

**Installation**

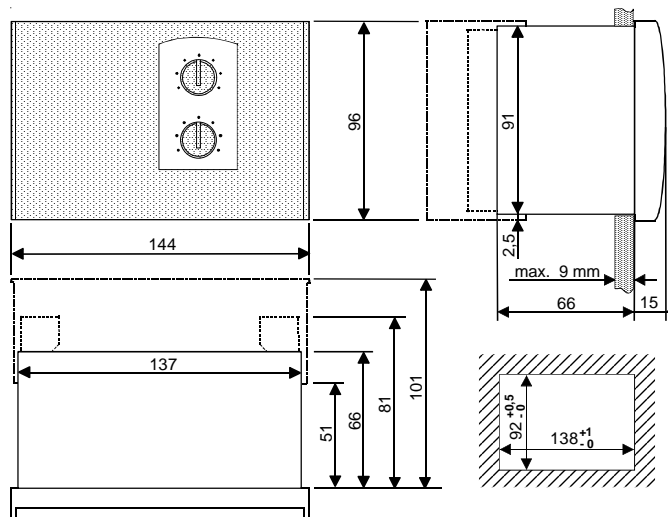
RDO3x3A000



**Applications**

This controller is for the controlling of boiler, boiler cascade and district heating. Energizing of the 1, 2 stage modular burner (3-point, 0..10V) as well as the 2 integrate mixing circuits (1 in RDO353) and the domestic hot water are integrated in the controller.

**Dimensions**



**Mounting**

- Flush mounting

Switch panel cut-out 138x92mm for category 144x96mm,  
Mounting depth with connectors: 81mm      Mounting depth with base plate: 101mm.  
Slide device into panel cut-out and secure it with fastening bolts. Wire with connectors for AMP male connectors RZB500A, screw able connectors RZB510A (or base plate RZB520A).

- Wall mounting

Mount base plate RZB520A and wire it. Plug device on and fix it.

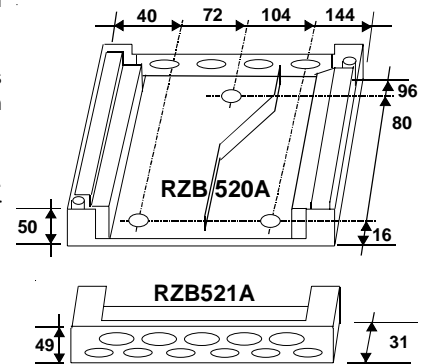
- Rail mounting for DIN46277

Screw rail clamps RZB106A for DIN rail 35mm onto base plate RZB520A. Snap base plate onto DIN rail and wire it. Plug device on and fix it.

- Base plate and extension of terminal compartment

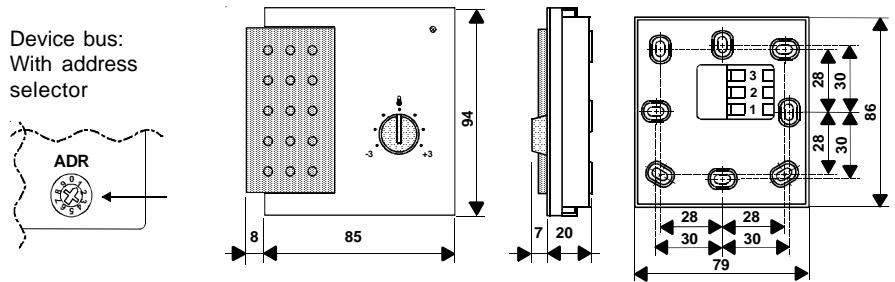
**RZB520A:** Base plate with 2 side walls (for glands 4xPG9) with screw able connectors RZB510A in position.

**RZB521A:** Extension kit for terminal compartment. Fits to top or bottom of base plate RZB520A, for glands 6xPG9 and 5xPG11, with slide covers.



**Remote control unit and room temperature sensors**

For residential area only. Not to be exposed to sun or other heat sources (chimney, radiators, draughts, TV-set, lamps); not behind furniture or curtains; appr. 1.2-1.5m height; seal installation conduit. Use breakthroughs in housing base for drilling the fixing points.



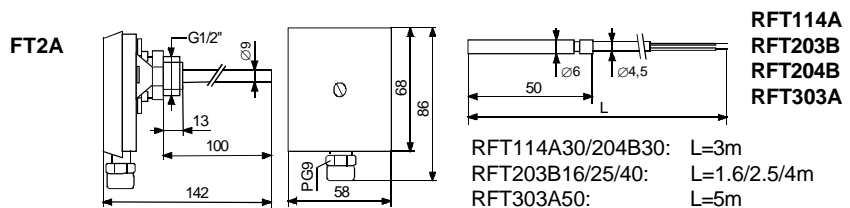
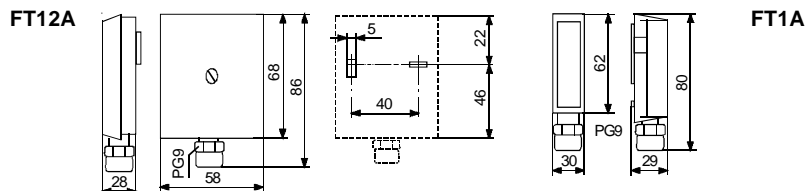
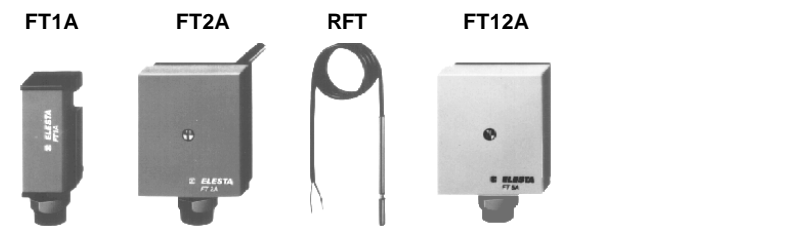
The remote control units are connected to the device bus. The address of the remote control unit must be set identical to the address of the corresponding mix-heating circuit (factory setting: address=1).  
Total length of the devices bus max. 200m.  
Cable 2x1mm<sup>2</sup> (flex type for max. length), unshielded, separated from mains lines. Minimize use of conductor connector-boxes.

- Remote control unit **RFB510A**: Remote control unit (active, connected to device bus) with temperature sensor: Program selection by sliding switch, temperature setpoint adjustment, status display (LED)
- Remote control unit **RFB520A**: Remote control unit (active, connected to device bus) with temperature sensor: Program selection by single key, temperature setpoint adjustment, status display (LED)
- Comfort remote control **RFB540A**: Remote control unit (active, connected to device bus) with temperature sensor: Program selection, LCD-indication
- Room temperature sensor **RFT510A**: Active room temperature sensor without control elements
- Room temperature sensor **RFT410A**: Passive room temperature sensor (NTC 10kΩ; at 25°C) without control elements

**Temperature sensors**

Use flex cable 2x1mm<sup>2</sup>, unshielded, separated from mains lines. Max. length for passive sensors 100 m. Minimize use of conduit- or connector boxes.

Total length:	up to 25m	Cable cross section:	0.25 mm <sup>2</sup>
Total length:	up to 50m	Cable cross section:	0.5 mm <sup>2</sup>
Total length:	up to 100m	Cable cross section:	1.0 mm <sup>2</sup>





Occupation of the terminal

Terminal number	Symbols	Description	Pre-occupation depending on function
<b>A: 230VAC: Inputs and outputs</b>			
1	N	Neutral	
2, 5, 12, 13	L	Phase	
3	Bh1	Counter of operating hours; dig. input (configurable)	
4	Bh2	Counter of operating hours; dig. input (configurable)	
6	St. 2 on	Relay contact (NO)	
7	St. 2 off	Relay contact (NO)	
8	⊙ KK	Relay contact (NC)	
9	⊙ MK1	Relay contact (NC)	Mix-circuit pump 1
10	⬆⬇ MK1	Relay contact (NO)	Mixing valve 1 OPEN
11	⬆⬇ MK1	Relay contact (NO)	Mixing valve 1 CLOSE
14	St. 1 on	Relay contact (NO)	Energy producer stage 1 ON
15	⊙ WW	Relay contact (NO)	Hot water charging pump/valve
<b>RDO383A only</b>			
43, 45	L	Phase	
44	Q3	Relay contact (NC)	Mix-circuit pump 2
42	Q2	Relay contact (NO)	Mixing valve 2 OPEN
41	Q1	Relay contact (NO)	Mixing valve 2 CLOSE
<b>B: Measuring and control inputs</b>			
21	D-Bus	Device bus for remote control unit, additional devices, ...	
22	D-Bus	Device bus for remote control unit, additional devices, ...	
23	PWM2	Output for ext. relay	
24	PWM1	Output for ext. relay or speed controlled actuator	
25	GND	Common ground	
26	Ba	Temperature sensor NTC	
27	Br	Temperature sensor NTC; multiple switch Ext.9.1..9.4	
28	Bk	Temperature sensor PTC/PT1000; I/O-module (RZB540A)	
29	Bv	Temperature sensor PTC/PT1000	
30	Brü	Temperature sensor PTC/PT1000	
31	Bres	Temperature sensor PTC/PT1000	
32	B w w	Temperature sensor PTC/PT1000	Hot water temperature sensor (fix)
33	Bag	Temperature sensor PTC/PT1000; dig. input (config.)	
34	Ext.2	Temperature sensor PTC/PT1000; dig. input (config.); I/O-module (RZB540A)	
35	Ext.1	Temperature sensor PTC/PT1000; dig. input (config.)	

Wire according to application diagram or wiring diagram. Observe local regulations regarding authorised personal.

Terminals 1 to 15 are for mains voltage 230V. The prints and relay contacts are not short-circuit-proofed. Operation tests of external loads must be carried out with unplugged controller. In case of high inductive loads, consumers (contactors, solenoid valves, etc.) need parallel RC modules (e.g. RIFA RC module 250VAC, 0.1uF (X2), 470hm).

Connection diagram according to the applications

Terminals 21 to 35 are for low voltage circuits. For external inputs on terminals 26..35 use gold-plated, potential-free contacts only.

Example of connection controller RDO383A

