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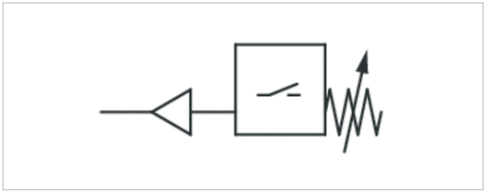
Pressure Switches, Series PM1

- Operating pressure -0,9 ... 0 bar
- Mechanical
- Spring-loaded bellow, adjustable
- Electr. connection Plug M12x1
- Compressed air connection Internal thread G 1/4
- PM1-M3-G014



Type	Mechanical
Function	change-over contact (mechanical)
Mounting orientation	Any
Working pressure min./max.	See table
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-10 ... 80 °C
Medium	Compressed air
Measurement	Relative pressure
Switching element	microswitch (input/output)
Protection against overpressure	80 bar
Max. switching frequency	1,5 Hz
Shock resistance max.	15 g
Vibration resistance	10 g (60 - 500 Hz)
Repeatability (% of full scale value)	± 1 %
Switching point	adjustable
Hysteresis	max. switching pressure difference
DC operating voltage min./max.	12 ... 30 V DC
Operational voltage AC min./max.	12 ... 30 V AC
Mounting types	via through holes
Protection class	IP67
Electr. connection	Plug M12x1
Weight	0,15 kg

Technical data

Part No.		Type	Operating pressure range min./max.	Compressed air connection
R412010716		PM1-M3-G014	-0,9 ... 0 bar	Internal thread, G 1/4
R412010717		PM1-M3-G014	0,2 ... 16 bar	Internal thread, G 1/4
R412010719		PM1-M3-F001	-0,9 ... 0 bar	Flange with O-ring, Ø 5x1,5
R412010720		PM1-M3-F001	0,2 ... 16 bar	Flange with O-ring, Ø 5x1,5

Part No.	Fig.	
R412010716	Fig. 1	-
R412010717	Fig. 1	1)
R412010719	Fig. 2	-
R412010720	Fig. 2	1)

1) Min. switching pressure range 0.2 bar falling/0.5 bar rising

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Technical information

Switching function increasing pressure: contact switches from 1-2 to 1-3.Switching function decreasing pressure: contact switches from 1-3 to 1-2.
Notice:Too-high currents can damage contacts. Inductive or capacitive loads must be equipped with appropriate spark-quenching!
The microswitch has silver-plated contacts.

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber
Electr. connection	Brass, nickel-plated

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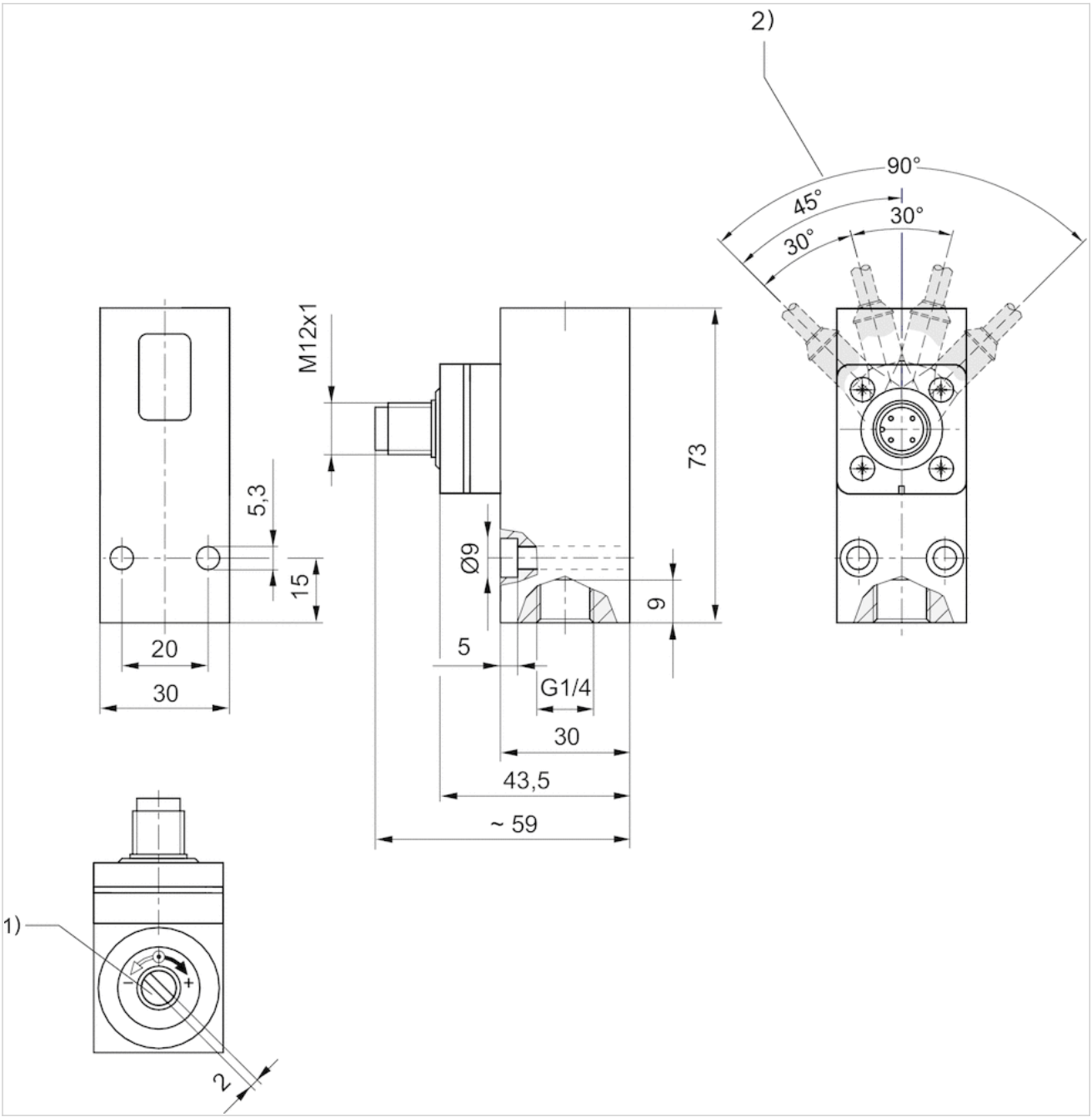
Dimensions

Fig. 1



1) Adjustment screw, self-holding
2) Detent position

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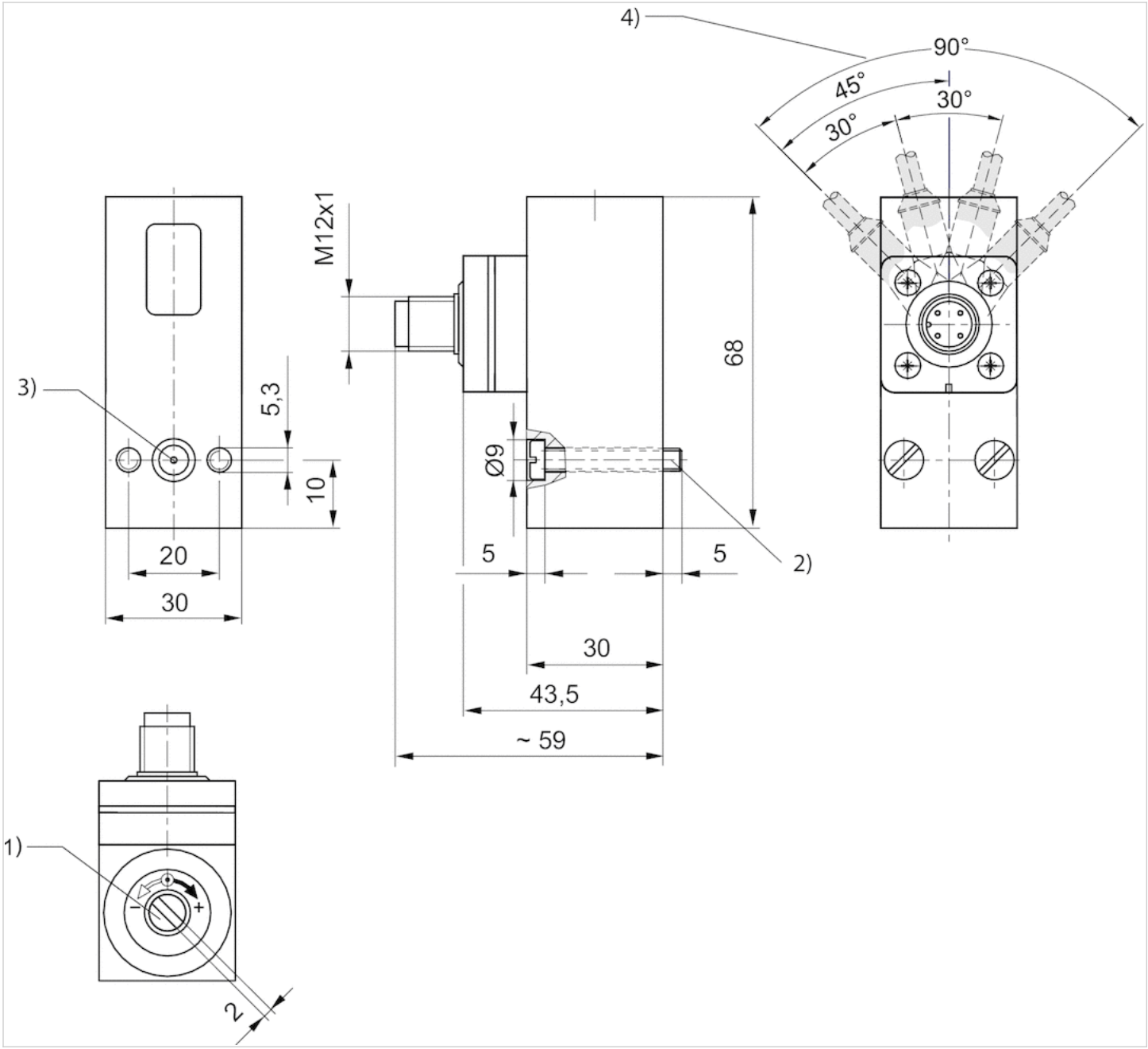
Fig. 2



1) Adjustment screw, self-holding
2) cylinder screw M5x30 (included in scope of delivery)
3) O-ring Ø5x1,5 (included)
4) Detent position

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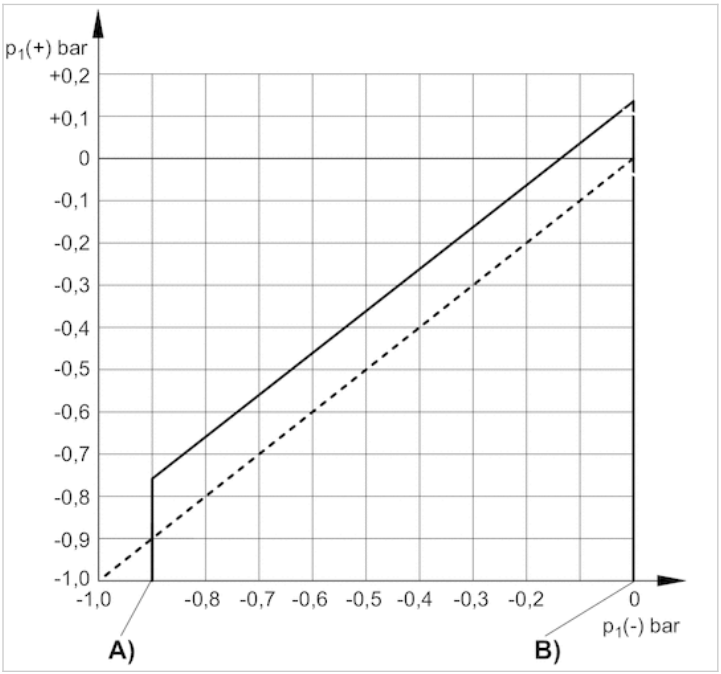
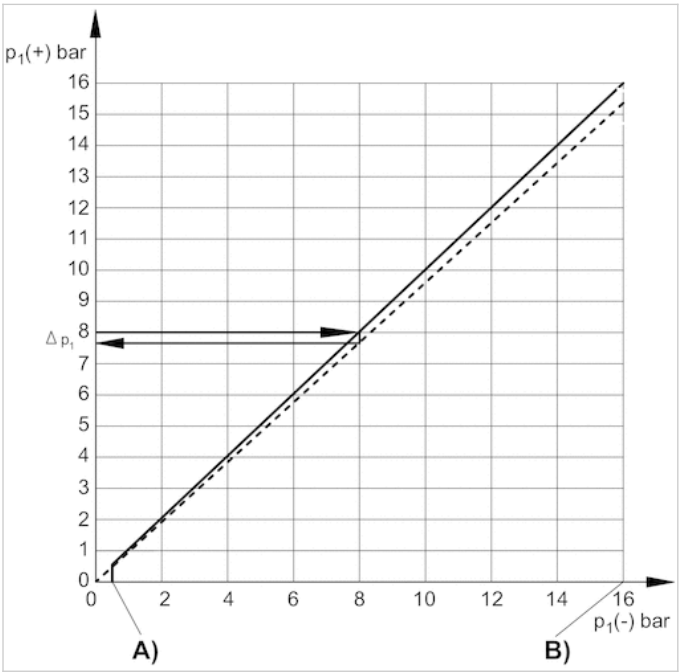
Diagrams

differential switching pressure characteristic curve (-09 – 0 bar)



A) p1 (-), min.
B) p1 (-), max.
p1 (+) = upper switching pressure with increasing pressure
p1 (-) = lower switching pressure with decreasing pressure

differential switching pressure characteristic curve (02 - 16 bar)



A) p1 (-), min.
B) p1 (-), max.
p1 (+) = upper switching pressure with increasing pressure
p1 (-) = lower switching pressure with decreasing pressure
Δ p1 = max. operating pressure difference or hysteresisExample:p1 (+) = 8 bar > p1(-) = 7.6 barΔ p1 = 0.4 bar

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max. permissible continuous current I max. [A] with ohmic load

U [V]	I [A] 1)	I [A] 2)
30-250	3A	
30 / 48 / 60 / 125		3 / 1,2 / 0,8 / 0,4

reference cycle: 30/min., reference temperature: + 30 °C

1) AC

2) DC

max. permissible continuous current I max. [A] with inductive load

U [V]	I [A] 1) 3)	I [A] 2) 4)
30-250	3A	
30 / 48 / 60 / 125		2 / 0,55 / 0,4 / 0,2

reference cycle: 30/min., reference temperature: + 30 °C

1) AC

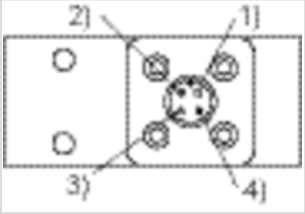
2) DC

3) cos ≈ 0,7°

4) L/R ≈ 10 ms

Pin assignments

Pin assignments



1) +UB
2) break contact
3) No function
4) NO (make contact)