

Pressure Switches, Series PM1, flange, M12, ATEX

R412024760

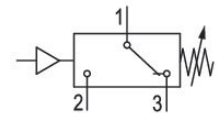
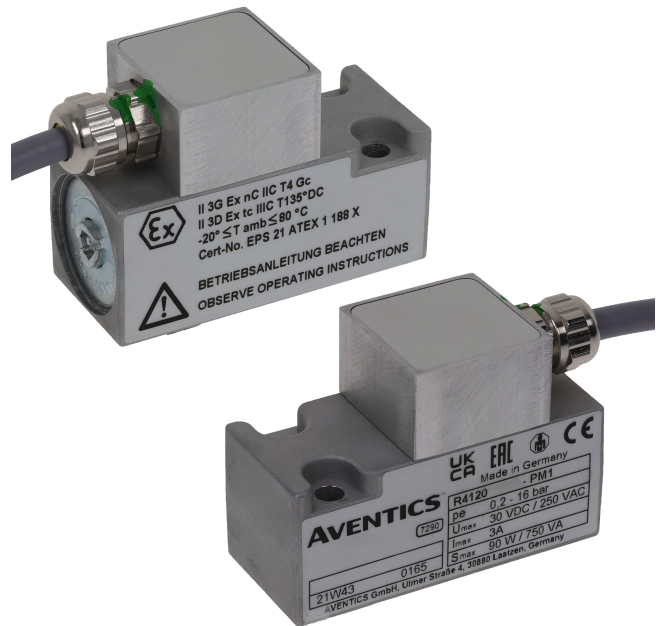
Series PM1

2024-12-12

- Robust housing
- Available with the pressure ranges -0.9 to 0 bar, -0.9 to 1 bar, -0.9 to 3 bar or 0.2 to 16 bar
- Various process connections
- ATEX version available

AVENTICS Series PM1 Pressure switches

The AVENTICS Series PM1 is a compact pressure switch for measuring compressed air and hydraulic oil. The Series PM1 allows users to select between different pressure ranges from -0.9 to 16 bar.



Technical information

Industry	Industrial
Type	Mechanical
Type	Diaphragm, spring loaded, adjustable
Mounting orientation	Any
Operating pressure min	-0.9 bar
Operating pressure max	1 bar
Protection against overpressure	60 bar
Operational voltage	12-125 V DC 12-250 V AC
Max. shock resistance	15 g IEC 60068 - 2-64
Vibration resistance	10 g (60 - 500 Hz) IEC 60068 - 2-6
Precision (% of full scale value)	± 2 %
Measurement	Relative pressure
Compressed air connection	Ø 5x1,5
Compressed air connection type	Flange with O-ring
Min. medium temperature	-10 °C
Max. medium temperature	80 °C
Medium	Compressed air Hydraulic oil
Certificates	ATEX

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Electrical connection type	open cable ends
ATEX ID	Ex II 3G ec nC IIC T4 Gc Ex II 3D tc IIIC T135° Dc
Min. ambient temperature	-20 °C
Max. ambient temperature	80 °C
Switching element	microswitch (input/output)
Max. switching frequency	100/min.
Switching point	adjustable
Protection class	IP65
Mounting types	via through holes
Weight	0.37 kg

Material

Housing material	Aluminum
Seal material	Acrylonitrile butadiene rubber
Material electrical connection	Copper/brass
Part No.	R412024760

Technical information

PM1 series pressure switches are suitable for measuring the pressure or vacuum of air and hydraulic oil.

Switching function in case of rising underpressure: contact switches from 1-3 to 1-2. Switching function in case of falling underpressure: contact switches from 1-2 to 1-3.

Notice: Too-high currents can damage contacts. Inductive or capacitive loads must be equipped with appropriate spark-quenching!

The microswitch has silver-plated contacts.

The pressure range is set via the adjustment screw.

The pressure dew point must be at least 15 °C less than ambient and medium temperature and may not exceed 3 °C.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

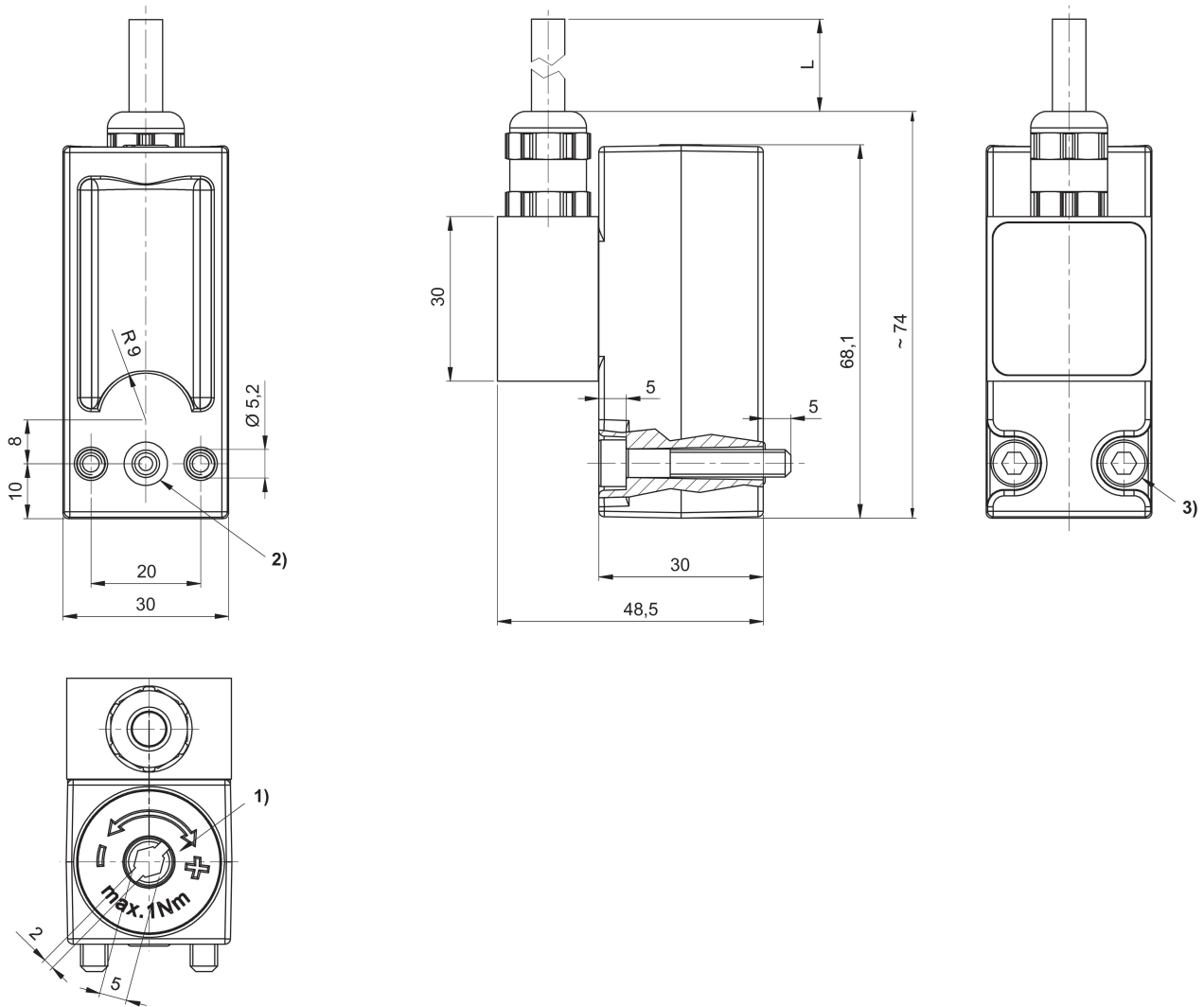
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Dimensions in mm



- 1) Adjustment screw, self-holding
- 2) O-ring $\varnothing 5 \times 1,5$ (included)
- 3) cylinder screw M5x30 (included in scope of delivery)

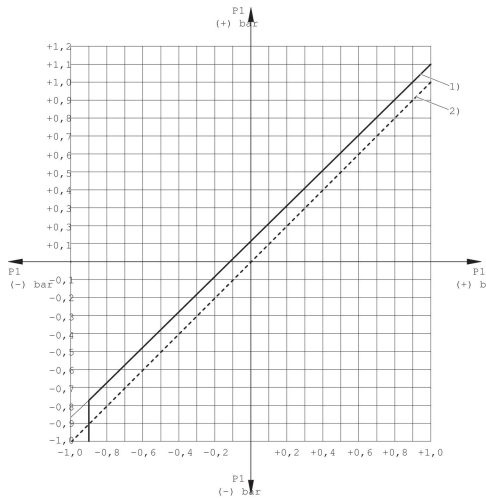
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Differential switching pressure characteristic curve (-0,9 – 1 bar)



1) Rising

2) Falling

p1 (+) = upper switching pressure with increasing pressure

p1 (-) = lower switching pressure with decreasing pressure

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

U [V]	I [A] 1) 3)	I [A] 2) 4)
30-250	3	-
30 / 48 / 60 / 125	-	2 / 0,55 / 0,4 / 0,05

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

1) AC

2) DC

3) $\cos \approx 0,7^\circ$

4) L/R ≈ 10 ms

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

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

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

1) AC

2) DC