

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

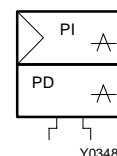
- Part of the Centair family of systems
- Conversion of pressure differentials into standard 0.2 to 1.0 bar signal by a pressure sensor
- PI controller
- Easy to use as PI controller is not in operation if the application is only as a transducer
- Ranges up to 500 and 4000 Pa
- Controller front panel 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

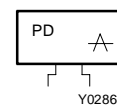
- Supply pressure 1.3 bar \pm 0.1
- Nozzle/ball system
- Linearity of output signal 2%
- Hysteresis of output signal 0.5%



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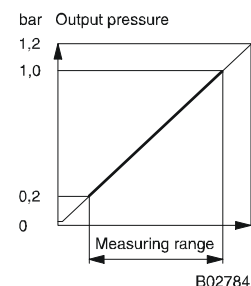


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Type	Measuring range Pa	Output pressure bar	Weight kg
RUP 105 F001	0...500	0,2...1,0	0,15
RUP 140 F001	0...4000	0,2...1,0	0,15
Supply pressure Transducer via ext. restrictor \varnothing 0,2 mm ¹⁾	1,3 \pm 0,1 bar	Linearity	2%
Air capacity	100 l _n /h	Hysteresis	0,5%
Air consumption	50 l _n /h	Max. pressure (low-press. connections)	100 mbar
Transducer: air capacity, air consumption	33 l _n /h	Permissible ambient temp.	0...55 °C
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		



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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/RPJP 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.

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.

Архангельск (8182)63-90-72

Астана +7(7172)727-132

Белгород (4722)40-23-64

Брянск (4832)59-03-52

Владивосток (423)249-28-31

Волгоград (844)278-03-48

Вологда (8172)26-41-59

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Нижний Новгород (831)429-08-12

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Новосибирск (383)227-86-73

Орел (4862)44-53-42

Оренбург (3532)37-68-04

Пенза (8412)22-31-16

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Ростов-на-Дону (863)308-18-15

Рязань (4912)46-61-64

Самара (846)206-03-16

Санкт-Петербург (812)309-46-40

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Сочи (862)225-72-31

Ставрополь (8652)20-65-13

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Ульяновск (8422)24-23-59

Уфа (347)229-48-12

Челябинск (351)202-03-61

Череповец (8202)49-02-64

Ярославль (4852)69-52-93

