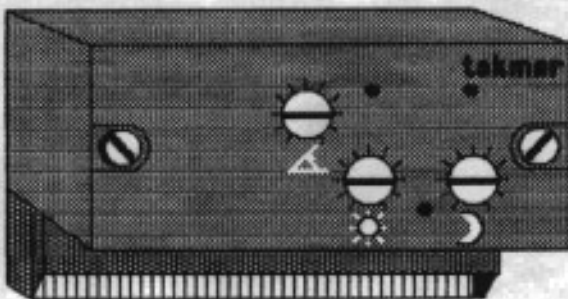


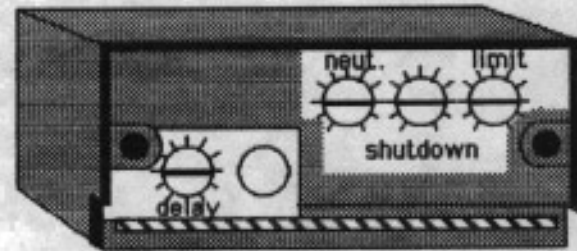
The heatpump control is an outdoor temperature dependent on-off control which can be used in high temperature (up to 90°C) and low temperature heating systems. The control by itself is very versatile, however its usefulness can be enlarged by the addition of other tekmar components:

- Indoor temperature dependence can be added by the connection of a room temperature unit (RTU) type 301.
- Programmable setback through addition of an external timer.
- Zone-valves can be outdoor and indoor temperature controlled through addition of tekmar controls type 1435 or 1436.

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Heatpump control type 208



Back of the control

Adjustments and Indicators

The following are the features on the front of the control:

INDICATORS

- On
- Standby
- Limit

FUNCTION

- Heatpump is operating
- Must wait before heatpump can be restarted
- High temperature limit reached

ADJUSTMENTS

- Normal (daytime) room temperature
- Setback (night-time) room temperature
- Heating curve (reset ratio)

RANGE

- 20°C ± 10°C (68°F ± 18°F)
- 10°C ± 10°C (50°F ± 18°F)
- 0 to 2.25

The heating curve is the ratio of increase in the supply water temperature to a decrease in the outdoor air temperature. The correct setting of the heating curve dial is defined by the following formula:

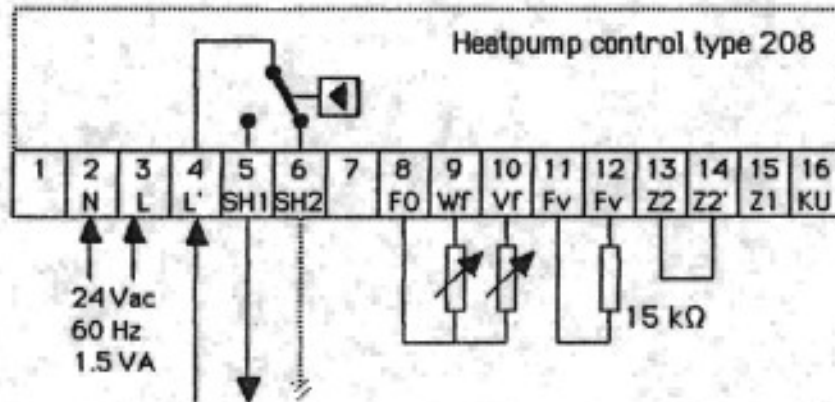
$$\text{Heating curve} = \frac{\text{Design supply water temperature} - \text{room temperature}}{\text{Room temperature} - \text{design outdoor temperature}}$$

The following are the features on the back of the control:

- **Neutral Zone (±1°C to ±6°C) (±1°F to ± 10°F)** is a measure of how much the actual water temperature may deviate from the desired temperature before the heatpump is turned on/off. The larger the neutral zone is, the less often the heatpump turns on/off.
- **Delay Period (0 to 15 minutes)** is the minimum amount of time that the heatpump will be kept off between cycles so that the lifespan of the compressor is increased.
- **High temperature limit (38°C to 110°C) (100°F to 230°F)** Whenever the water temperature rises above this setting, the heatpump will be turned off.
- **Cold weather shutdown (+20°C to -20°C) (+70°F to -5°F)** Whenever the outdoor air temperature drops below this setting, the heatpump will be turned off.

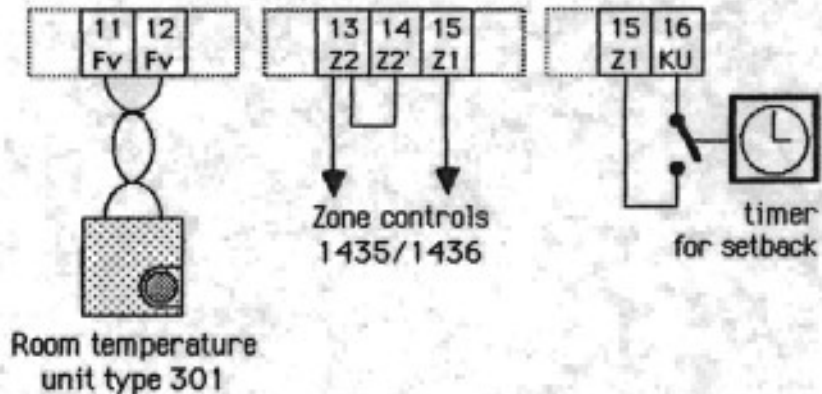
Specifications

N and L	Power supply, 24 Vac 1.5 VA
L'	Power to relay
SH1	Heatpump
SH2	For optional backup heat-source controls
FO	Common (for sensors)
WF	Outdoor temperature sensor
Vf	Water temperature sensor
Fv	Optional room temperature unit
Z2	For zone control
Z2'	For storage heating systems
Z1	Common for Z2, Z2' and KU
KU	For setback timer



Relay capacity	4 A ohmic
Control accuracy	$\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
Operating temperature	$0^{\circ}\text{C} \dots 40^{\circ}\text{C}$ ($32^{\circ}\text{F} \dots 105^{\circ}\text{F}$)
Color	Black
Weight	320 grams (12 oz)
Outside Dimensions	73 mm deep x 105 mm wide x 63 mm high

Optional components



Warranty

tekmar Control Systems Ltd., (tekmar) warrants, to the original purchaser for twelve (12) months from the date of purchase, each tekmar product against defects in workmanship and materials, when the product is installed and used in compliance with tekmar's instructions. This warranty covers the cost of parts and labor provided by tekmar to correct defects in material and/or workmanship, but does not cover parts or labor to remove, transport or reinstall the defective product. tekmar will not be liable for any damage other than repair or replacement of the defective part or parts and such repair or replacement shall be deemed to be the sole remedy from tekmar.

This warranty shall not apply to any defects caused or repairs required as a result of unreasonable or negligent use, neglect, accident, improper installation, or unauthorized repair or alterations.

Any express or implied warranty which the purchaser may have, including merchantability and fitness for a particular purpose, shall not extend beyond twelve (12) months from the date of purchase.

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All specifications are subject to change without notice.