,0 bar	25 bar	-1 bar
901.92	4,0	9,0 bar	±10%	0,5-2,0 bar	25 bar	-1 bar
901.93	7,0	12,0 bar	±10%	0,5-2,0 bar	25 bar	-1 bar

Vacuum range						
901.71	-5	-20 mbar	±10%	3 mbar	0,5/4 bar	-1 bar
901.72	-10	-50 mbar	±10%	5 mbar	0,5/4 bar	-1 bar
901.73	-25	-100 mbar	±10%	10 mbar	0,5/4 bar	-1 bar
901.74	-50	-125 mbar	±10%	20 mbar	0,5/4 bar	-1 bar
901.75	-75	-200 mbar	±10%	25 mbar	1/4 bar	-1 bar
901.76	-100	-300 mbar	±10%	30 mbar	1/4 bar	-1 bar
901.77	-200	-500 mbar	±10%	75 mbar	1/4 bar	-1 bar
901.78	-300	-700 mbar	±10%	75 mbar	1/4 bar	-1 bar

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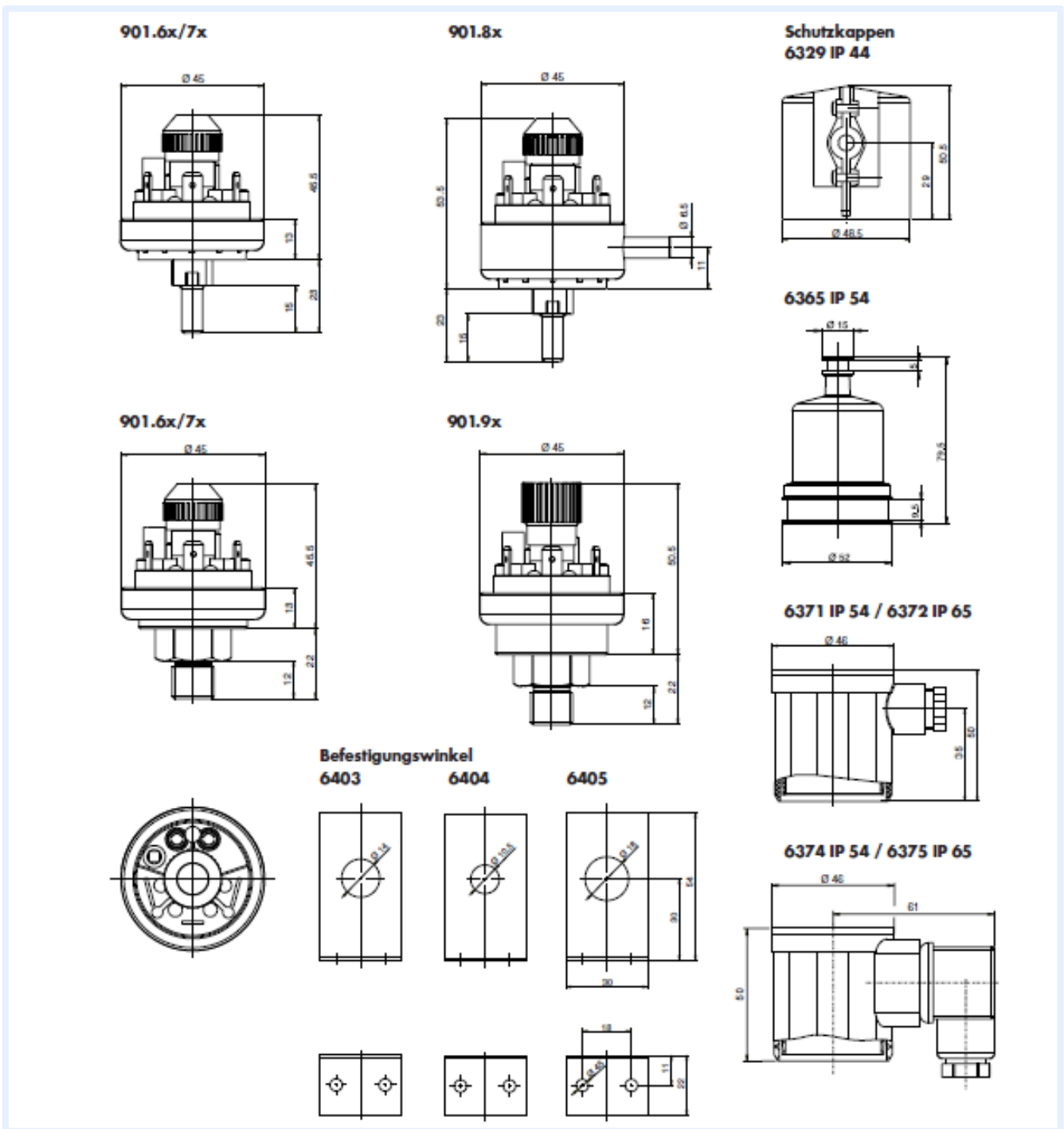
Differential pressure range						
Type	Adjustment range for trip pressure		Tolerance band in % of	Switching differential	Maximum positive working pressure	Maximum negative working pressure
	from	to			standard/extended	standard/extended
901.81	5	20 mbar	±10%	3 mbar	100 mbar	-100 mbar
901.82	10	50 mbar	±10%	5 mbar	100 mbar	-100 mbar



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Drawings



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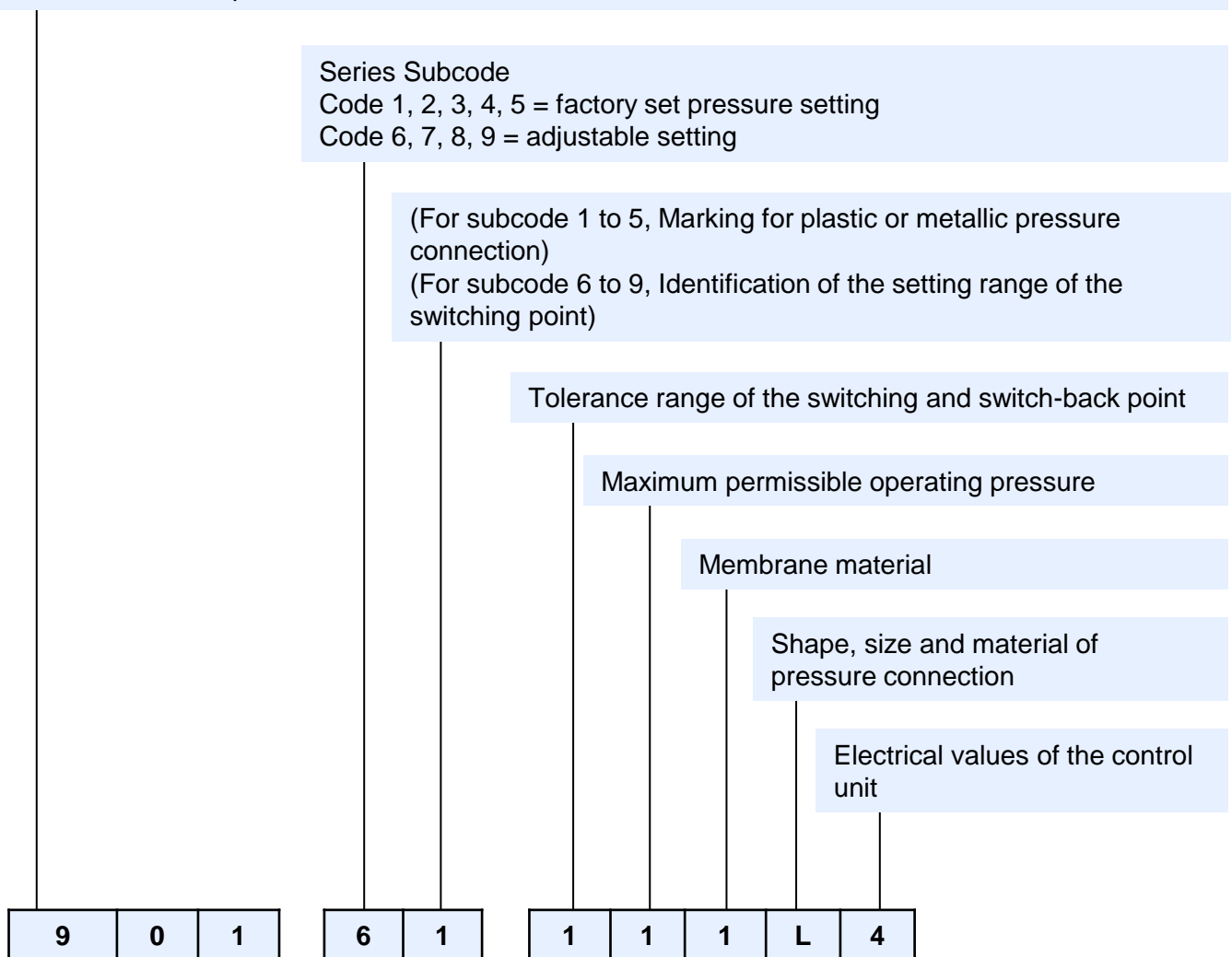


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Ordering matrix

Identification of the pressure monitor series



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Ordering matrix

9	0	1	6	1	1	1	1	L	4
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Series subcode

- 1 Factory set switching points in the overpressure range from 5 mbar to 1,000 mbar, max. operating pressure up to 0.5 or 1 bar
- 3 Factory set switching points in the overpressure range from 5 mbar to 50 mbar, max. operating pressure up to 100 mbar
- 4 Factory set switching points in the overpressure range from 500 mbar to 3 bar, max. operating pressure up to 10 bar
- 5 Factory set switching points in the higher pressure range from 1 bar to 12 bar, max. operating pressure up to 25 bar
- 6 Adjustable overpressure between 5 mbar and 3 bar, max. operating pressure 0,5 bar, 1,0 bar or 7 bar
- 7 Adjustable negative pressure range between -5 mbar and -700 bar, max. operating pressure 0,5 bar, or 1 bar
- 8 Adjustable differential pressure range between 5 mbar and 50 mbar, max. operating pressure 100 mbar
- 9 Adjustable Overpressure range between 1,0 bar and 12 bar, max. operating pressure 25 bar

9	0	1	6	1	1	1	1	L	4
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Plastic or metallic pressure connection (only for factory set switching points with series subcode 1 ... 5)

- 0 Plastic (can be PAS, PPS or PVDF)
- 1 Metallic (can be brass, nickel-plated brass or stainless steel)



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9	0	1	6	1	1	1	1	L	4
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Adjustable pressure ranges (only for the adjustable 901 pressure switches with subcode 6 ... 9)						
Code	Type	Adjustable range		Code	Type	Adjustable range
1	(61)	5...20 mbar		1	(71)	-5...-20 mbar
2	(62)	10...50 mbar		2	(72)	-10...-50 mbar
3	(63)	25...100 mbar		3	(73)	-25...-100 mbar
4	(64)	50...250 mbar		4	(74)	-50...-125 mbar
5	(65)	100...500 mbar		5	(75)	-75...-200 mbar
6	(66)	250...1000 mbar		6	(76)	-100...-300 mbar
7	(67)	500...1500 mbar		7	(77)	-200...-500 mbar
8	(68)	1000...3000 mbar		8	(78)	-300...-700 mbar

1	(91)	1,0...6,0 bar		1	(81)	5...20 mbar
2	(92)	4,0...9,0 bar		2	(82)	10...50 mbar
3	(93)	7,0...12,0 bar				

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9	0	1	6	1	1	1	1	L	4
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Tolerance range of the switching point and switch-back point

- 1 Normal tolerance range $\pm 10\%$
- 2 Narrow tolerance range $\pm 5\%$ (only on technical feasibility on request)

9	0	1	6	1	1	1	1	L	4
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Maximum permissible operating pressure

1. Standard
2. Extended to 4 bar (only instead of a maximum operating pressure of 0.5 or 1.0 bar)

9	0	1	6	1	1	1	1	L	4
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Membrane material

- 1 NBR
- 2 EPDM
- 3 Silicone (VMQ)
- 4 FKM Viton®
- 5 NBR for gas pressure switches with DVGW-approved NBR material
- 6 Silicone (VMQ) with Parylene®-C plating
- 7 FKM Special for saturated steam applications up to max. 140°C
- 8 EPDM with FDA 21-CFR approval
- 9 Chemraz®, for -20°C to +230°C



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9	0	1	6	1	1	1	1	L	4
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Shape, size and material of pressure connection				
Code	Material	Shape	Size	Mounting bracketl
A	Polyamide PA6	Hose fitting	6,0 mm	6405
B	Polyamide PA6	Hose fitting	6,5 mm	6405
C	Polyamide PA6	Hose fitting	10 mm	6405
D	Polyamide PA6	Thread	1 / 8	6404
E	Polyamide PA6	Thread	M10x1	6404
F	PPS	Hose fitting	6,5 mm	6405
G	PPS	Hose fitting	10 mm	6405
H	PVDF	Thread	M10x1	6404
J	PVDF	Thread	1 / 8	6404
K	PVDF	Thread	1 / 4	6403
L	CuZn40 (brass)	Thread	1 / 4	6403
M	CuZn40 (brass)	Thread	1/8	6404
N	CuZn40 (brass)	Thread	M10x1	6404
O	CuZn40 (brass)	Thread	3 / 8	n.a.
P	V2A (1.4401)	Thread	M10x1	6404
Q	V2A (1.4401)	Thread	1 / 8	6404
R	V2A (1.4401)	Thread	1 / 4	6403
S	CuZn40 (brass)	Thread	1 / 2	n.a.
T	PP	Thread	M10x1	6404
U	PP	Hose fitting	6,5 mm	6405
V	CuZn40 (brass) nickel-plated	Thread	1 / 4	6403
W	Polyamide PA6	Hose fitting	5,0 mm	6405

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Electrical values of the switching value:			
1	0,1 A	12 VDC	Gold plated switch contacts
2	6 A	250 VAC	AgCdO contacts; (not RoHS compliant)
3	10 A	250 VAC	AgCdO contacts; (not RoHS compliant)
4	6 A	250 VAC	Standard AgNi contacts
5	10 A	250 VAC	Stronger AgNi contacts
6	60 mA	30 VAC	Gold plated contacts with ATEX version (or 45 mA / 30 VDC)
7	60 mA	30 VAC	AgNi contacts with ATEX version (or 45 mA / 30 VDC)

Example 1:	
Pressure switch series	901
Factory set pressure setting	1
With metallic pressure connection	1
Tolerance range $\pm 10\%$	1
Max. permissible operating pressure 0,5 bar	1
Membrane material NBR	1
Pressure connection PA 6.5 mm hose connection	B
Electrical load up to 6A / 250 VAC	4

Example 2:	
Pressure switch series	901
With adjustable setting	6
Setting range 5...20 mbar	1
Tolerance range $\pm 10\%$	1
Max. permissible operating pressure 0,5 bar	1
Membrane material NBR	1
Pressure connection brass CuZn40- G1/4	L
Electrical load up to 6A / 250 VAC	4

For factory-set pressure switches, it is necessary to name the switch and reset points, e.g. switch on under increasing pressure at 20 mbar, switch off under decreasing pressure at 10 mbar.

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