

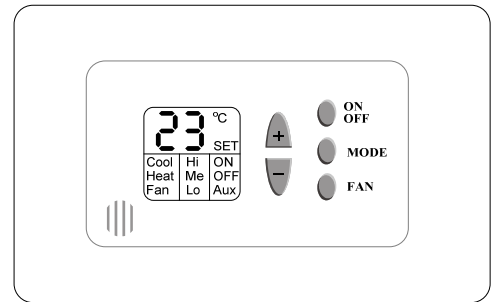
## **FMHC220-VFS-FC-MDB01**

Owner's manual and Technician settings



## Installation

The FMHC220 is designed for flush mounting in the room to be controlled. It should be located where the occupant can easily read the LCD display and use the controls. If the built in temperature sensor is being used to measure room temperature, the module should be placed where the temperature is representative of the general room conditions. Cold or warm air draughts; radiant heat and direct sunlight should be avoided.

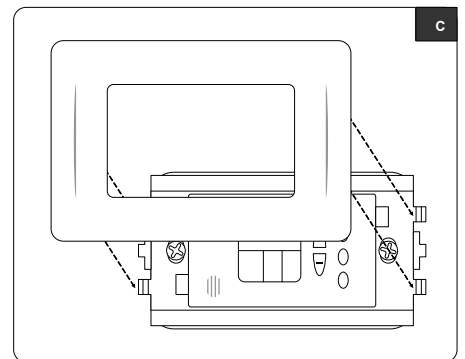
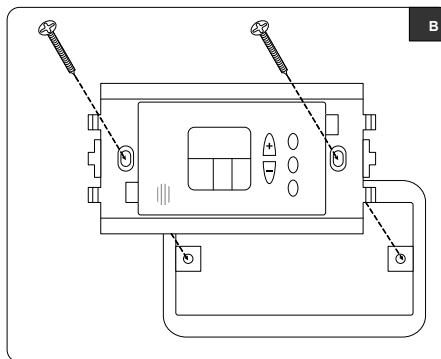
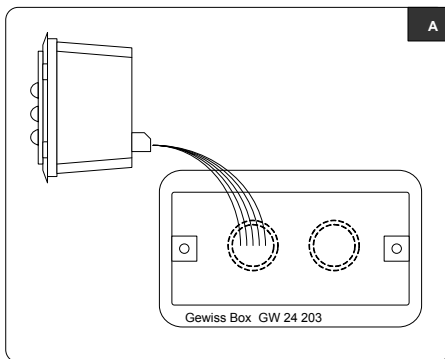


### General points to follow:

- Disconnect power to the main board before installing the unit.
- The unit **MUST** be fitted into a standard electrical box (Gewiss Box - GW 24 203)
- The unit should not be installed on an outside wall or where there is an air draft.
- The unit must not be exposed to a direct sunlight.
- The standard height to install this unit is 1.5 meter (5 feet) from the floor.

### Installation procedure:

- Connect the wires as shown in the enclosed wiring diagram. All terminals on accept 1x0.5 mm<sup>2</sup> /24 AWG.
- Place the thermostat in the electrical box and tighten up the 2 screws (Gewiss Box – GW 24 203).
- Adapt the front frame-panel into its place, by pushing it towards the wall.

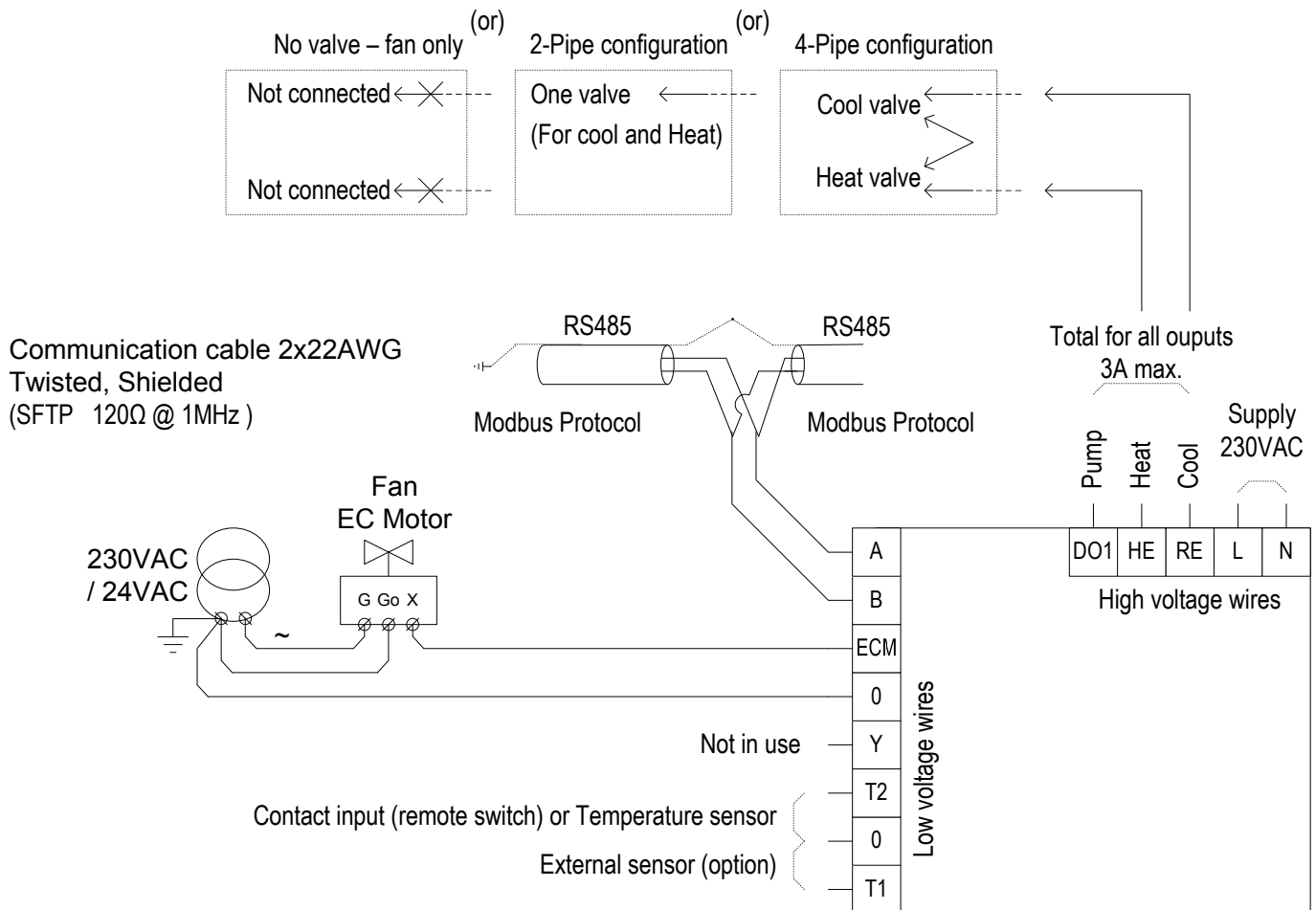


File: fmhc220-vfs-fc-mdb-01.vsd

## Wiring

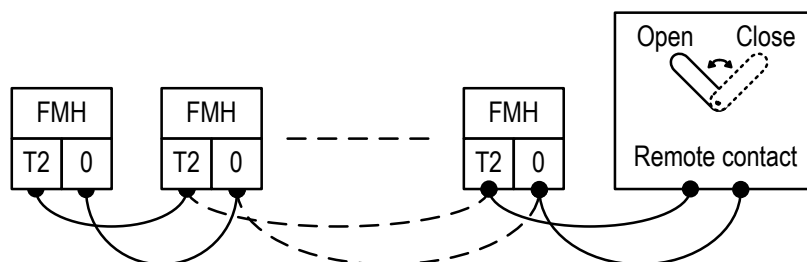
Before connecting or disconnecting any wires, ensure that all power supplies have been switched off and all wires are potential-free to prevent equipment damage and avoid electrical shock.

Do not run wiring close to transformers or high frequency generating equipment. Complete and verify all wiring connections before applying power to the controller to which the module is connected.



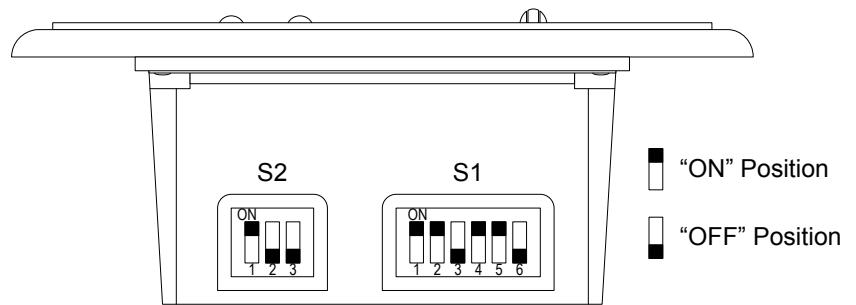
## Installation of remote switch (option)

- Connect the "T2" and the "0" terminals of the thermostats as shown in the illustration below.
- Connect the "T2" and "0" terminals of the last thermostat to the remote switch.



## DIP Switch Configuration

The DIP Switches are located on the top of the back side of the thermostat.



**IMPORTANT:** Disconnect power to the unit before changing the configuration of the DIP switches.

<u>Switch</u>	<u>"ON" Position</u>	<u>"OFF" Position</u>	<u>Default</u>
S1.1	T2 input Enabled	T2 input Disabled	ON
S1.2	4-Pipe system	2-Pipe system	ON
S1.3	Electrical heater	Heat valve	OFF
S1.4	With auto change over mode	Without auto change over mode	ON
S1.5	Set-point and Room temp. display	Set-point temp. display only	ON
S1.6	Always Auto fan	Auto fan selectable	OFF
S2.1	Internal sensor	External sensor	ON
S2.2	External sensor	Internal sensor	OFF
S2.3	External sensor	Internal sensor	OFF

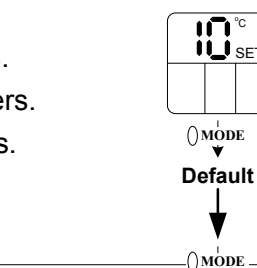
## Technician Settings (Temp. limits, Lock, Offset, "0", "T2" output, Beeper, MAC Address)

- Adjust the set point temperature to **10°C**. Wait until display stops flashing.
- Press and hold the [MODE] button (10 sec.) to **enter technician settings**.
- Use the [MODE] button to switch between different configurable parameters.
- Use the [+] and [-] buttons to make adjustments or switch between options.

### Set point temperature limit for heating

Indication: "Heat" and the set point temperature limit for heating.

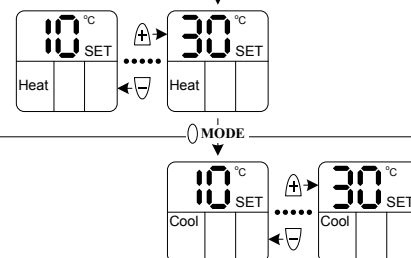
Range: 10...30°C, default 30°C.



### Set point temperature limit for cooling

Indication: "Cool" and the set point temperature limit for cooling.

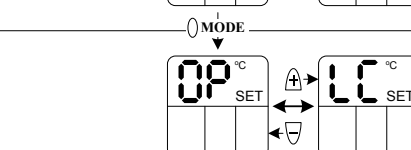
Range: 10...30°C, default 10°C.



### Lock the [MODE] and [FAN] buttons

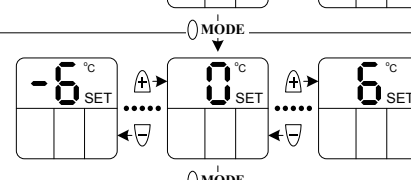
Indication: "OP" - Unlock (default)

"LC" - Lock



### Offset for calibration of measured temperature

Range: (-6)...(+6)°C, default 0°C.



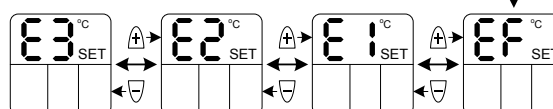
### "0", "T2" output functionality

Indication: "EF" - Change over sensor (default)

"E1" - Remote switch (Off)

"E2" - Switch to EC Set point and Fan low

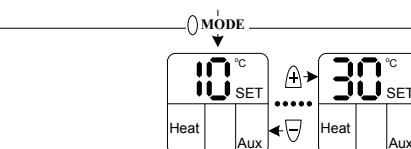
"E3" - Soft start in heat



### Set point temperature limit for heating in Economy mode

Indication: "Heat", "Aux" and the set point temperature limit for heating in economy mode.

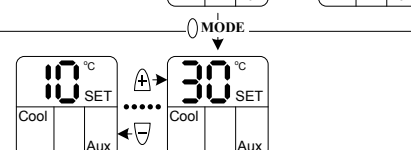
Range: 10...30°C, default 10°C.



### Set point temperature limit for cooling in Economy mode

Indication: "Cool", "Aux" and the set point temperature limit for cooling in economy mode.

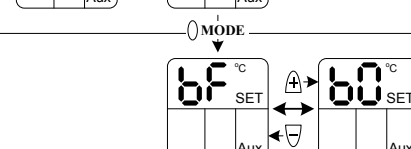
Range: 10...30°C, default 30°C.



### Beeper On or Off

Indication: "bF" - Beeper Off (default)

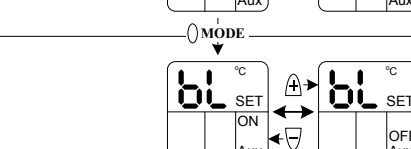
"bO" - Beeper On



### Backlight On or Off

Indication: "bL" + "OFF" - Backlight OFF (default)

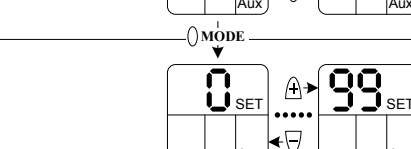
"bL" + "ON" - Backlight ON



### MAC Address

Indication: The MAC Address, "SET" and "Aux"

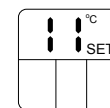
Range: 0...99, default 0



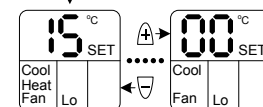
## Technician Settings (Limits for proportional output, Proportional band, Dead zone)

- Adjust the set point temperature to **11°C**. Wait until display stops flashing.
- Press and hold the [MODE] button (10 sec.) to **enter technician settings**.
- Use the [MODE] button to switch between different configurable parameters.
- Use the [+] and [-] buttons to make adjustments or switch between options.

### Defaults



MODE



MODE

### Low limit for proportional fan output in cooling

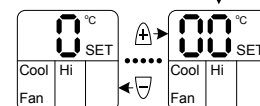
Indication: "Fan", "Lo" and the temperature limit for proportional heat.

Range: 0...100%, default 15% (100% is indicated by "00")

### High limit for proportional fan output in cooling

Indication: "Fan", "Hi" and the temperature limit for proportional heat.

Range: 0...100%, default 100% (100% is indicated by "00")

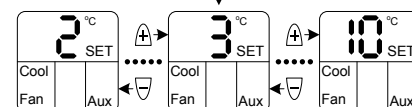


MODE

### Proportional band for fan in cooling

Indication: "Fan", "Aux" and the proportional band for heat.

Range: 2...10°C, default 3°C

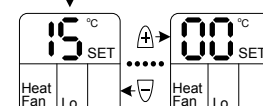


MODE

### Low limit for proportional fan output in heating

Indication: "Fan", "Lo" and the temperature limit for proportional heat.

Range: 0...100%, default 15% (100% is indicated by "00")

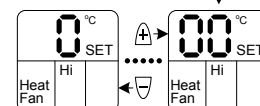


MODE

### High limit for proportional fan output in heating

Indication: "Fan", "Hi" and the temperature limit for proportional heat.

Range: 0...100%, default 100% (100% is indicated by "00")

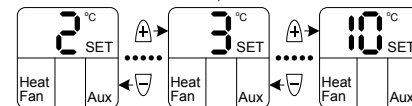


MODE

### Proportional band for fan in heating

Indication: "Fan", "Aux" and the proportional band for heat.

Range: 2...10°C, default 3°C



MODE

### Fan low speed percentage

Indication: "Fan", "Lo", "Aux" and the percentage value for low speed.

Range: 0...39%, default 30%

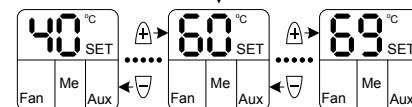


MODE

### Fan medium speed percentage

Indication: "Fan", "Me", "Aux" and the percentage value for medium speed.

Range: 40...69%, default 60%

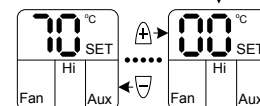


MODE

### Fan high speed percentage

Indication: "Fan", "Hi", "Aux" and the percentage value for high speed.

Range: 70...100% (100% is indicated by "00"), default 100%

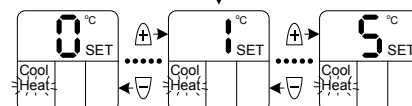


MODE

### Dead zone for heat

Indication: "Cool", "Heat" (flashing), and the dead zone for heat.

Range: 0...5°C, default 1°C.

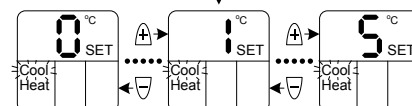


MODE

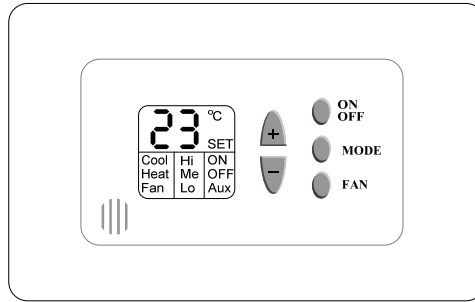
### Dead zone for cool

Indication: "Cool" (flashing), "Heat", and the dead zone for cool.

Range: 0...5°C, default 1°C.

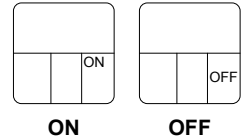


## Operating instructions



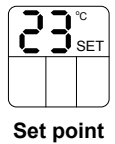
### On/Off

- Press the [ON-OFF] button to turn the thermostat ON or OFF.  
"ON" or "OFF" will appear on display.



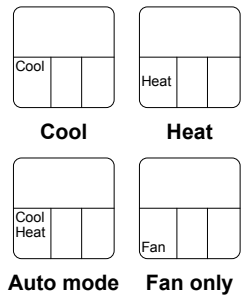
### Set point

- Press the [+] or [-] button – "SET" and the set point temperature will appear on display.
- Adjust using the [+] and [-] buttons.



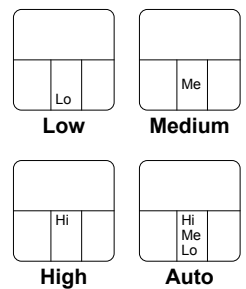
### Modes

- Press the [MODE] button to switch between modes:
  - "Cool"..... Cooling
  - "Heat"..... Heating
  - "Cool" & "Heat"..... \*Auto mode
  - "Fan"..... Fan only
- \* The Auto mode can be disabled by technician.
- \* The active mode will flash during demand for cooling or heating.



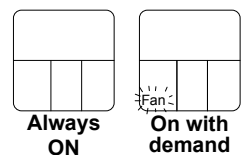
### Fan speeds

- Press the [FAN] button to switch between fan speeds:
  - "FanLo"..... Low speed
  - "FanMe"..... Medium speed
  - "FanHi"..... High speed
  - "A.Speed"..... Auto speed
- \*The active speed will flash.



### Auto fan

- Press and hold the [FAN] button (10 seconds) to select \*Auto fan configuration:
  - "Fan" flashes on display..... \*Fan cycles on with demand
  - "Fan" does not flash..... Fan is on continuously
- \* The Auto fan function can be disabled by technician.





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