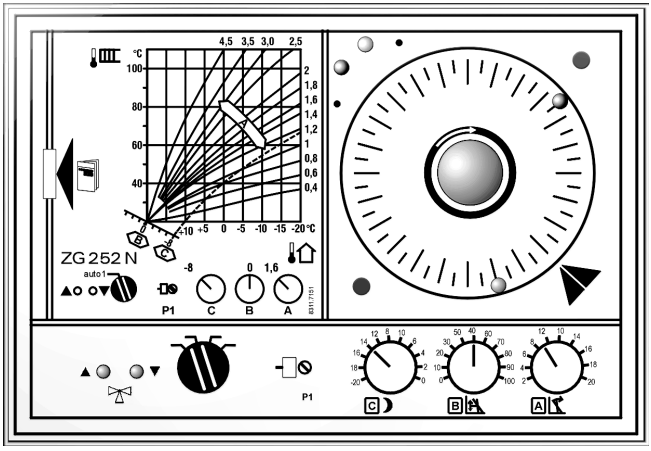
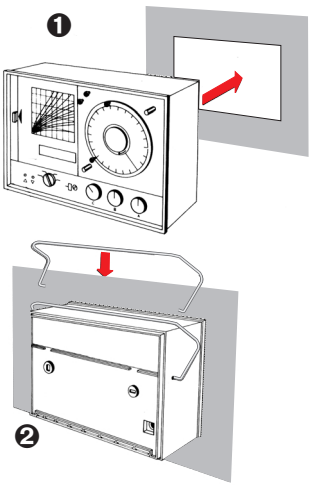
Compact control units
ZG 215N / 215 VN / 252 N

MOUNTING INSTRUCTIONS





Mounting of the Control Unit

It can be mounted in any dry room, e. g. the boiler room. The device can be mounted either in a cubicle door or on the wall.
Maximum permissible ambient temperature: 45 °C.

Door Mounting

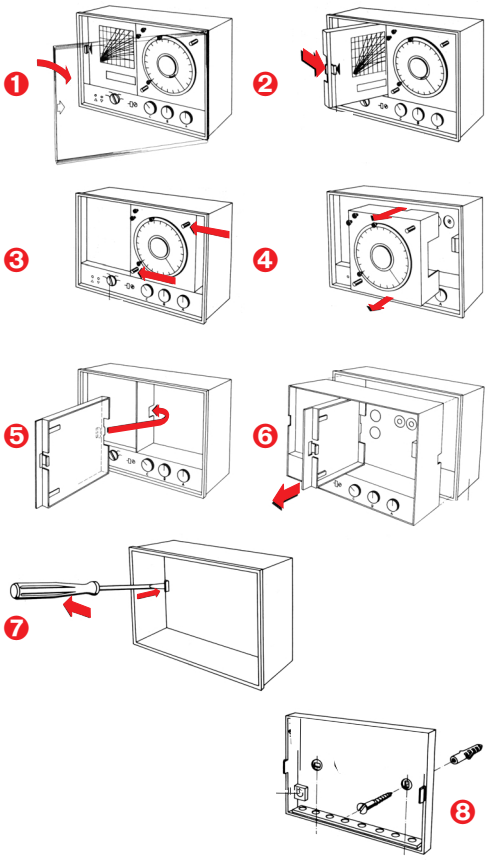
❶ The casing cover is held by a snap hinge closure. Press it in the direction of the arrow on the left side and pull out.

❷ Insert the control unit in the dedicated door opening (183 x 126 mm).

❸ Expand the retaining clips at the ends and insert in the relevant holes. Fix into place the retaining clips by pressing down in the fastening position.

❹ Execute the electrical connection in the base (see the next page). Then put on the base.

Important:
If the heating system is empty, the ZG 252N's operating mode selector is to be positioned on 2. By doing so, the circulation pump is deactivated and protected against dry-running.



Wall mounting

1. The casing cover is held by a snap hinge closure. Press it in the direction of the arrow on the left side and pull out.
2. Hold the discharge compartment by the handle and turn out to the right by exerting a light pressure. The instructions manual is kept here.
3. Press the timer on both pin in the direction of the arrow.
4. Pull out the timer.
5. Hang the slide of the instructions case in the relevant recess of the insert.
6. Pull the controller insert out of the casing with the aid of the slide on the instructions case.
7. Press the left lock pin to the left with a screwdriver; by doing so, the case is freed from the device's base.
8. Mount the device's base with two 0.4 mm ∅ screws and dowels horizontally on the wall.

The assembly is to be carried out in the opposite order.

Electrical Connections

The electrical connections are to be carried out by a technician!

Cross sections

- Left terminal strip (base):
  230 V AC 1.5 mm²
  (connection to the control unit, servomotor, pump)
- Right terminal strip (base):
  18 V DC >= 0.75 mm²
  (connection to the sensors and selectors)

The 18 V lines are to be laid separately from the 230 V lines. Use shielded cables in the presence of intense HF disturbance fields!

Wiring

The single accessory parts are to be connected according to the wiring diagram on the back of the casing of this device model. When using the ZG 252N in low temperature heating systems (e.g. floor heating) an additional thermostat is recommended to provide separate over-temperature limitation. With 230 V/50 Hz the servomotor and circulation pump require the jumper from terminal 5 to 6.

The local regulations on earthing and resetting are to be followed carefully when connecting the device.

Earlier temperature selector and sensor versions without additional letters A (e. g. TW 20, RF 20, TF 20, etc.) have the same electrical connections and the same resistance values as the device versions with with additional letter A.

Noise suppression

Our control units are all provided with noise suppression.

Checking the Control System

- Before putting the system into service, check whether the control device is connected as illustrated in the wiring diagram.
- The servomotor's sense of rotation can be determined by setting the control unit's operating mode selector on "auto" for ZG 252N or "auto" for ZG 215N / ZG 215VN and by changing the room target value on setting knob B (ZG 252N) or on the TW/TF (ZG 215N / ZG 215VN).

Setting knob B or TW / TF	LED Display	Servomotor
Turn towards +	Red	Opens
Turn towards –	Green	Closes

If the sense of rotation is wrong, invert terminals 10 and 11 on the left-hand of the terminal strip.

Connecting the Potentiometer

If a potentiometer is used as feedback with the ZG 215N instead of the flow sensor VF 20, also terminals 4 and 5 on the right-hand are to be inverted besides terminals 10 / 11 if the sense of rotation of the actuator (mixer, ventilation valves), is wrong.
When opening the actuator the resistance between terminals 3 / 4 of the motor must be lower, while the resistance between terminals 4 / 5 of the motor amounts always to 10 kΩ.

Pump Activation in the ZG 215N

If no heat input is required, the circulation pump can be switched off by means of an auxiliary switch in the motor. The auxiliary switch makes sure that the circulation pump is switched off when the mixer is closed.

Checking the Temperature Sensors and -Selectors

By measuring the resistance it can be checked whether the temperature sensors and selectors are connected correctly.
(The indicated terminal numbers refer to the markings on the sensors and selectors.)

Temperature Sensor AF20, VF 20, VF 20A

Resistance values (R) at ambient temperature (t)								
t [°C]	-20	-10	0	+20	+25	+30	+70	+90
R [kΩ]	220	122	70	25	20	16	3,1	1,5

Temperature Selector TW 20A, TF 20A

Setting on the Selector	Resistance [kΩ] between the terminals		
	1 / 2	1 / 3	2 / 3
Right stop (+12)	147	100	47
Left stop (-12)	100	147	47

Temperature Selectors TF 22 and TFU 22

Setting on the selector	Resistance [kΩ] between terminals 1 / 3		
	auto	day	night
Right stop (+7)	28.7	4,8	0
Left stop (-7)	69.8	13.8	0

Temperature Selectors TW 21A...TW 23A

Setting on the Selector	Resistance [kΩ] between the terminals		
	1 / 2	1 / 3	2 / 3
TW 21A (-15... +15°C)	35	45	10
TW 22A (0...+30 °C)	58	68	10
TW 23A (20..+70 °C)	26	27	9

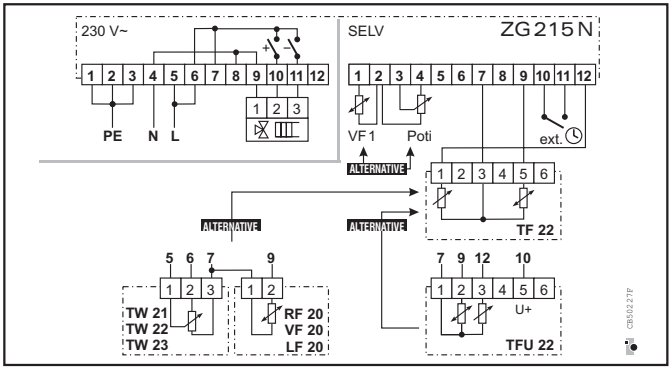
TW 21A to TW 23A can be connected only to the controllers ZG 215N / ZG 215VN.

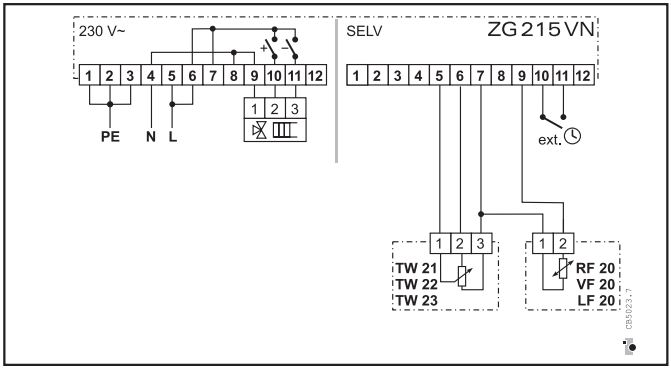
Party switch

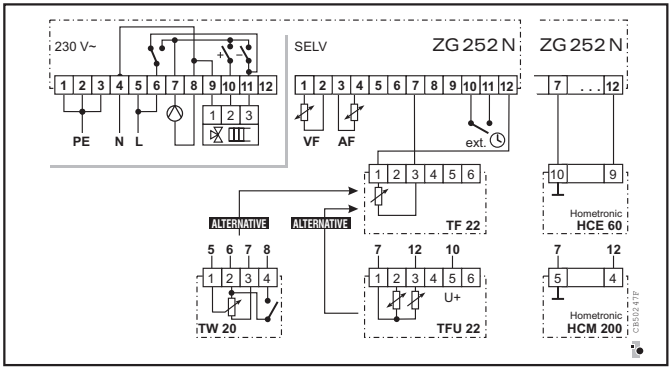
Resistance between terminals 2 / 4 on TW 20A or TF 20:

Switch position **"Automatic"**: ∞ (infinite)
Switch position **"Day mode"**: 0 kΩ

Terminal diagrams







Protection against the destruction of the components owing to electrostatic discharges:
These are to be discharged to an earthed line (e.g. water line) before they touch the components on the controller board!

Attention! Before accessing the connection terminals, all the mains supply circuits are to be switched off.

In case of fixed installation an all-pole disconnection device with at least a 3 mm contact opening is to be installed.

Reference

Operating instructions
ZG 252N EN-2H0215 GE51
ZG 215N EN-2H0216 GE51
ZG 215VN EN-2H0217 GE51

“Informationsschrift”
(Planning broschure in German)
L3 – Comfort-Kompakt-Regler
GE-0H 0327 GE51

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