SAUTER

"Centair" Controller type RPP 20

MVE 3248 c

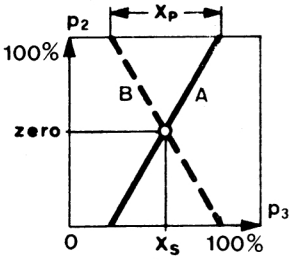
APPLICATION

- For control and remote measuring of temperature, pressure and humidity when used in conjunction with the corresponding measuring transmitter (output 0,2...1,0 bar).
- Together with other RPP 20 controllers as a sequence relay to drive several regulating units by dividing the signal range (split range).
- As switching relay (two-step controller) for special applications.

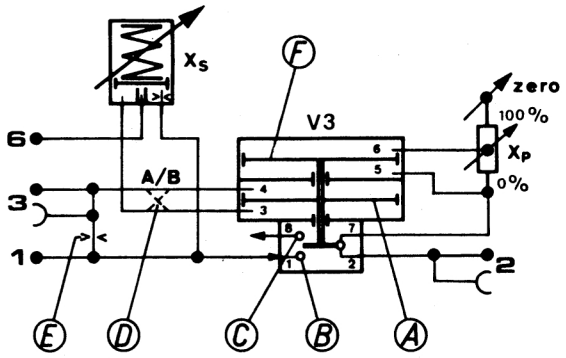
MOUNTING

- Suitable for wall or panel mounting (rail fixing for ex. EN 50024, type C). The holes for the fixing screws 4 mm Ø are located in the base.
- The ambient temperature should not fall below 0 °C or exceed +55 °C.

OPERATION AS P-CONTROLLER



Factory adjusted to action B



- The output pressure of the P-controller is "zero" (normal 50 % = 0,6 bar) when the input pressure p 3 (actual value) is the same as the adjustable pressure x_s (desired value). (Steady-state condition of diaphragm set is balanced).
- The pressure difference in the changing of the actual value p 3 produces a deflection of the metering diaphragm (A) and opens the inlet valve (B) or the outlet valve (C). The output pressure changes as long as until an equal pressure difference builds up at the return diaphragm (F). According as to position of the pressure divider X_p (Potentiometer principle) the output pressure changes accordingly (X_p = 100 % full return) or it becames the largest value (supply pressure) or the zero value (X_p = 0 %, no return). The intermediate positions of the pressure divider Xp allows a 0...100 % adjustment of the P-range.
- The control interpretation of the controller can be changed by exchanging the input connections 3 and 4 of the amplifier (D).
- Push the tubes from the nipple, don't pull. To avoid broken nipples apply the device for removing of the tubes (service set 297508).
- Shorten the tubes by 3...4 mm if the tube ends are stretched.
- The throttle (E) (ca. 33 l_n/h) serves as an air supply for a transmitter at connection 3.
- The desired value x_s can be remote controlled with a variable pressure at connection 6. In this condition the pressure adjuster x_s is set to 0 %, otherwise, it produces a minimum limiting of the desired value.

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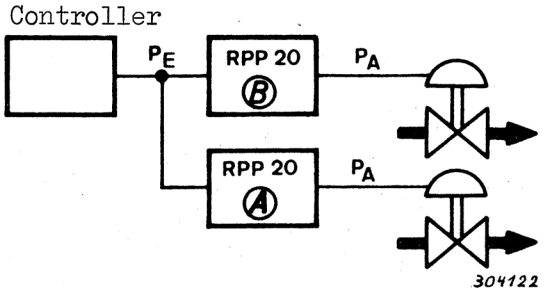
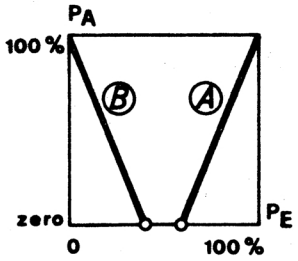
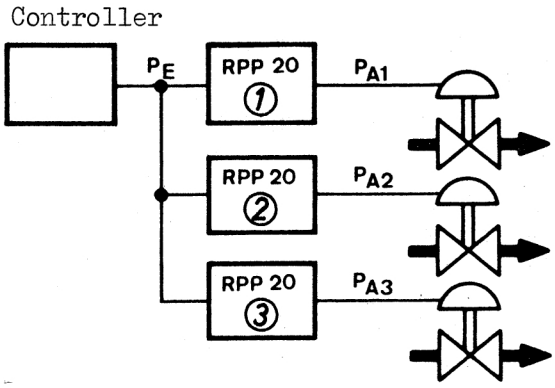
OPERATION AS SEQUENCE RELAY

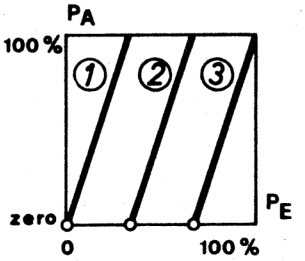
- In this application the operation is the same as by the P-controller, however for every sub-range step an RPP 20 is necessary. For easier adjustment the zero is set to 0 %. The values x_s and X_p are to be adjusted so that the control elements through the unit pressure signal (0,2...1,0 bar) operate one after another.





Sequence
e.g. Heating-cooling





Sequence
e.g. Hot water-
warm water-converter

OPERATION MODIFICATIONS

- To be performed before mounting and connecting. Release the outside cross-slotted screws and pull-out the unit slide-in.

Desired operation alteration	Required alteration on appliance
Block internal throttle (always consider that at connection 3 a non-blowing controller or transmitter would be connected).	- Supply pipe at nipple 3.4. is removed and connected to blind nipple 6.4. - Nipple 3.4. is closed with the disconnected blind plug.
Change control interpretation from B to A (appliance is delivered with interpretation B)	- Exchange the pipes at connection nipples 3 and 4 of the amplifier Ⓓ .
Change to switching relay (two - step controller)	- Procedure and indication according to TI 735

CONNECTION

- All pipes (6 x 1 mm) must be cleaned thoroughly and should be connected with plastic nipple (G 1/8"). The pipe connections must be completely air tight. For sealing, a PTFE strip or a sealing stick (accessory 297169) is to be used, but not Loctite.
- For information regarding the supply air at low ambient temperatures, see Installation Instructions MV 01.1.

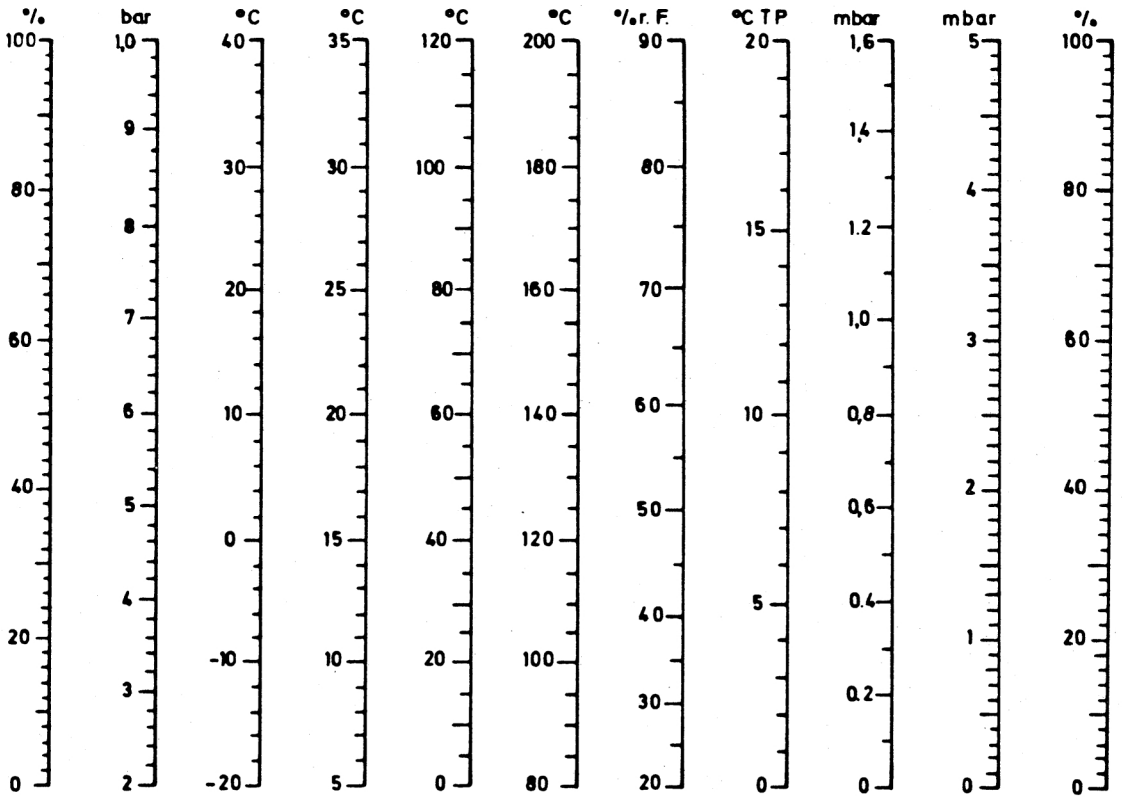
1 = Supply pressure p 1 (1,3 ± 0,1 bar)
2 = Output pressure p 2 with additional measuring connections 2 (M4)
3 = Input pressure p 3 with additional measuring connections 3 (M4)
6 = Desired value remote setting (0,2...1,0 bar = 0...100 % x_s) Do not close!

SETTING

- All 3 adjusters have a %-scale and are set with the help of a coin.
  - P-range X_p: 100 % means the measuring span of the transmitter used
  - Desired value x_s: 0 % means the measuring start and 100 % the measuring finish of the transmitter used. See table "Conversion of measuring ranges". With supplement 297103 (scale assortment) the %-scale can be changed accordingly to either the °C scale, bar, or r.f.
  - By the controller the adjuster "zero" stays at 50 % and is adjusted only in special circuits.
- The scales "x_s" and "zero" can be re-set by rotating them at their outside edges. Scale "X_p" is fixed.

» CENTAIR «

Umrechnung der Messbereiche:
Conversion des domaines de mesure:
Conversion of measuring ranges:
Conversione dei campi di misura:



r.F. = h.r.
r.h.
u.r.

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