CLAUDGEN

CHMC
Electronic Touchscreen Controller

installation and Operating Manual

All electrical appliances produced by the Company are guaranteed for one year against faulty materials or workmanship. This applies only if the appliance has been used for purposes in accordance with the instructions provided and has not been connected to an unsuitable electricity supply, or subject to misuse, neglect, damage or modified or repaired by any person not authorised by us. This guarantee is offered to you as an extra benefit and does not affect your legal rights.

The correct electricity supply voltage is shown on the rating label attached to the appliance.

Reasonable care has been taken to ensure that this guide is accurate at the time of printing.
In the interest of progress the Company reserve the right to vary specifications from time to time without notice.

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1. Introduction

Controller

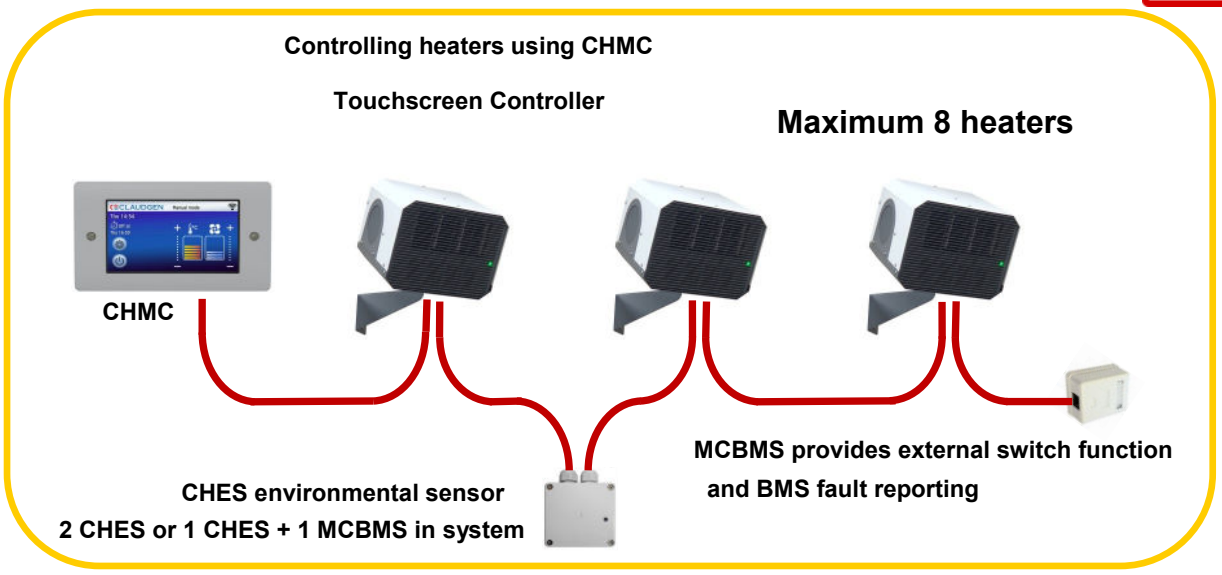
The touchscreen controllers give options for 8 fan and 8 heat settings and can be mounted up to 50m from the heaters. Optional CHES will provide a simple BMS connection, remote switch, boost switch, occupancy detection and remote temperature measurement.

Optional MCBMS can provide a BMS connection, remote switch / boost switch.

The electronic touchscreen controller shown on the front page allows the user to control either a single heater or a network of up to 8 heaters with the same or individual settings.

The controller is designed to be mounted on a surface double gang back box, and is powered by an RJ45 connection. **The controller will not fit a metal or dry lining back box.**

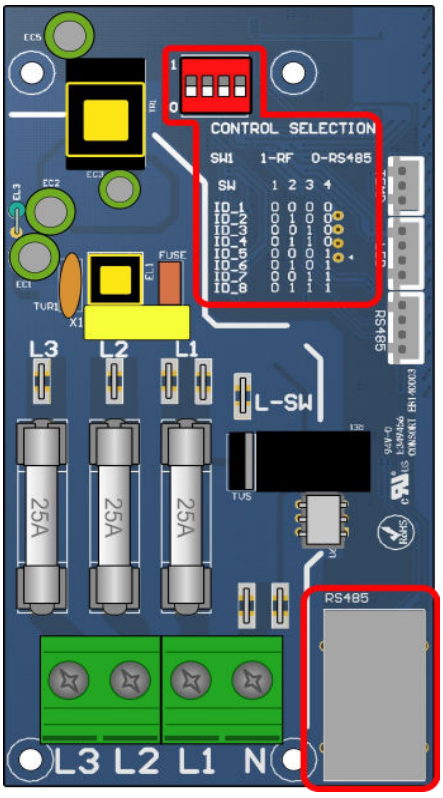
The cable length of the system shouldn't exceed 70 metres



2. Selecting heater controls

4.5 CHMC Controller

The heater has to be configured for a selected control method at the time of installation. To control the heater using a CHMC controller the DIP switch 1 located under the electrical connections cover has to be set to **'0'** as on the picture.



4.6 Connecting heaters to the CHMC

The CHMC is connected to the heater by CAT5/CAT6 RJ45 cable. The RJ45 connector is located under the terminals cover on the bottom of the heater. There are 2 equal RJ45 connectors in each heater. The controller can be connected to either. The second connector is used If there are additional heaters in the system for a daisy chain connection. Controller is powered via the RJ45 connector.

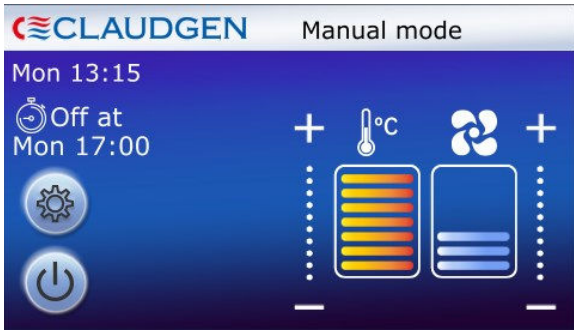
Each heater in the system must be assigned unique ID. This is selectable by DIP switches 2, 3 and 4.

3. Touchscreen Controller Operation

3.1 Home Screen - Manual mode

The home screen provides information about the heater status and all relevant functions. The heat output and fan speed can be adjusted by touching + and - icons.

- Time and day
- Operating mode
- Heater status
- Timer status
- Heat output
- Fan speed
- ON / Stand-by button
- Settings menu button
- Wi-Fi status and connecting with the APP

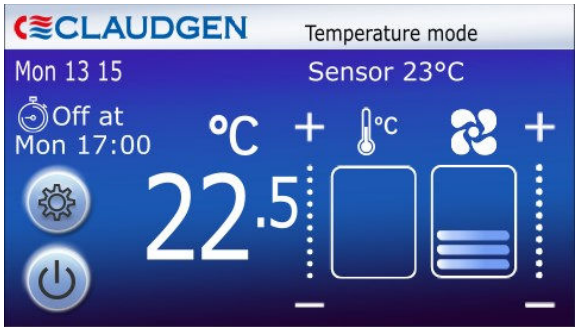


3.2 Home Screen - Temperature mode

The temperature mode home screen is similar to the manual mode screen, but it also displays the set temperature and the measured room temperature.

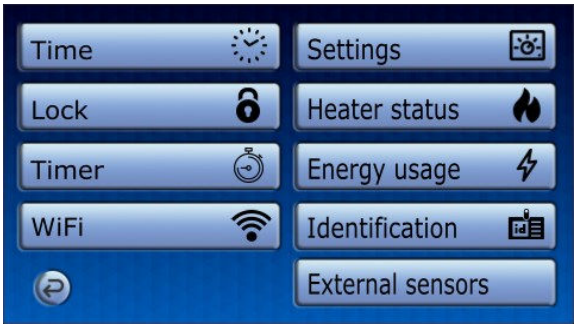
In this operating mode, the heater will automatically adjust the heat output to optimally maintain the set temperature.

The source of the temperature sensor can be selected. The options are the inlet temperature, CHMC temperature or the CHES temperature. This allows the optimum location for temperature measurement to be selected. The temperature can also be calibrated +/-5 °C if required.



3.3 Global configuration

This screen is used to configure and check the status of the heating system. It is accessible from any home screen by touching the icon for configuration.



3.4 Setting the time

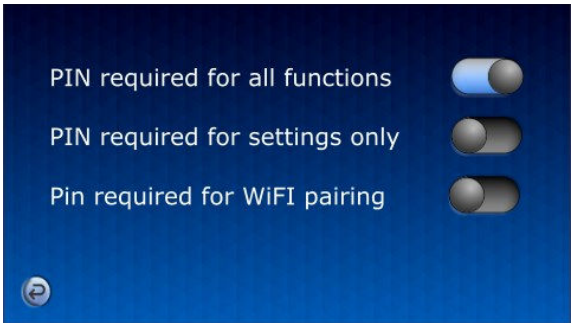
The time can be set using the arrow buttons. A coin battery (CR1220) maintains the time when power is interrupted. Time is displayed on the home screen and needs to be set to use the timer function.

3.5 Lock

The PIN function can be enabled to prevent the controller from being tampered with.

The PIN can be used for 3 functions.

- It can lock out access to the settings menu, still allowing control of the heater within the chosen settings.
- It can completely lock out usage of the controller. This means the settings cannot be changed and the heater cannot be controlled without authority.
- It can lock out pairing with the APP



3. Touchscreen Controller Operation - cont.

3.6 Timer - time schedule

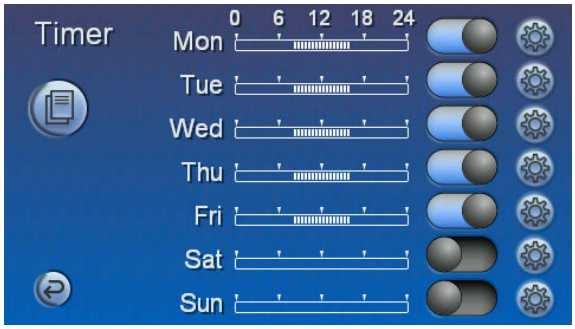
The 7 day timer function allows scheduling automatic switching between on and stand-by. Each day can be individually enabled or disabled. The timer allows up to two periods of operation per day. The white bars indicate when the heater is timed to switch on.

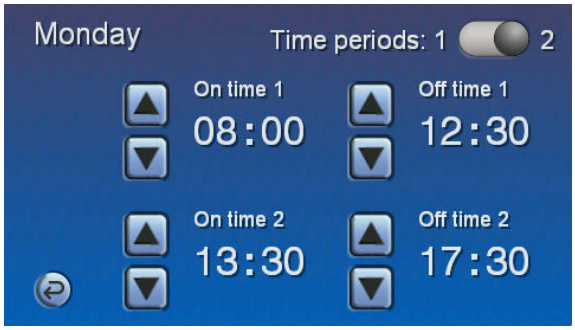
Use the settings buttons to set up the time for each day, and the copy button to copy settings from one day to another.

After tapping the settings cog next to the day you wish to set, you will see the screen below.

The times for the first time periods are at the top of the screen, the times for the second timer period are at the bottom of the screen. Times can be adjusted in 15 minute intervals using the arrows.

When the timer is active, an icon will appear on the home screen providing information about the next switch time.





3.7 Settings

The CHMC offers many options for heating control. There is an option to choose between manual or temperature mode and individual or combined control. Additional functions include frost protection and open window detection.

3.8 individual and combined control

When controlling all heaters together, all settings apply to each heater.

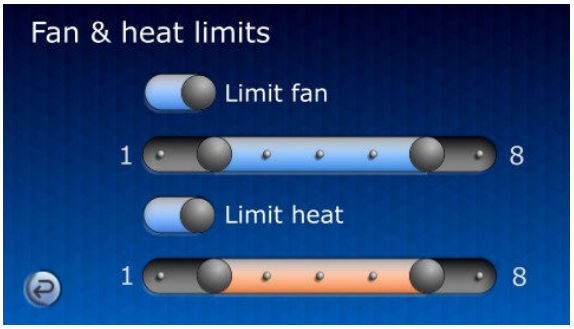
When controlling the heaters individually, each heater has its own control page and settings menu. The home page consists of a list of all connected heaters. From here, individual heaters can be selected.

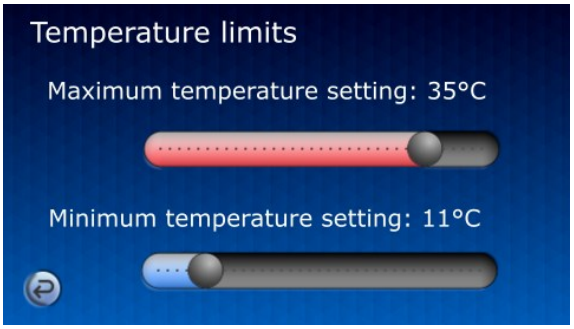
3.9 Maximum and minimum settings

The CHMC allows maximum and minimum settings to be implemented.

In manual mode, maximum and minimum heat/fan settings can be specified.

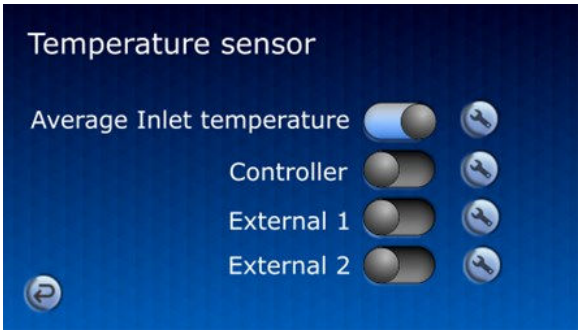
In temperature mode, a maximum and minimum temperature can be specified.





3.10 Temperature sensor selection

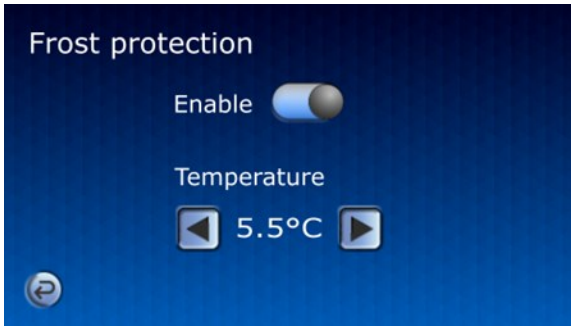
When heaters are used in temperature control mode there is an option to select from of 4 possible temperature sensors. Temperature sensor that best suits the heating system should be selected. By tapping the icon next to the switch for the sensor reading can be calibrated.



3. Touchscreen Controller Operation - cont.

3.11 Frost protection

When frost protection is enabled and set, the heaters will turn ON when temperature drops below the set temperature. Once enabled this function work in every operating mode.



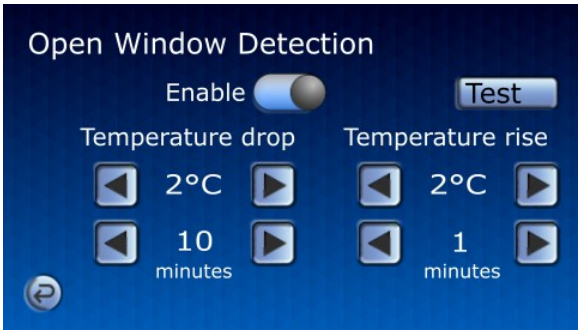
3.12 Open window detection

To ensure you don't waste energy on heating the outside world, the heater is equipped with an optional open / closed window detection. The heater recognises sudden drops in temperature when a window or a door is opened and turns the heating off to save energy. When the window is closed, the heater will automatically detect a temperature rise, and switch itself back on. Once enabled in the setup menu, the open window detection is fully automatic and does not require any human intervention in order to be activated.

Setting-up Open Window Detection

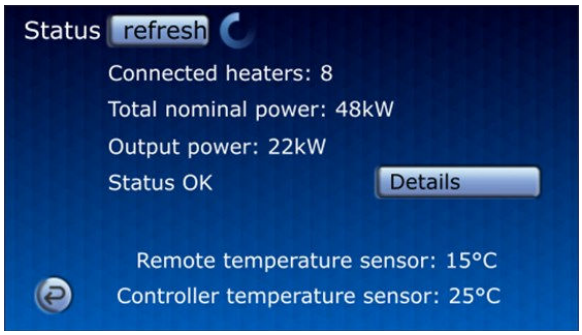
The system has been factory set to default time and temperature values. When the heating is on, open window detection sensor will automatically switch the heater off when it detects a fall in temperature of 2°C in less than 10 minutes. If a temperature rise of 2°C in less than 60 seconds is detected, the heater will switch itself back on. These values can be adjusted in the setup menu, detailed in section 23.

Settings 07-11 control open window detection.



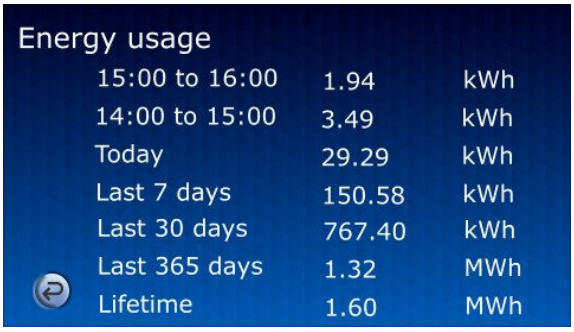
3.13 Heater status

The Status screen provides an overview of values from all connected heaters. In the event of a fault, a red warning triangle is displayed.
More details are available by tapping the details button. The detailed status screens are primarily for installers or engineers to help with installation or fault diagnostics.



The details screen shows all of the currently connected heaters, in order of address ID. Heaters are connected when the controller is first powered up. In order to connect to newly powered heaters, press Refresh to search for heaters.
From the details screen, individual heaters can be selected. This will display in-depth information of the selected heater.

3.14 Energy usage

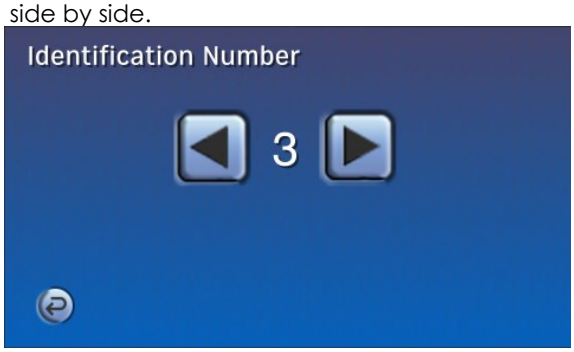


The energy usage screen provides information related to energy used from the day the heater was installed. The values are calculated based 3PH 400V and so will differ from actual energy usage when mains voltage is lower or higher.

3. Touchscreen Controller Operation - cont.

3.15 Identification

User can set ID number for controller identification. This number is shown on the left hand corner of the home screen. This feature is useful in a situation where there is more than one controller side by side.



3.16 External sensors

3.16.1 CHES

Up to two CHES can be connected to the heating system. These contain microwave sensors, which allows the CHMC to switch the heating off after a specified period of time without occupancy.

Only one CHES can be used with a single heater

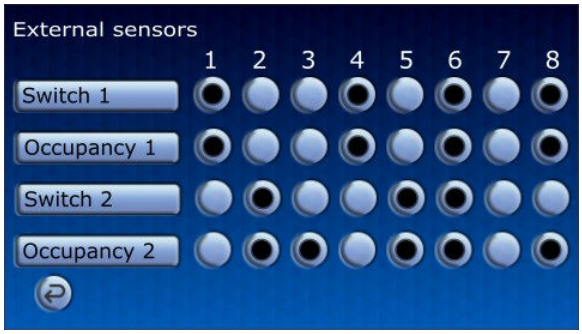
Each of these sensors has a connector for an external input. The external inputs can be configured either as an on/off switch or a boost button.

When it is configured as on/off switch, and the switch is off, the heating is completely disabled. When it is on, the heater will function as normal. This function can be used for BMS connection.

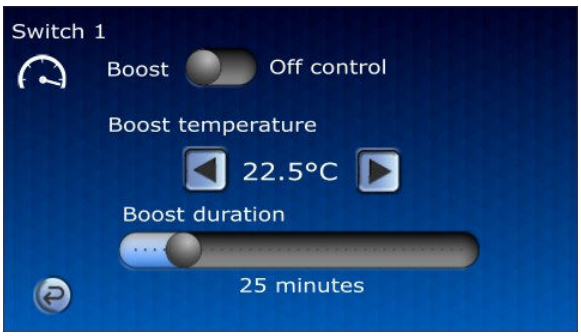
When it is configured as boost switch, activating this switch briefly will boost the heater to a set temperature for a set duration. Activating it again before the timer expires will exit boost mode early.

If two CHES are used in the heating system, only one can be configured as the on/off switch. With two CHES connected, up to 4 external switches/sensors can be used in the system. It is then optional which heaters these switches apply to. Each switch/sensor can be applied to any number of the heaters connected to the CHMC.

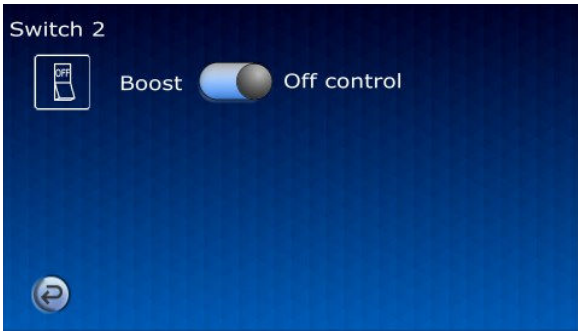
This is selected in the external sensors menu.



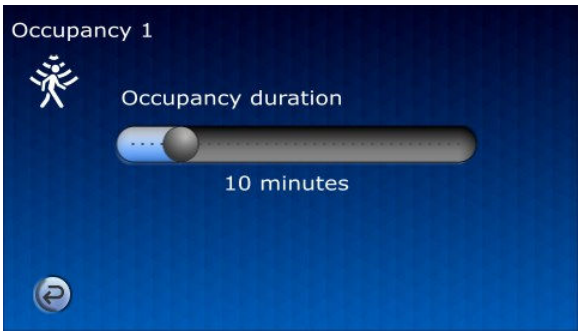
On the following picture, the switch 1 is set as BOOST switch



On the following picture, the switch 2 is set as on/off switch



Occupancy sensor is enabled and set to 10 minutes duration. The heating will stop heating if no occupancy is detected 10 minutes after the last occupancy was detected.



3.16.2 MCBMS

A MCBMS can be connected in conjunction with 1 CHES as stated in page 2.

It provides BMS error reporting and an external remote or boost switch connection in a smaller, more discreet package.

When connecting the MCBMS at the end of the daisy chain with a CHES in the system, the CHES dipswitch 1 needs to be changed to ON as the MCBMS MODBUS address is 2 by default.

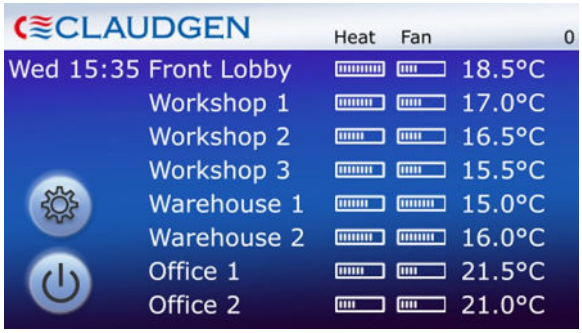
When using the MCBMS as a boost function a push style button **must** be used.

In the unlikely event of a heater fault, the MCBMS will have a solid orange light on its RJ45 connector. It will also drop its 3.3V across GND and ERR ports to 0V.

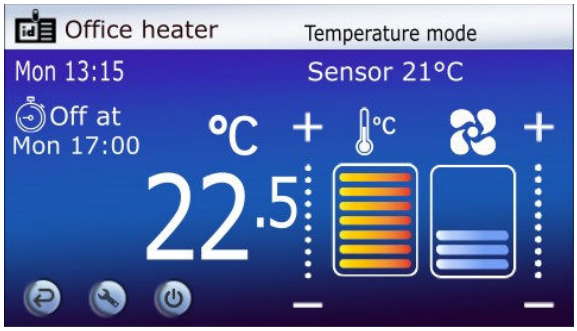
3. Touchscreen Controller Operation - cont.

3.16 Home screen for individual control of multiple heaters

When multiple heaters are controlled using individual control method, the home screen shows status of all heaters. Each heater can be given a name. After tapping on the heater name the screen will show home screen of the individual heater.

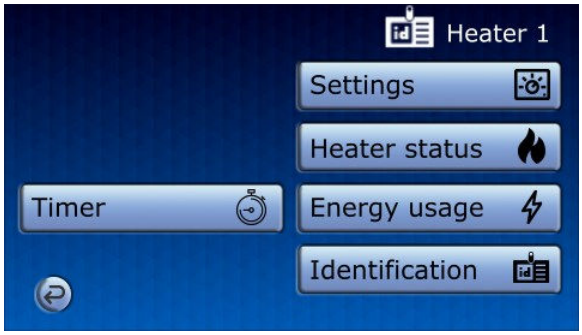


Running parameters and settings for individual heaters can be adjusted once on the individual heater home screen.



3.17 Individual heater configuration

Individual heater settings can be accessed by tapping the icon on the bottom left corner.



3.18 Timer - time schedule for individual heater

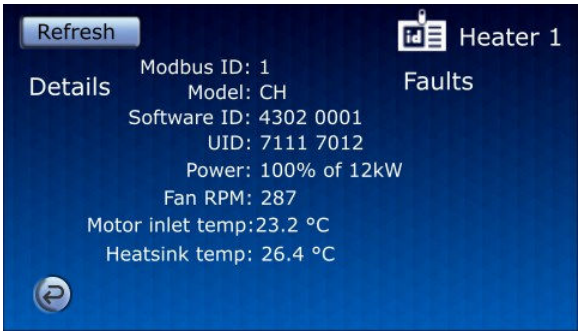
This works the same way as the global timer but only controlling single heater.

3.19 Settings

This configuration works the same way as the global settings but only configuring a single heater.

3.20 Heater status

The Status screen provides an overview of values of a single heater. In the event of a fault a red warning triangle is displayed:



More details are available when tapping the details button. The detailed status screens are primarily for installers or engineers to help with installation or fault diagnostics.

3.21 Energy usage

The energy usage screen provides information related to energy used for the single heater from the day the heater was installed.

3.22 Identification

Each heater can be given a name. This simplify heater identification on the home screen.

3. Touchscreen Controller Operation - cont.

3.23 Connecting to the Consort Connect app

Before pairing, the App must be installed on your smart phone. The app is compatible with IOS and Android Smartphones. Go to the app store or play store and search :

Consort Connect  

When the app asks for the WIFI make sure that the WIFI network and password are entered correctly – the app usually selects the right network, but you need to enter the password. Until you successfully pair a device to a network it does not remember the password, and if the password is entered incorrectly it does not specifically tell you that this is the problem. Before pairing the CHMC to the WIFI, you must enable the WIFI in the WIFI settings menu.

Pairing the CHMC to the Consort Connect app.

1. Ensure the smartphone or tablet is connected to 2.4GHz WIFI network and the Bluetooth is enabled.
2. Open the WI-FI settings menu on the CHMC, ensure the feature is enabled and tap 'Pair Wi-Fi'. Pressing this twice will reset the process.
3. Open the Consort Connect app and select the + symbol in the top right corner
4. select "Heater (BLE)"
5. The app will ask you to 'confirm the heater indicator is blinking rapidly'.
6. If the CHMC says 'Smart Config', tick the box and click next.
7. The app should show that one device has been found. Select the + symbol next to this option.
8. Enter the correct WIFI name and password on the App.
9. The CHMC will begin to pair to the app. This can take up to 60 seconds.
10. Once pairing is successful, the + symbol will be replaced with a tick.
11. Select Next and the app should display 'Added successfully'. The heater is now paired and ready to be used with the app.

If the pairing is unsuccessful, check the points below and retry.

1. Ensure you are using a 2.4Ghz WIFI network.
2. Ensure you have a solid internet connection.
3. Ensure you have entered the network name and password correctly.
4. Check if the heater has appeared on the home page in the app.
5. Ensure Bluetooth is enabled.

Declaration Of Conformity

In accordance with UK Government Guidance.

WE HEREBY CERTIFY THAT THE APPLIANCES DETAILED HEREON HAVE BEEN INSPECTED AND TESTED, AND CONFORM TO THE REQUIREMENTS OF THE FOLLOWING UK STATUTORY INSTRUMENTS WHERE APPLICABLE:

Electrical Equipment (Safety) Regulations 2016 SI. 2016 1101

Electromagnetic Compatibility Regulations 2016 SI. 2016 No. 1091

Radio Equipment Regulations 2017 SI. 2017 No. 1206

The Ecodesign for Energy Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019. SI. 2010 2617

The Restriction of use of Certain Hazardous Substances. SI. 2012 No. 3032

The Waste Electrical & Electronic Equipment Regulations 2013. SI. 2013 No. 3113

Security Requirements for 'Connectable Products' PTSI ACT 2022

The Product Security and Telecommunications Infrastructure (Security Requirements for Relevant Connectable Products) Regulations 2023

Transposed standards used:

- **BSEN610000-6-3:2007+A1:2011**
- **ENIEC6100-6-1:2019**
- **ENIEC61000-3-2:2019**
- **EN60000-3-3:2013+A1:2019**
- **EN 62368-1:2014+A11:2017**
- **ETSI BS EN 303645**
- **BS EN 55014 (2016)**
- **BS EN 301489.1 & .3**
- **BS EN 300220 .1 & .2**
- **BS EN 60730.2.9**
- **BS EN 60335.1 (2012)**
- **BS EN 60335.2.30 (2009)**
- **EN 50663 (2017)**
- **EN 60730-2-9 (2010)**
- **EN 60730-1 (2011)**
- **ETSI EN 300 220-1 V3.1.1 (2017-02)**
- **ETSI EN 300 220-2 V3.2.1 (2018-06)**
- **ETSI EN 301 489-1 V2.2.2 (2019)**
- **ETSI EN 301 489-3 V2.1.1 (2019)**

PART NUMBER AND DESCRIPTION OF APPLIANCE:	**CHMC TOUCHSCREEN CONTROLLER**
NAME OF RESPONSIBLE PERSON:	**DAVID O'SULLIVAN**
POSITION:	**OPERATIONS MANAGER**
DATE:	**24/06/24**

bsi ISO 9001 Quality Management Systems CERTIFIED FM 12671

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