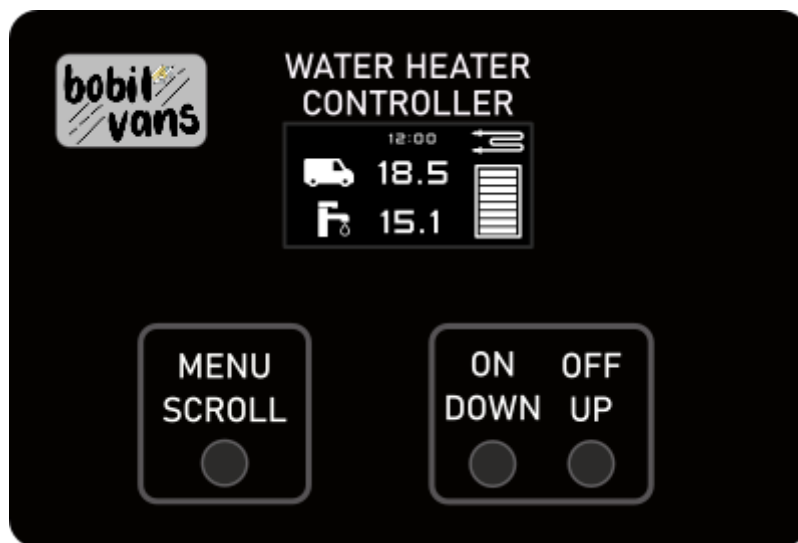




BOBIL VANS SMART CONTROLLER

USER GUIDE





Important Safety Instructions! Please save these instructions!

This manual contains important safety, installation, and operating instructions for the Bobil Vans Smart Controller.

The manufacturer accepts no liability for damage by:

- Incorrect assembly.
- Damage resulting from mechanical influences or excess voltage.
- Modification or tampering with the unit without expressed permission from the manufacturer.
- Used for purposes other than described in this manual.

General safety

- Firmly secure all cables and hoses.
- In the event of product failure, do not attempt to repair the controller. Inadequate repairs may cause serious injury.
- Electrical devices are not toys - keep away from children.
- Disconnect the product from the battery and mains power each time before cleaning or maintaining the heater.
- This product is for 12V circuits only. Make sure your voltage specification is within the input voltage range expressed. Do not connect to a 24v circuit.
- Install and store the product in a dry and cool place.
- Keep electronics away from liquids!
- Do not use the product if physically damaged or with visibly perished hoses.

Installation

- Ensure secure location where it cannot tip or fall.
- If necessary, verify installation with a qualified electrician or installer.
- Lay cables so they cannot be damaged or be a tripping hazard.
- Do not operate in salty, wet, or damp environments; in the vicinity of corrosive fumes; in the vicinity of combustible material; in areas with risks of explosions.
- Ensure proper cable sizing for currents generated.
- Over-current protection devices should be on the positive line.

If you have any questions about your installation, please email us at info@bobilvans.co.uk



Thank you for buying our products!

Small businesses like ours only exist because of the support of our customers. We appreciate you purchasing from us, and hope that you have a great experience.

If you have any installation questions or queries then just get in touch, we're here to help. Contact us at info@bobilvans.co.uk or on the phone at +44 1275 261074

Box contents

1. Bobil Smart Controller	5. Fresh water level sensor (If ordered)
2. Slave box	6. Waste water level sensor (if ordered)
3. Connection cable	7. Servo extension cable
4. Temperature sensor 6mm P-clip	

Introduction

The Bobil Smart Controller offers a host of features for controlling the Bobil water system. The key features are:

- Control of both Chinese and Autoterm heaters
- Automatic diverter control
- Accurate temperature feedback for cabin temperature and water temperature as well as the temperature outside of the vehicle.
- Routines for both air heating, water heating and both air and water heating, which can be set with a timer.
- Operation of the 12v element based on the system voltage
- 9 point water level display with a 'tank full' reading for the waste tank
- Remote operation from a phone via wifi
- Significantly simpler wiring and installation

These instructions go through each screen of this controller. We also have a video explanation/tutorial as well, which you can watch by clicking the QR code below.

<https://www.youtube.com/watch?v=AoHyYec-9ko>





Setting up the controller for Chinese heaters

The Bobil controller replicates the remote control of the heater and controls the heater using radio commands. For this to work you will have to put the controller into hz mode, and also pair it with the Bobil controller.

To put the Chinese heater controller into hz mode, press and hold the 'Settings' button (top left) and the up arrow (top right) together, and you will either see a temperature, or a frequency in the form 'P 1.4Hz'. You need the controller to be in frequency (Hz) mode.

To pair the black controller, hold down the up arrow on a black controller until the display reads 'HFA-'. If you now start the water heating routine the controller will listen out for the radio signal, and when it receives it that will pair the two devices. Note that not all Chinese controllers are the same, you may need to have a look on Youtube for how to change the mode and pair your particular model of heater.

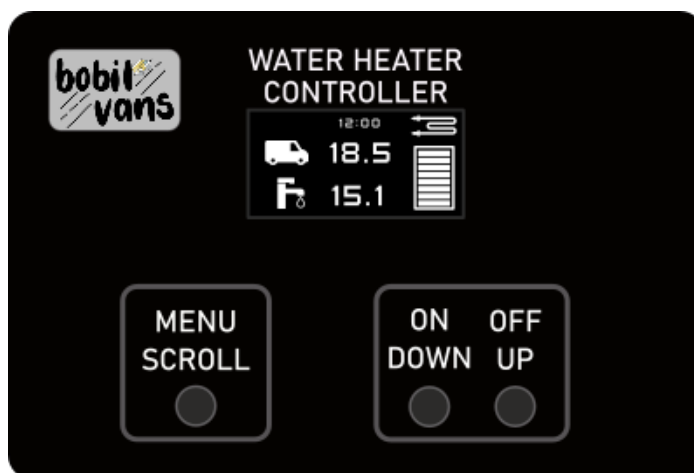
Chinese temperature controllers are notoriously poor. The Bobil controller is far more sophisticated and will constantly vary the frequency of the heater to meet the required demand. We suggest that you always use the Bobil controller to control Chinese heaters.

Operating the controller

The controller has three button inputs. The left hand button is a menu scroll button. Press this button to scroll through the different screens. The other two buttons are used to turn the routines on and off, and alter the time and temperature.

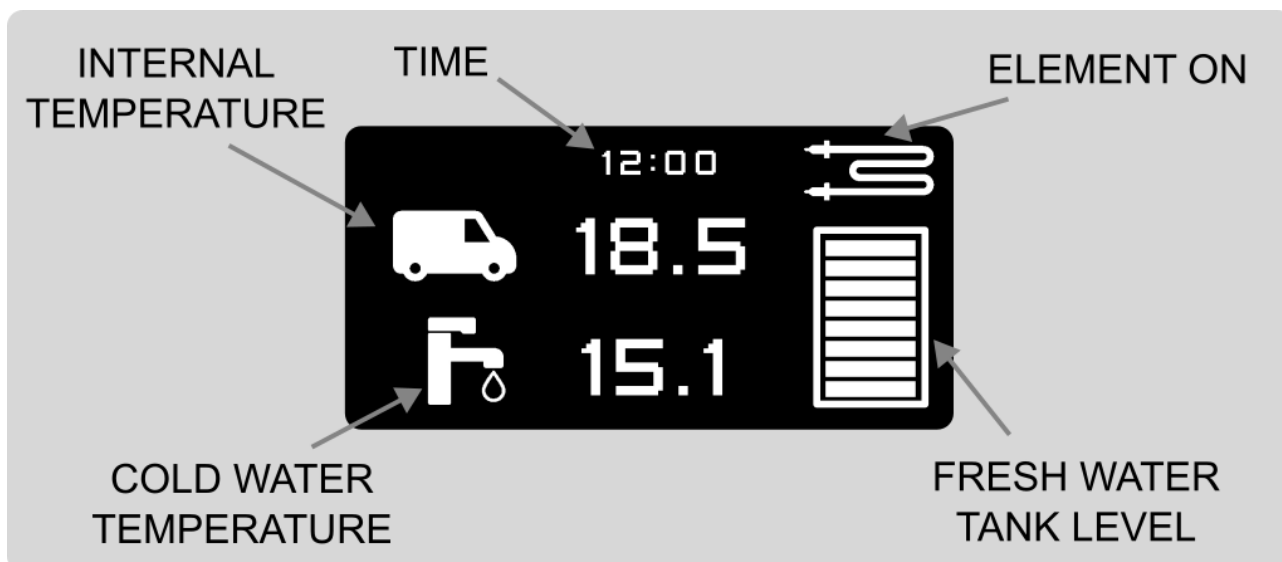
The screens are:

1. Main status screen
2. Secondary status screen
3. Air heating routine screen
4. Water heating routine screen
5. Air and water heating routine screen
6. Set time for air/water heating
7. Enable air and water heating timer
8. Air target set point screen
9. DC heating element control screen
10. Time setting screen
11. WI-FI connection screen



Leaving the controller for 60 seconds will default back to the main status screen.

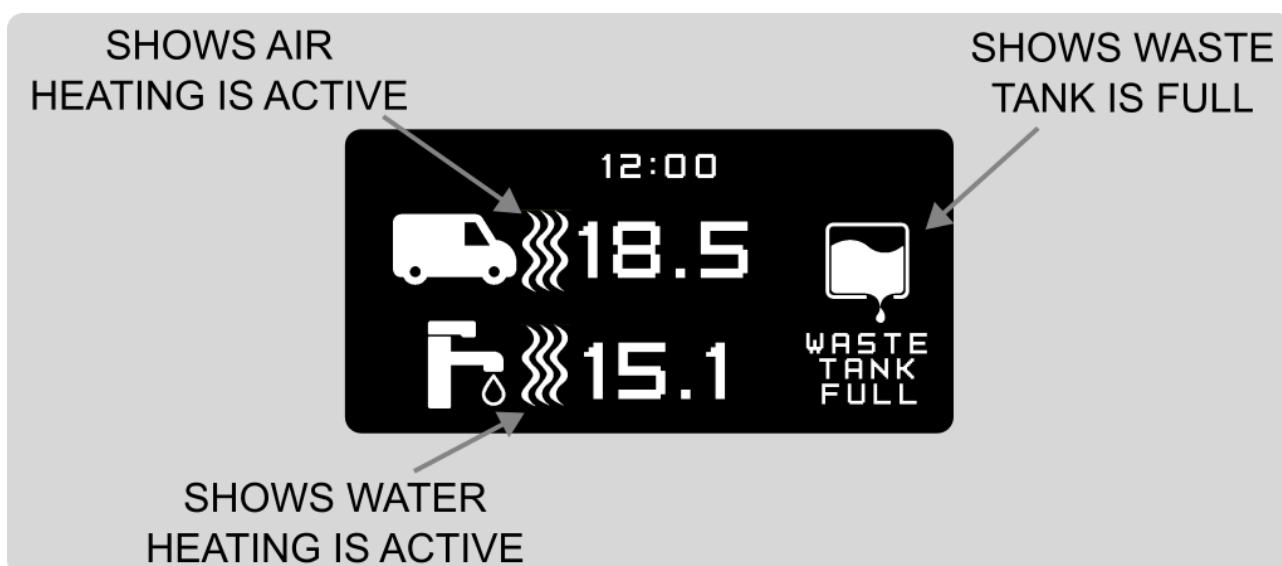
Main status screen



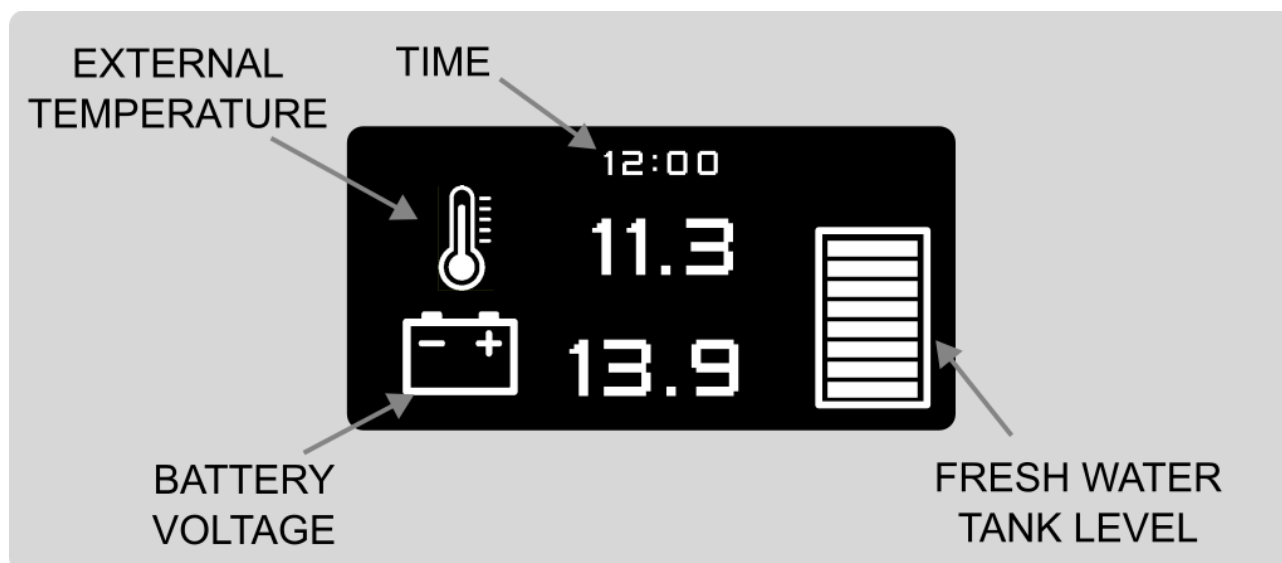
The fresh water tank level is only displayed if the sensor is connected.

If the waste tank sensor is triggered, you will see an icon in place of the fresh water level. As this replaces the fresh level, the level is then displayed on the second status screen.

If a heating routine is running, then additional icons will be displayed.

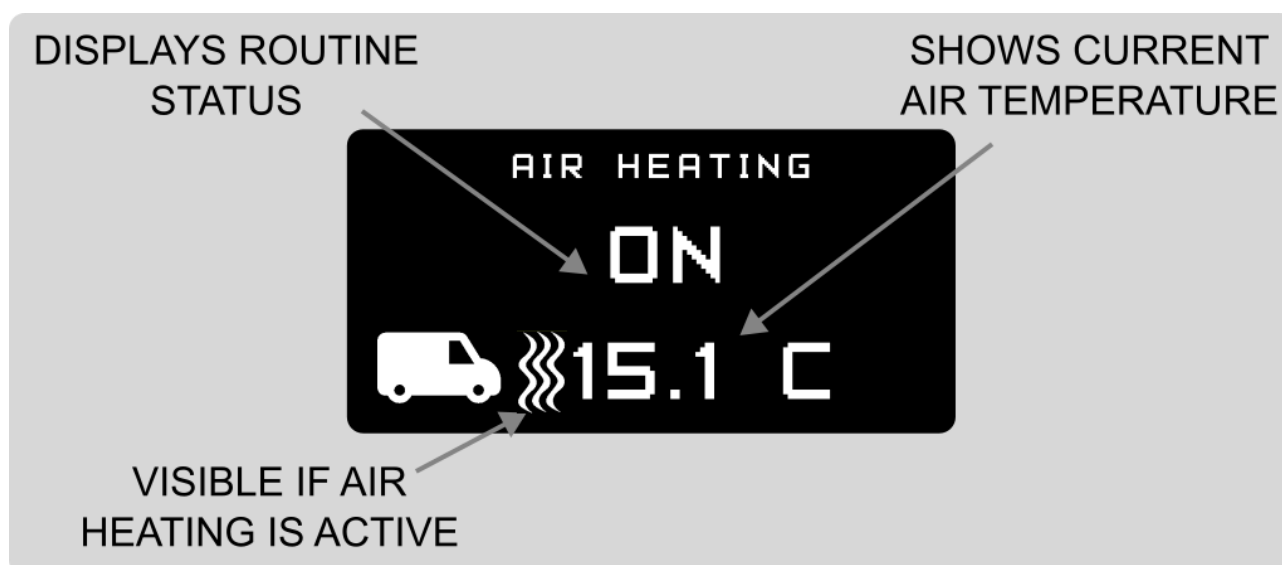


Secondary status screen



Air heating screen

This screen heats the cabin up to the set temperature then attempts to maintain it.

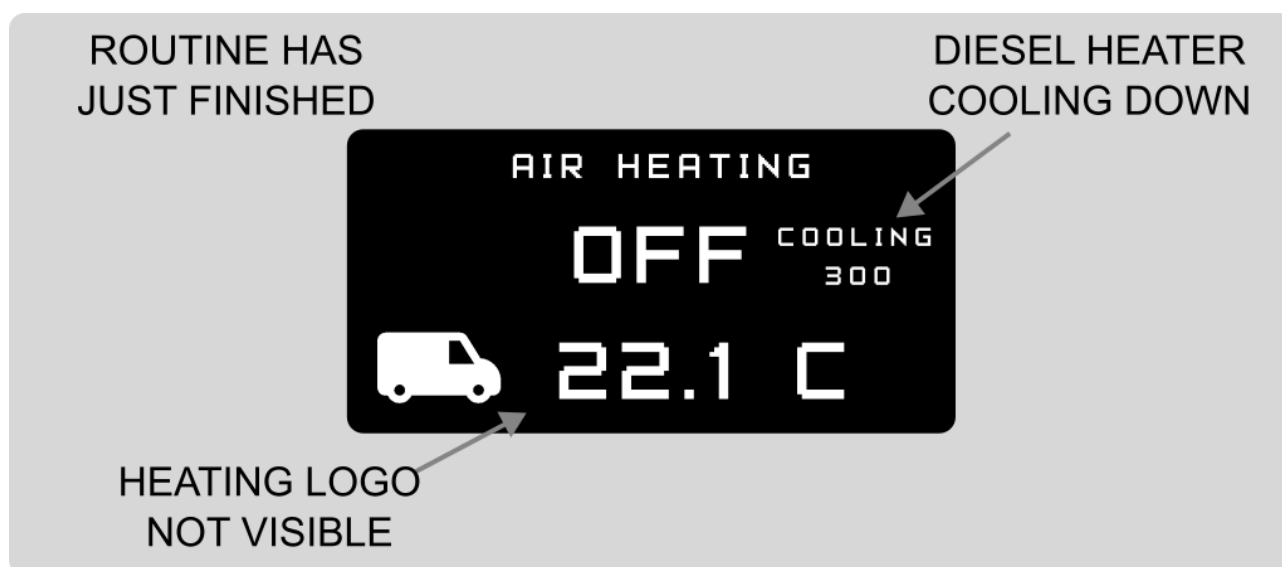


As the Autoterm heaters have an advanced temperature controller in the form of the comfort controller or the PU-05 with the external temperature sensor, there is no attempt to replicate this in the Bobil controller. Instead the two wires coming out of the heater are used to power the heater up, and run it until the water and air are heated. If you are using the heater already to heat the vehicle, you can activate the Bobil heater and run the air and water sequence. Because the heater is already being controlled by the Autoterm controller, there will be no difference to the air temperature in the cabin, just ensure that the air temperature setpoint in the Bobil controller is the same or lower than the Autoterm else the Bobil will try and rob too much heat from the cabin heating or turn itself off prematurely.



If the temperature goes over the set point by 2 degrees and the heater is on its lowest setting, the heater will be turned off. However, the routine will stay on and when the temperature drops to 3 degrees below the set point, the heater will be turned on again.

When the heater is switched off, you will see a cooling timer. This is because diesel heaters need a few minutes to shut down so no further commands are allowed at this time.

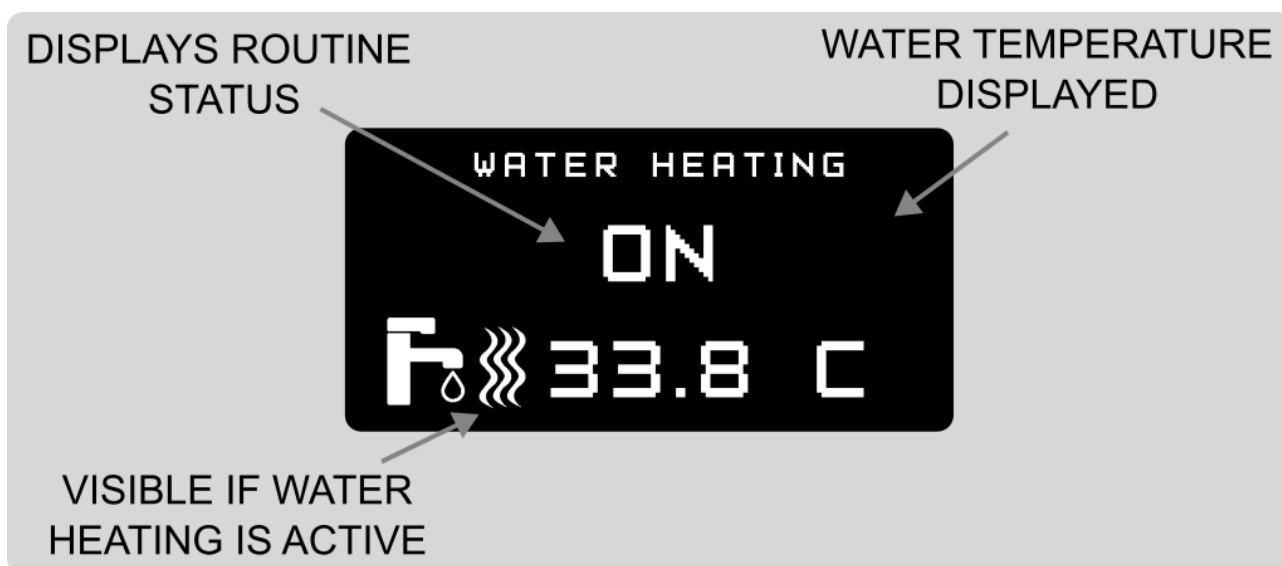


The circulation pump will run during the air heating routine. This is because on some installations a very small amount of air leaks past the diverter flap, so running the pump ensures that excessive heat is not built up in the exchanger.



Water heating

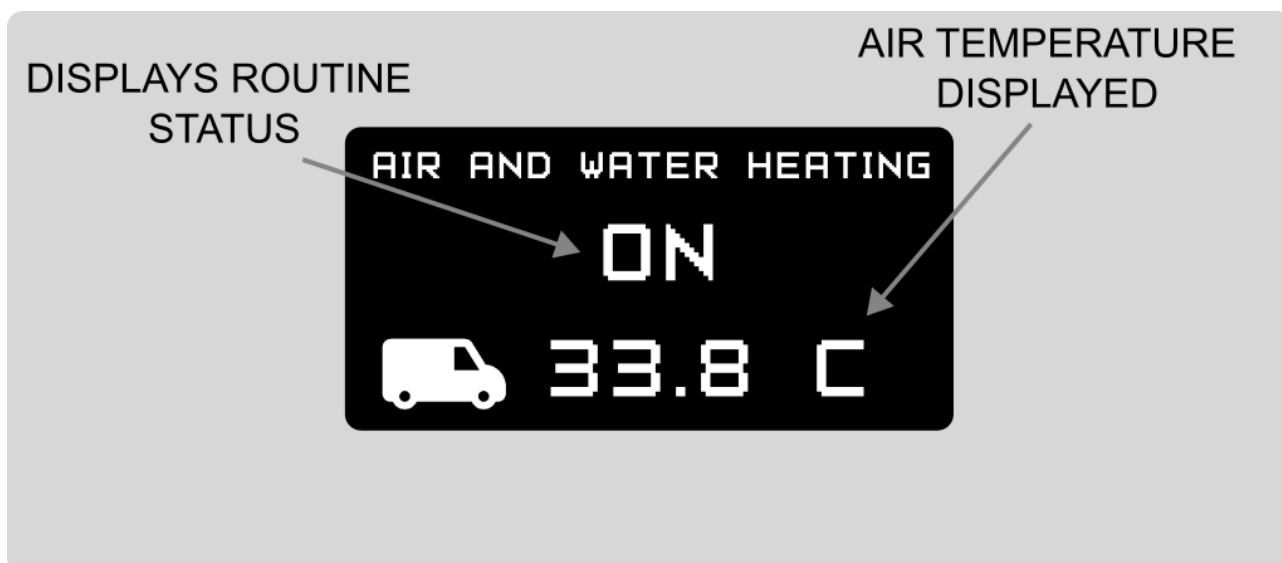
During this routine, the heater will be started, the diverter swings towards the heat exchanger and the water is heated to the set point of 60 degrees.



As with air heating, activate with the 'on' button and stop with the 'off' button. When the water temperature of 60 degrees has been achieved the heater will be shut down and the routine ends.

Air and water heating

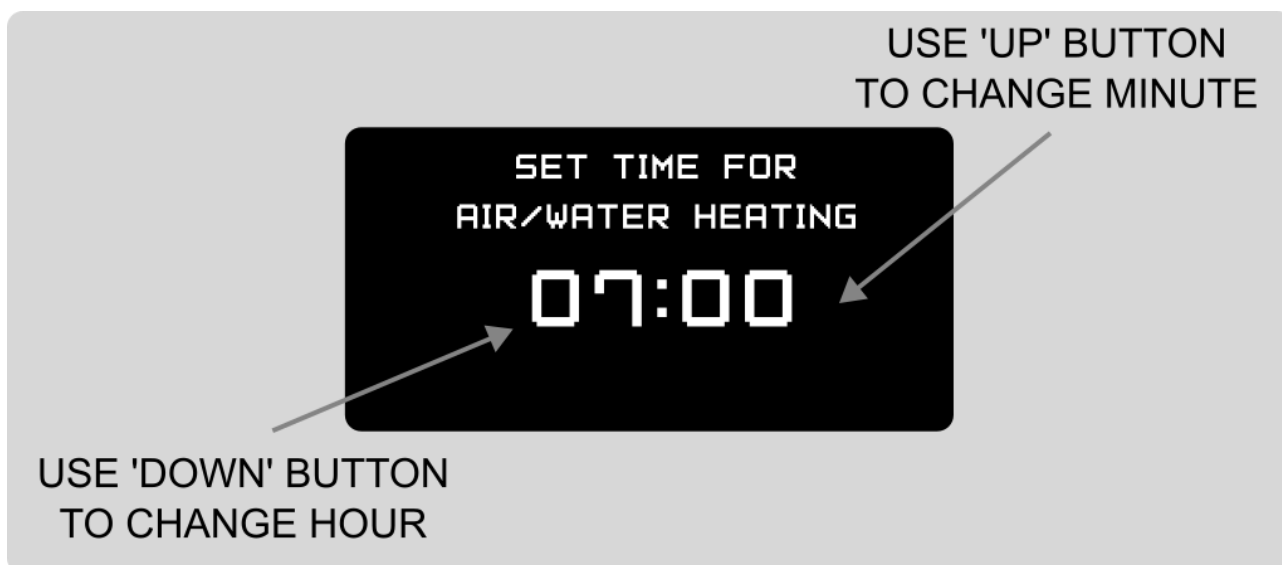
This routine heats the water and the air to their required setpoints, but attempts to balance the demand between them using the diverter valve. When the air and water are at temperature it will turn the heater off and end the routine.





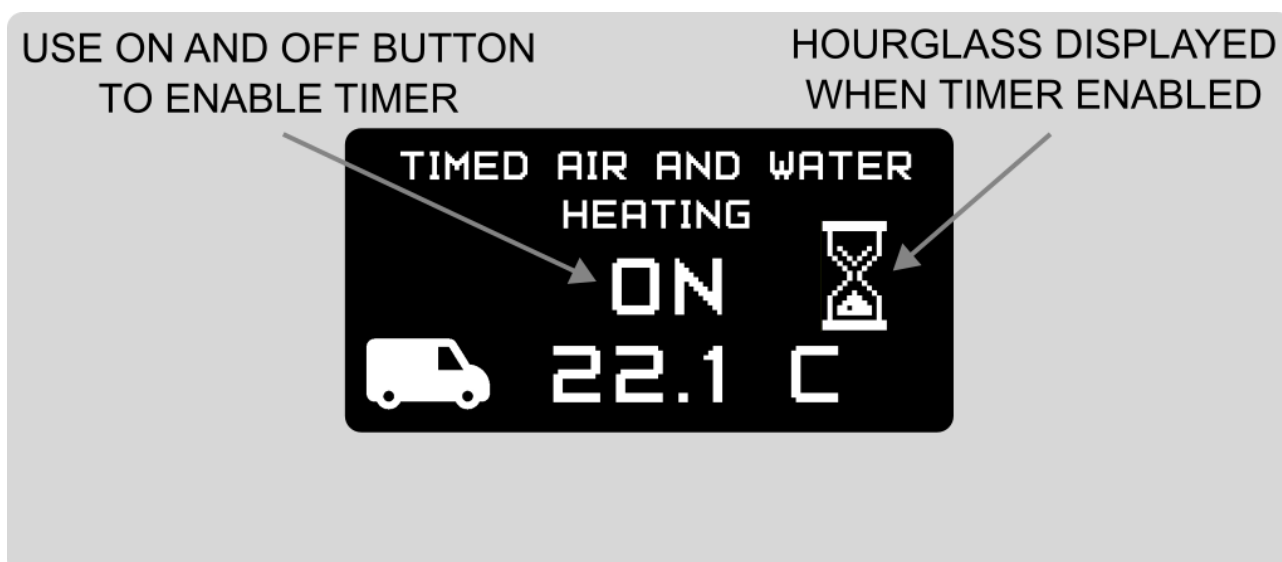
Timer screen

This screen allows you to set a time to start the air and water heating routine. This does not enable the routine, it only allows you to set the time. You need to enable it on the next screen.



Timer enable screen

This screen enables the timer as set on the previous screen. If enabled, the hourglass will also be displayed on the main status screen.






Air temperature setpoint

If you hold down the menu scroll button for 2 seconds then you can shortcut to this screen. Use the up and down button to set the temperature.

USE UP AND DOWN BUTTONS
TO CHANGE TEMPERATURE




TEMPERATURE
TARGET

DC heating element control screen

This controls the DC heating element. When the target of 13.7 v is reached, a countdown from 300 seconds starts on the home screen, and when '0' is reached the element comes on and the element symbol is displayed. If the voltage drops below 12.7 volts, then the element is switched off and the countdown is reset.

USE ON AND OFF BUTTONS TO
ACTIVATE HEATING ELEMENT



DC HEATING ELEMENT

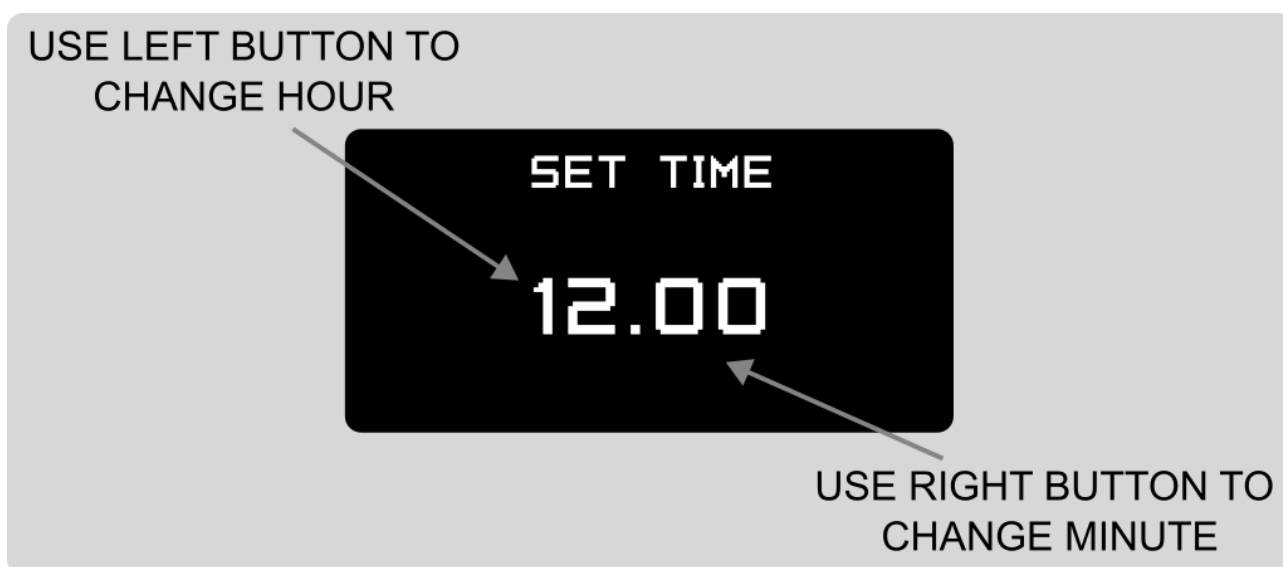
OFF

DISPLAYS BATTERY
VOLTAGE

By default the routine is off- you can turn the routine on and off with the control buttons.



Time setting screen



Wifi connection screen

The Bobil smart controller can be remotely controlled from your phone via WI-FI. To connect to the unit, go to the WI-FI connection on your phone and enter the password as shown on the screen. Then go to your browser and type the address as shown on the screen.





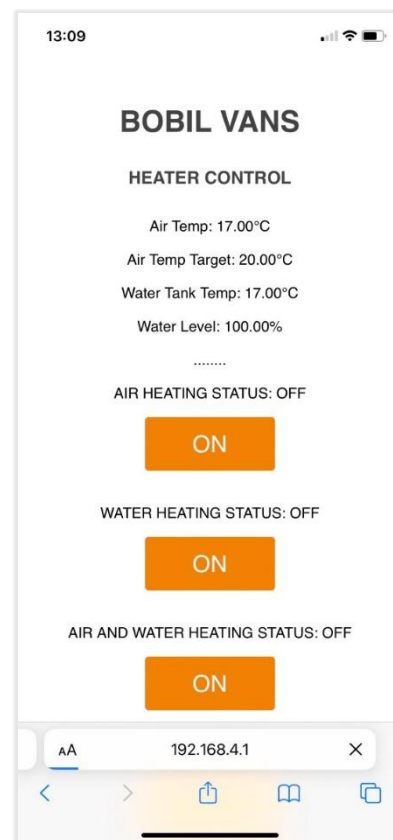
A page will come up like this:

A few points to note whilst using the phone app:

If you have started a routine using the controller, the phone app will not 'know'. To stop a routine, you would have to 'start' it using it using the app, then stop it.

If you are connected with the phone, the physical controller inputs will be locked so any routine started with the phone will need to be stopped with the phone.

Depending on your device, you may find that the phone will try and use the Bobil controller as a WI-FI hotspot. If this is the case then we suggest disconnecting from the Bobil controller after you have finished using it as this may cause problems with data.



www.bobilvans.co.uk

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