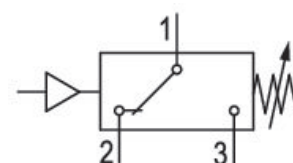


Pressure Switches, Series PM1

R412010713

General series information
Series PM1

- 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
0.2 bar

Operating pressure max
16 bar

Protection against overpressure
80 bar

Operational voltage
24 V DC
24 V DC

Shock resistance max.
15 g IEC 60068 - 2-64

Vibration resistance
10 g (60 - 500 Hz) IEC 60068 - 2-6

Precision (% of full scale value)
± 2 %

Hysteresis
max. switching pressure difference

Measurement
Relative pressure

Compressed air connection type
Internal thread

Compressed air connection
G 1/4

Min. medium temperature
-10 °C

Max. medium temperature
80 °C

Medium

Compressed air
Hydraulic oil

Valve plug connector

With valve plug connector

Electrical connection 2, type

Plug

Electrical connection 2, thread size

EN 175301-803, form A

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

Brass

Part No.

R412010713

Technical information

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.

Please observe the pin assignment when selecting plug connectors.

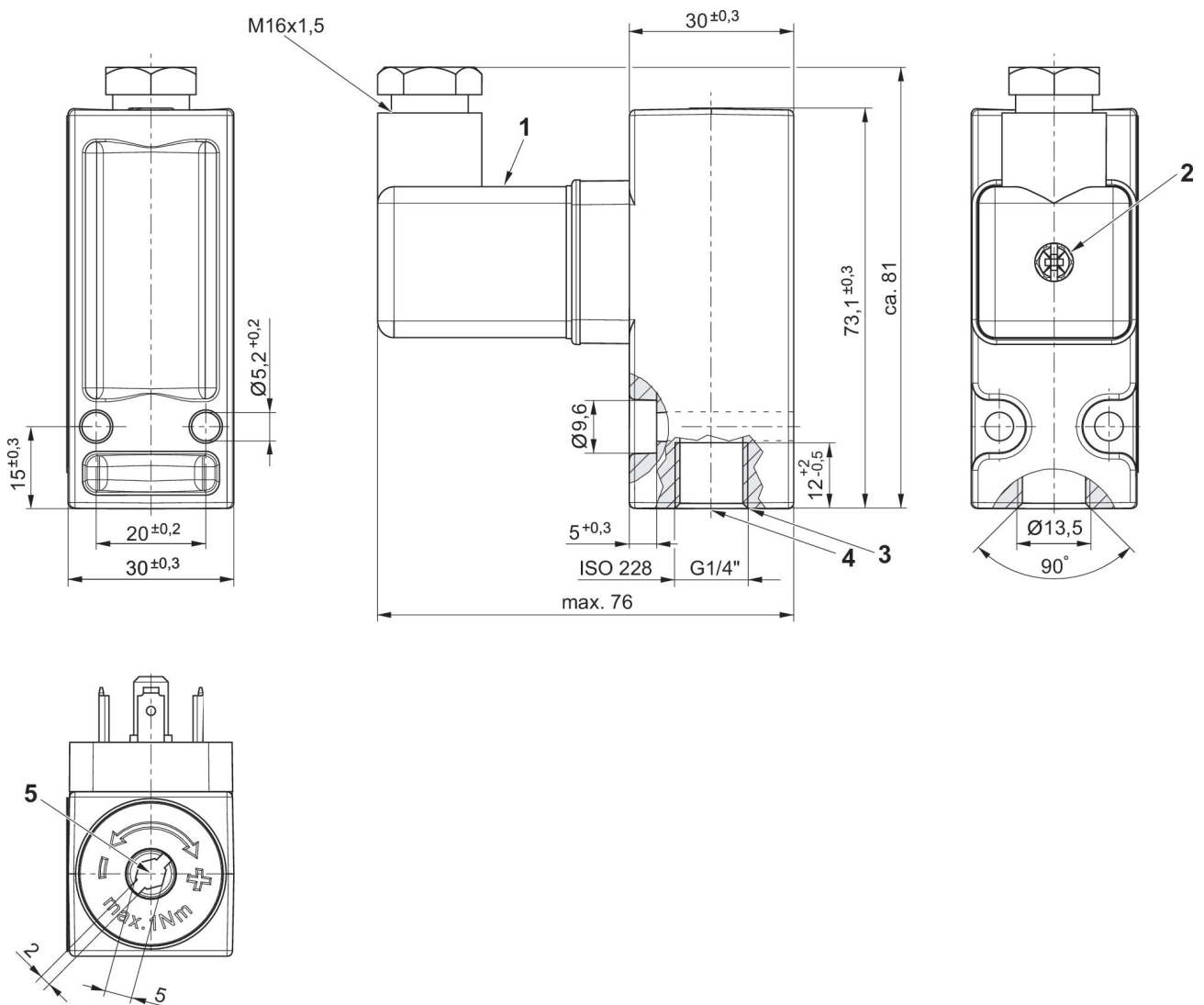
Min. switching pressure range 0.2 bar falling/0.5 bar rising

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

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

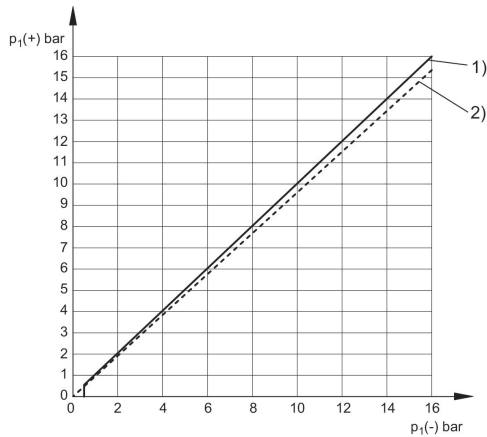
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions in mm



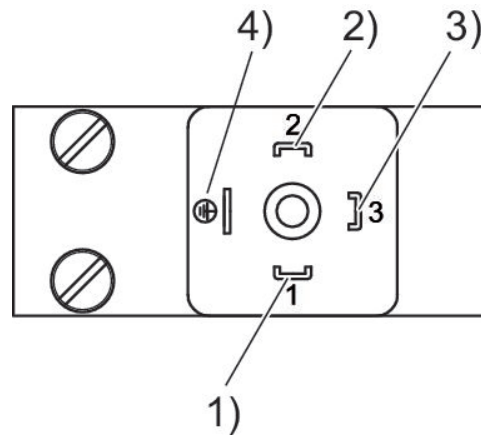
- 1) Valve plug connector
- 2) Mounting screw
- 3) sealing surface
- 4) Tightening torque MA = 12 + 1 Nm
- 5) Adjustment screw, self-holding

Differential switching pressure characteristic curve (0,2 - 16 bar)



p1 (+) = upper switching pressure with increasing pressure
p1 (-) = lower switching pressure with decreasing pressure
1) Rising
2) Falling

PIN assignment for valve plug connectors



Pin assignments

Pin	Allocation
1	+UB
2	break contact
3	NO (make contact)
4	GND

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	5	-
30 / 48 / 60 / 125	-	3 / 1,2 / 0,8 / 0,4

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

- 1) AC
- 2) DC