

RPP 20: P-controller

For universal use as a P-controller in ventilation and air-conditioning systems. Used in conjunction with a transducer for the control of temperature, humidity and pressure, or as a switching relay. Conforms to the regulations on pressure equipment (97/23/EG Art. 3.3).

Housing of thermoplastic; front plate with the setting knobs for setpoint, P-band and zero point; settings can be made using a coin and the % scale; control action can be changed (factory setting is B); suitable for wall or rail mounting (C EN 50024 or EN 50022, available as accessories); compressed-air connection Rp 1/8 female thread; measuring connection M4.

Type	Description	Air capacity	Air consumption ¹⁾	Weight kg
RPP 20 F001	P-fixed-value controller ²⁾	400 l _n /h	40 l _n /h	0.2
Supply pressure ³⁾	1.3 bar ± 0.1	Zero point	0...100%	
Input pressures	0.2...1.0 bar	Permissible amb. temp.	0...55 °C	
Output pressures	0.2...1.0 bar			
Setpoint X _S	0...100%	Connection diagram	A02886	
Remote adjustment of setpoint	0...100%	Dimension drawing	M297107	
P-band X _P	0...100%	Fitting instructions	MV 3248	

Accessories

- 0296936 000*** Bracket for rail EN 50022, 35 × 7.5 and 35 × 15
0297103 000 Additional bag of scales with 8 different scales according to the transducer used.
0297113 000* Manometer bracket for two XMP manometers, including fixing material, MV 3255
0297091 000* Cover for unused manometer apertures when 0297113 is used.
0297133 000 Universal scales for setpoint adjuster X_S, gradation 120, 80/160, 50/100, 30/60

^{*)} Dimension drawing or wiring diagram are available under the same number

1) Without transducer; air consumption for transducer connection 3 is 33 l_n/h more.

2) Can be used as a switching relay (on/off controller) by transposing two tubes.

3) See Section 60 on regulations concerning the quality of supply air, especially at low ambient temperatures.

Operation

The transducer at connection 3 converts the control variable into the pneumatic standard signal 0.2...1.0 bar (equivalent to 0...100%) within its measuring range. This actual-value signal x_{i3} is compared with the fixed setpoint X_S. If there is control deviation, the output pressure changes depending on the set P-band X_{P3} (P-control). When the actual value is equal to the setpoint (x_{i3} = X_S), the output pressure always assumes the value zero (0.6 bar).

With a pressure of 0.2...1.0 bar at input 6, the setpoint can be set remotely from 0...100%. The internal setpoint setting then functions as a minimum limitation.

A restrictor (Ø 0.2 mm) for supplying the transducer is fitted at connection 3. The signals from both the transducer and the output pressure can be checked via the M4 measuring connection or shown via the manometer.

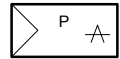
By implementing a simple modification to the circuit, the device can be made to act as an all-or-nothing relay (on-off controller): the pipes must be transposed at connectors 5 and 6 of the amplifier V3. See also MV 3248.

The switching difference can be varied between approx. 0.02 and 1.3 bar by using the adjuster X_P (0...100%). The set value in percentage refers to the supply pressure of 1.3 bar plus the intrinsic switching difference of 0.02 bar.

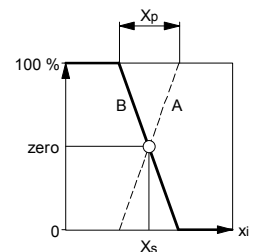
Example X_P = 10%: switching difference = 10% of 1.3 + 0.02 = 0.13 + 0.02 = 0.15 bar



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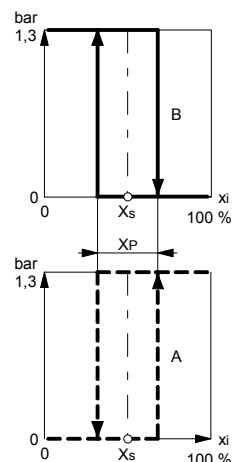


Y03247



P-controller

B03811



All-or-nothing relay

B03847

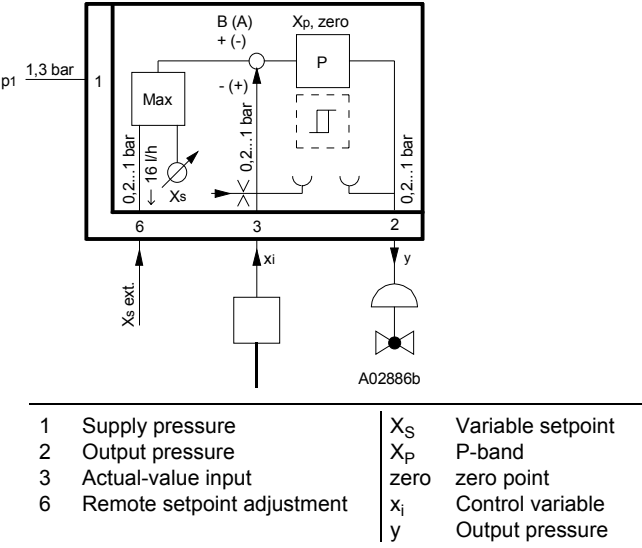
Additional information on accessories

0297103 000	Additional bag of eight alternative scales	
	5...35 °C	20...90 %hr
	-20...40 °C	0...5 mbar
	0...120 °C	5...10 mbar
	80...200 °C	10...15 mbar

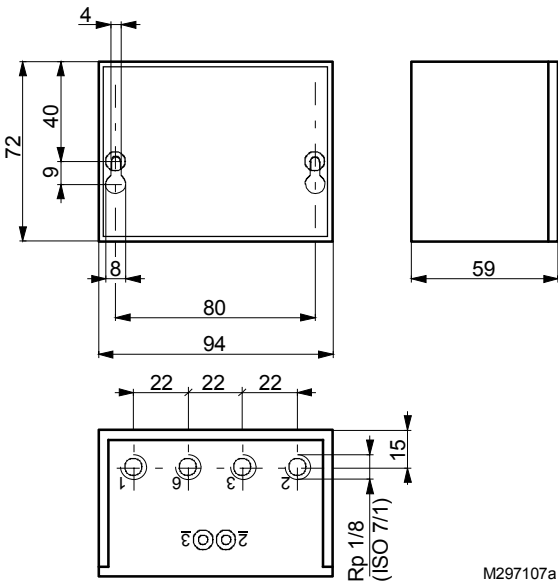
Technical information

Technical manual: centair system 304991 003

Connection diagram

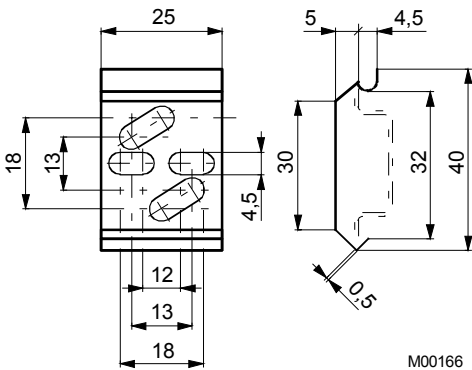


Dimension drawing

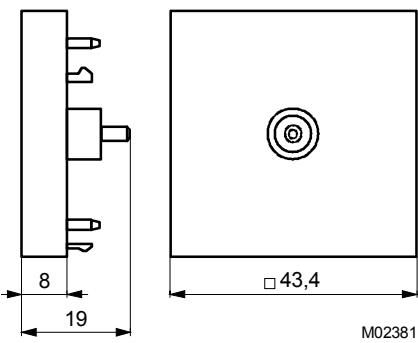


Accessories

296936



297091



297113

