

RUP: Differential-pressure controller/transducer

How energy efficiency is improved

Efficient control of the duct pressure for optimised system operation.

Areas of application

Measurement and/or control of differential pressures in positive-pressure or negative-pressure areas, e.g. in air ducts in combination with pneumatic control equipment (Centair) or with air-volume controllers in air-conditioning systems.

Features

- Part of the Centair family of systems
- Conversion of pressure differentials into standard 0.2 to 1.0 bar signal by a pressure sensor
- PI controller
- Easy to use as PI controller is not in operation if the application is only as a transducer
- Ranges up to 500 and 4000 Pa
- Controller front panel is printed with circuit diagram for rapid identification of function
- Thermoplastic housing suitable for wall or top-hat rail mounting
- Compressed-air connections with Rp 1/8" female thread
- Complies with directive 97/23/EC Art. 3.3 on pressure equipment

Technical description

- Supply pressure 1.3 bar $\pm$ 0.1
- Nozzle/ball system
- Linearity of output signal 2%
- Hysteresis of output signal 0.5%

Type	Measuring range Pa	Output pressure bar	Weight kg
RUP 105 F001	0...500	0,2...1,0	0,15
RUP 140 F001	0...4000	0,2...1,0	0,15
Supply pressure	1,3 $\pm$ 0,1 bar	Linearity	2%
Transducer via ext. restrictor $\varnothing$ 0,2 mm ¹⁾		Hysteresis	0,5%
Air capacity	100 l _n /h	Max. pressure (low-press. connections)	100 mbar
Air consumption	50 l _n /h	Permissible ambient temp.	0...55 °C
Transducer: air capacity, air consumption	33 l _n /h		
P-band	400% (fixed)	Wiring diagram	A08789
Setpoint	0...100%	Dimension drawing	M297240
Integral action time	0,5...3 s	Fitting instructions	MV 505658
Setpoint remote adjustment	0,2...1,0 bar		

Accessories

0297354 000* Short R 1/8 connector for soft plastic tubing, internal $\varnothing$ 4 mm.

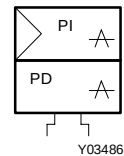
0296936 000* Bracket for EN 60715, 35 $\times$ 7,5 and 35 $\times$ 15 rails

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

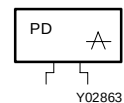
1) In the RCP and RPP 20/RPJ 80 controllers, the restrictors ($\varnothing$ 0,2 mm) are fitted at inputs 3 and 4.
See Section 60 on regulations concerning the quality of supply air, especially at low ambient temperatures.



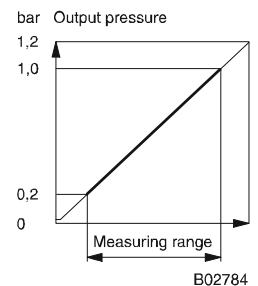
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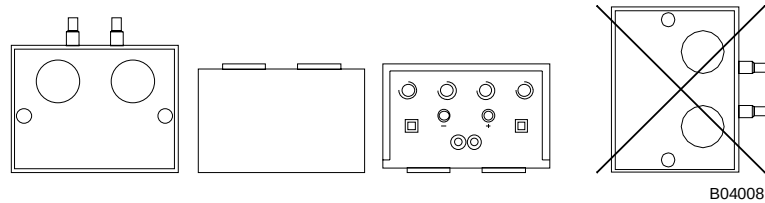
When used as a duct-pressure controller

The pressure difference is converted by the pressure sensor into a standard signal (0,2...1,0 bar). This actual-value signal is compared to the setpoint X_s . The control deviation is compensated without permanent error by the PI controller. The setpoint X_s can be adjusted externally via connector 6, in which case the set value becomes the minimum limit.

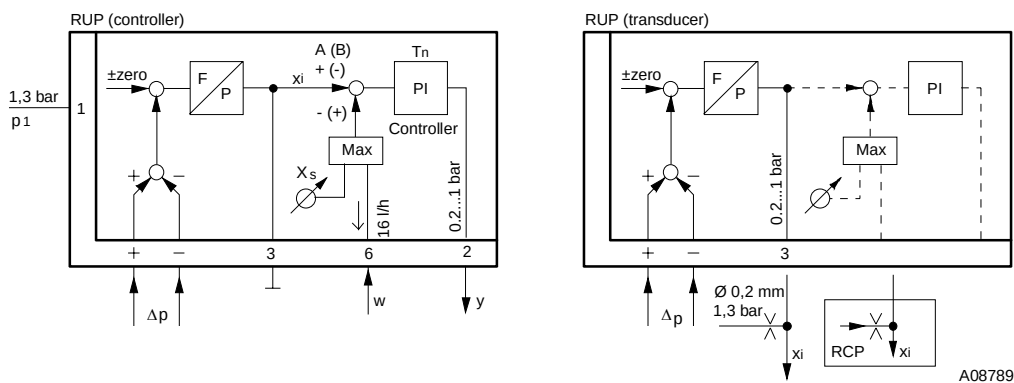
When used as a transducer

The pressure difference is converted by the pressure sensor into a standard signal (0,2...1,0 bar). The output signal at connector 3 is proportional to the pressure difference. When the pressure is rising, the output pressure also rises.

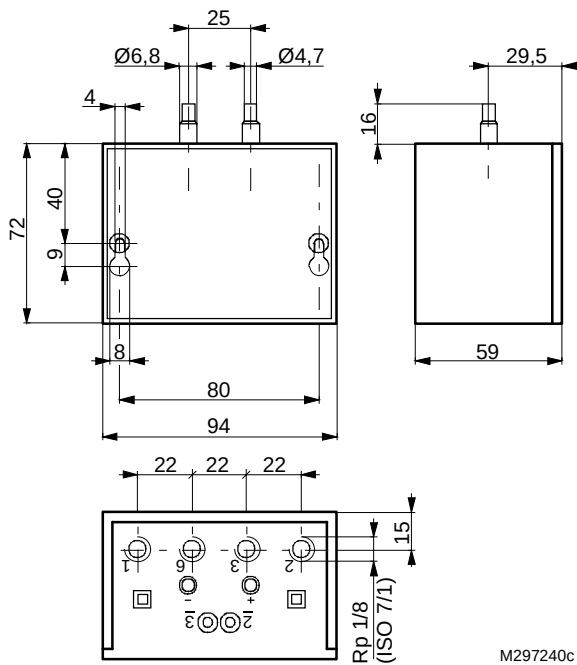
Engineering and fitting instructions
Should not be fitted on its side.



Connection diagram



Dimension drawing



Accessories

