

RHB3 SPECIFICATION INSTALLATION, TROUBLESHOOTING AND BMS SET UP GUIDE

SPECIFICATION

RHB Heaters are designed for heat recovery units and will also work very well in many other applications as a standard heater battery if independent fans are being used, as the RHB range doesn't carry the fan supply option like the AAH range does.

RHB/3 Single Phase Thyristor Temperature Controller

Max. 3.0KW @ 230v, maximum current 13.0 amps
BMS option 0-10volt signal for set point temperature. Open loop BMS.
On/Off volt free, can be used to switch, room stat or timer.
Air flow sensor
Overheat Cut-out 125°C
Duct Sensor, Thermistor Curve K4.7K Ω resistance @ 25°C
Turn dial for temperature. Max 60°C
LEDs
Minimum air velocity of 1m/s and Maximum 6m/s
Power on – Green Flashing on standby. Solid is switched on.
Heater on – Amber. LED will pulse with demand and stay on with full load
Error – Red. Solid=Air flow issue. 2 Flashes=Overheat trip. 3 Flashes=Duct sensor fault.

The controllers meet the current EMC. EN61326-, EN55011, EN61000

INSTALLATION

Once you receive your AAH heater, please check inside box for any extras you may have purchased.

Ensure that heaters are installed into the duct so that the terminal box can be easily accessed, and the display can be readily seen. Do not fit the heater so that the terminal box is facing downwards.

All heaters must be wired according to current IEE regulations and carried out by a competent person.

All Around Heating Products labels all units and recommends the customer take note of the recommended airflow direction, as this should pass over the elements then over the manual overheat cut out. Also on the label is the power rating kw.

All RHB unit range with controls will come with terminals for customers to wire to.
Overheat cut-out is 125°C Max.

If the customer needs to drill a hole in the unit, they should remove the controller to be able to see to avoid cutting through wiring.

As the nature of the controller is not waterproof they must not be installed where it will get wet or be splashed by water.

The airflow sensor has a direction arrow and this needs to be fitted in the right direction for the heater to operate and upstream of the heater.

The duct temperature sensor will need fitting downstream of the heater 0.5-2mtrs. The installer will need to drill a 16mm hole to suit the IP66 grommet.

BMS

The duct sensor can be removed if using open loop BMS (Customer using own temperature sensor)

Condition	Setpoint	Control function
No signal on the BMS input	Dial 0 to 60°C	Closed loop control of temperature
Signal on the BMS input but no duct sensor	BMS 0 to 100%	Open loop control of output power

TROUBLESHOOTING

In the event of controller not working, check power is on from the local isolator.

The controller comes with a link wire in the run terminals; this must stay unless the customer wants to use an on/off switch or time clock from here. See our website for the many ways the controller can be used.

Note: Unless it is isolated, the unit will remain LIVE even when using an on/off switch, this will be indicated by the green LED flashing to show mains power is on, but the unit is not running.

Once the unit starts to run by timeclock, switch or if the link run is left in, the green LED will stay on continually.

The Red LED will light in the event of an error.

The customer should always allow the fan to 'run on' to dissipate the radiant heat before turning off at the isolator, as this can cause the overheat to trip.

The controller can display the following error codes. Once an error has occurred, the system will need to be turned OFF then ON again at the main isolator. Only solid red LED will not need resetting. If airflow restarts, the heater will come back ON. We highly recommend fan run on (high power heaters), then no solid red LED error will appear.

Solid red LED = Air flow problem.

Two flashing red LED = Overheat cut-out tripped.

Three flashing red LED = Duct sensor fault.

The flashes are about half a second on then half a second off for the number of flashes, then a gap of a second before repeating.

The RHB unit with controller is supplied pre-wired and set, if for any reason the unit has been wired differently to how AAH supplied the unit, an error code may appear if it has been wired incorrectly.

The amber LED will stay on while on full load and will start to pulse as the controller reaches the room temperature required. The heater should not be running 100% all the time.

The controller will go into standby if the room temperature rises by 3 degrees more than the desired set point, switching back on once the temperature falls.