QHVCR 3 Zone Master Controller (Transmitter) Remote Operation

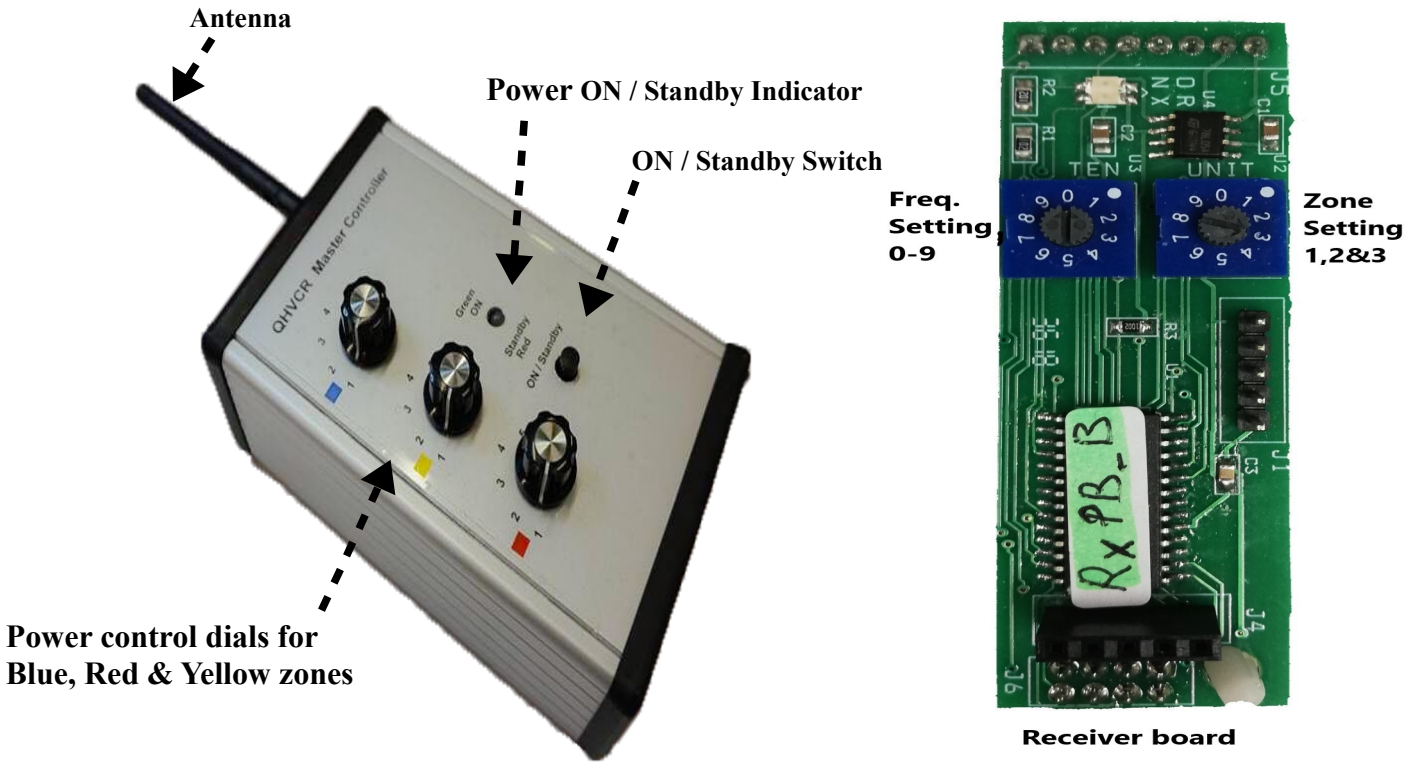
Quick Start Guide & Instructions

QHVCR

QHVCR

Transmission RF 433 Mhz

QHVCR 3 Zone
Master Controller (Transmitter)



QHVCR is Supplied separately

Fig 1

1) There are three control dials **Blue, Yellow & Red** one for each zone. The QHCxxMR units are preset to operate in one of these zones. The QHCxxMR unit once preset will only operate in that designated zone. The factory setting is 1, this will be the Blue control dial.
2) Turn ON the QHVCR unit by pressing the ON/Standby button on the front panel. The Led indicator will flash orange – green – orange – green and remain Green to indicate that the unit is ready see fig 1.
3) The QHCxxMR unit is preset as a Blue zone (1). Turn the Blue control dial to position **2**. The heaters connected to the QHCxxMR units will come ON at the minimum setting 33%. Continue to turn the Blue control dial through position **3** to **5** until you reach the desired setting. Settings are **1** = 0%, **2** = 33%, **3** = 50%, **4** = 66% & **5** = 100%.
4) QHCxxMR units which are preset to Yellow & Red zones are controlled by the Yellow & Red control dials respectively and will operate as above see fig's 2 & 3.
5) The QHVCR unit is powered by **3 x AAA battery's**. The unit will automatically go into standby mode if the unit is inactive for more than 30 seconds. When the unit goes into standby mode all the QHCxxMR units will remain unchanged at the settings they were set at. Therefore the heaters will remain ON.
6) To change a setting just press the ON/Standby button and proceed as described in 2) & 3). However, while the QHVCR unit is ON, you can turn OFF all the heaters by pressing the ON/Standby button. This is indicated by the Led indicator turning Red for a second.
7) The previous settings will be remembered and will be restored when you press the ON/Stand by button again.

Please note: The QHVCR 3 zone Master Controller can control any number of QHCxxMR controllers as long as they are within range, up to 100 meters *
The QHVCR should be wall mounted.
* Longer antenna are available to extend the range up to 200 meters.

Pairing (Programming) Devices

QHVCR & QHCxxMR

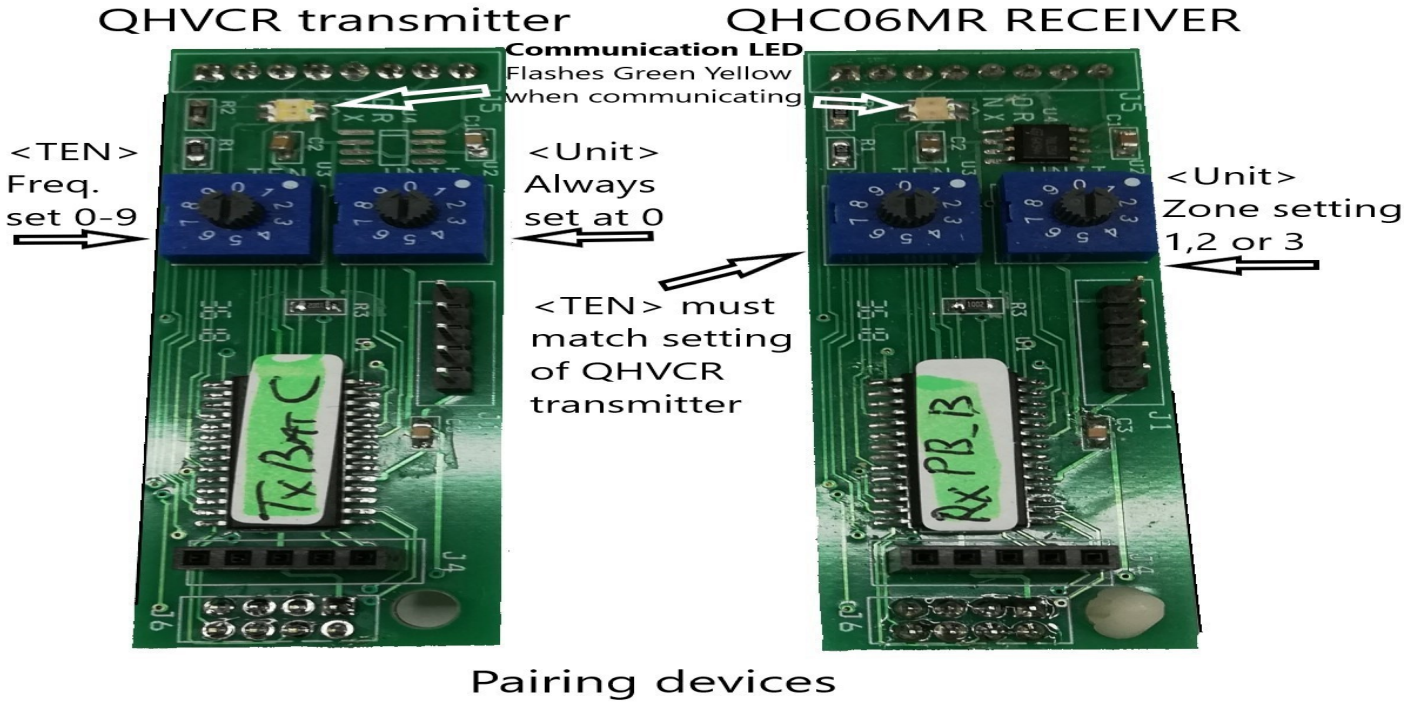


Fig. 2 Fig. 3

Pairing (programming) devices QHVCR (transmitter) and QHC18MR (receivers).

1) The Left Hand Side rotary switches (TEN) on both boards must be set the same, Fig 2. The LHS switch (TEN) is used to set the RF frequency the setting must match on both boards. There are **10** possible frequencies that can be selected **0-9**. If the settings on the LHS switch (TEN) do not match the devices will fail to operate.

   Designating the transmitter and receiver. Both the left rotary switches are set at **0**, this ensures that the transmitter marked **0** will communicate with the receiver marked **0**. Setting the left rotary switch to **1**, so the transmitter marked **1** will communicate with a receiver also marked **1**.
   If the transmitter and receiver are not paired correctly they will not communicate and therefore will not operate; transmitter marked **0** will **not communicate** with a receiver marked **1.**
   Remember a transmitter can be set at any number between **0-9** & the receiver must be matched correctly.

2) The Right Hand Side rotary switches (UNIT) are for setting the devise to operate in a set zone, Fig 3. There are 3 possible zones that the controller can be set to. The RHS switch (UNIT) should be set to 1,2 or 3.
   Blue Zone 1 operation set RHS switch (UNIT) to **1**
   Yellow Zone 2 operation set RHS switch (UNIT) to **2**
   Red Zone 3 operation set RHS switch (UNIT) to **3**

Note : QHCxxMR = QHC06MRE, QHC09MRE, QHC18MRE, QHC18MR, QHC24MR

Expandable heating system using a QHVCR & multiple QHC06MRE, QHC09MRE, QHC12MRE, QHC18MR & QHC24MR

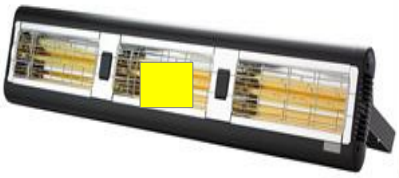
Using the remote 3 zone QHVCR controller the area being heated can be zoned into three area's Blue, Yellow & Red. Each zone can be controlled separately, this includes setting each zone at a different level. There are 5 setting levels > Off – 1 (33%) - 2 (50%) - 3 (66%) - 4 (100%).

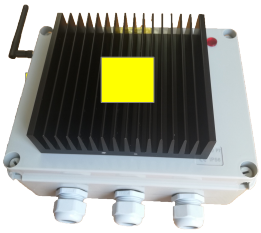
Any combination of our QHC controllers can be used in the proposed zoned layout below. There are 6kW QHC06MRE, 9kW QHC09MRE, 12kW QHC12MRE, 18kW QHC18MR & QHC24MR controllers available to be used depending on the over all number of heaters required.

Blue zone 6kW controller set a **(0) > 0-1**

Blue zone has 3 x 2kW heaters Total 6Kw

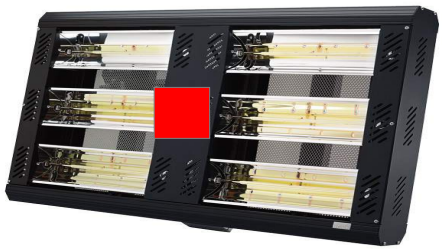
Yellow zone 9kW controller set as **(0) > 0-2**





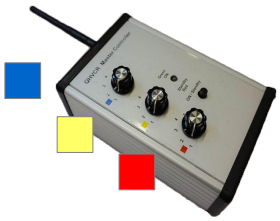
Yellow zone
has 2 x 4.5kW heater
Total 9kW

Red zone 18kW controller
set as **(0) > 0-3**



Red zone has
1 x 12kW heater
Total 12kW

Remote 3 zone
QHVCR controller
set as an **(0) > 0**



This configuration allows the heaters in the Blue zone be controlled by the 1st dial on the remote control, setting levels at Off to 4. The Yellow zone is controlled by the 2nd dial & the Red zone is controlled by the 3rd dial.

For larger installations multiple controllers and heaters can be added to each zone where required.

It is recommended that each heater should be fused with a spur. Each controller should have a Type C MCB circuit breaker and the installation must have an Isolation switch.

Products within this range

18kW 3 phase Manual Heater Controller QHC18M

The QHC18M, QHC24M & QHC27M are manual 3 phase heater control panels with load capacities of 18kW, 24kW & 27kW across 3 channels.

Save up to 60% of your energy costs by using the 4 energy saving levels 1-4.

The controllers are fitted with an Isolation switch for the incoming 3 phase supply and for circuit protection MCB's are fitted on the three channels.

There are additional facilities for a timer function via auxiliary inputs for external switches NO(normally open) to close contacts.
There are also inputs for a mains switched (trigger) voltage for use with PIR motion detectors or an external 7-Day programmable timer.

3 Phase controller.

18kW 3 phase RF Heater Controller (receiver) QHC18MR

The QHC18MR, QHC24MR & QHC27MR are remotely controlled 3 phase RF heater control panels with load capacities of 18kW,24kW & 27kW across 3 channels. These controllers can be operated manually or remotely via the selector dial on the front panel. When set in remote mode this device is controlled by the transmitter QHVCR 3 Zone Master controller.

Save up to 60% of your energy costs by using the 4 energy saving levels 1-4.

The controllers are fitted with an Isolation switch for the incoming 3 phase supply and for circuit protection, MCB's are fitted to the three channels. There are additional facilities for a timer function via inputs for external switches NO(normally open) to close contacts. See fig 9 & 10
There are also inputs for a mains switched (trigger) voltage for use with PIR motion detectors or an external 7-Day programmable timer.

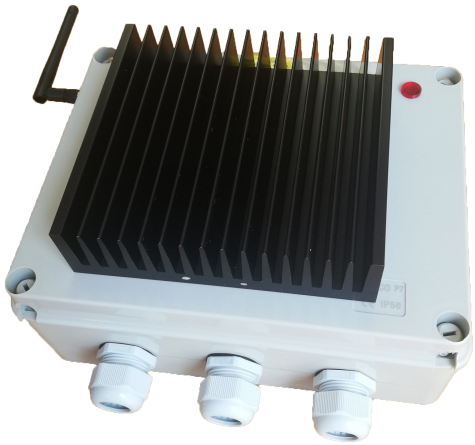
3 Phase controller.

Note: The transmitter QHVCR is sold separately & is not included in the price of the QHC18MR.

12kW 3 phase RF Heater Controller (receiver) QHC12MRE

The QHC12MRE is a wireless RF receiver which controls the power to Infrared heaters up to a load capacity of 12kWatts. This device is paired with the QHVCR 3 Zone remote Master Controller.
Any number of these devices can be in a zone as long as they are within the 100 meter transmit range.

3 Phase controller.



9kW Single phase RF Heater Controller (receiver) QHC09MRE

The QHC09MR is a wireless RF receiver which controls the power to Infrared heaters up to a load capacity of 9kWatts. This device is paired with the 3 Zone remote Master Controller QHVCR. Any number of these devices can be in a zone as long as they are within the 100 meter transmit range.

Single phase controller.

6kW Single phase RF Heater Controller (receiver) QHC06MRE

The QHC06MR is a wireless RF receiver which controls the power to Infrared heaters up to a load capacity of 6kWatts. This device is paired with the 3 Zone remote Master Controller QHVCR. Any number of these devices can be in a zone as long as they are within the 100 meter transmit range.

Single phase controller.

Troubling shooting

1) The QHC06M (receiver)is not working.

   Check that the unit is wired correctly and follow the installation procedure on page 1.
   The neon indicator should be ON to indicate the the Mains is connected correctly.

   Then check that the status LED D5, the +5v LED D6 & the +12v LED D7 are all ON green.
   If the status LED is Red, this indicates that there is a problem with the mains connection to the board.

   If the +5v or +12v LEDs are Red this indicates that there is a problem with the processor chip or a power supply problem.

2) Check the wiring connections to QHVC-S1 or any external control unit.

   If there is a bad contact or a wire incorrectly fitted this could cause a problem !
   Ensure that the connections are making proper contact and that all wire are in the correct positions.

3) If the controller does not respond to level settings 3 & 4.

   Check the for a loose or missing Black connector ref. J8 (TMP2) header on the printed circuit board (PCB).

4) If the S1 jumper is in the remote ON position. The QHC06M (manual) controller will not operate.

   For manual operation ensure that the jumper is in the OFF position see IPORTANT note on page 2.

5) If the S2 slide switch is in the ON position. The QHC06M controller will appear to not work.

   You must either ensure that an external device is connected to position #1 on the strip connector. The external devices are a PIR sensor or a 7-Day programmable timer. If these are not connected when the S2 slide switch is in the ON position the controller will not work. If there are no external devices connected then make sure that the S2 slide switch is in the OFF position.

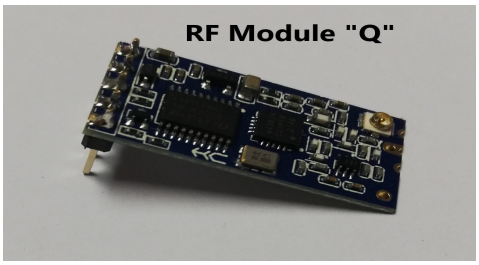
   The only device which must be connected is the QHVC-S1 external control unit, refer to page 2 for QHVC-S1 connection to the QHC06M controller.

6) Circuit Breaker MCB keeps tripping when the heaters are turned ON !
   Ensure that the MCB is a Type C where there are likely to be surges. A common fault is to use Type B but these will always fail. Replace with Type C and the problem should be fixed.

7) If the receiver is not responding to the QHVCR (transmitter) it is possible the two units are not paired together properly. Ensure that both units are set at the same frequency see page 2 fig's 1 & 2.

   You will see that the communications LED will flash green – yellow both units are paired properly.

8) Make sure that the RF wireless module is present in both units, if either are missing or not functioning then neither units will communicate, see below.



CE RoHS Technical Data

Supply voltage : 4.5V DC **Battery : 3 x AAA batteries**

Transmission : RF 433 Mhz

Range : Up to 100 meters standard

Antenna : 100mm standard

Freq. combinations : 10

Zones : 3 standard (maximum 10)

Mounting : L Brackets included – fixing centers 65mm

IP Rating: IP53
Dimensions : 165mm x 105mm x 55mm
Weights : 0.25 Kg

Factron
A BETTER SOLUTION

Tel. 00 353 1 8352718 Email: paul@factron.ie dave@factron.ie
Website: www.factron.ie

Factron Ltd. Unit 12 Ashbourne Ind. Park, Ashbourne, Co.Meath , A84 HY74, Ireland