

Homely System Installation Manual



Samsung

For all AE model numbers manufactured after 2015



Safety Symbols

The following symbols are used in this manual.



Hazards or unsafe practices that may result in electric shock and severe personal injury or death.



Hazards or unsafe practices that may result in severe personal injury or death.

Safety Information



Before proceeding, ensure that all power supplies in the property are isolated. Failure to isolate the power supply may result in electric shock, fire or death.



All electrical works must be conducted by a qualified technician and must comply with local regulations.

Installation by unqualified persons may result in product malfunction, electric shock or fire.

The installation must be performed in accordance with the installation instructions before energising.

Incorrect installation of equipment may result in electric shock or fire.

About this Manual

This manual has been developed to make installation of the Homely system a straightforward process.

Follow the steps illustrated in the following pages to ensure that the Homely device is installed safely and correctly.

Scan the QR code below to visit our YouTube channel where you will find further information about Homely, as well as various installation how-to videos.



We welcome your feedback! Please send all comments to homely@evergreenenergy.co.uk.

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Installation Requirements

Items Supplied



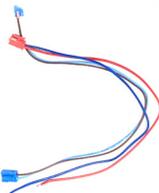
HOMELY HUB



HOMELY NODE



SAMSUNG
MIM-B19N BOARD



MIM-B19N
CABLES



POWER
SUPPLY



120-OHM
RESISTOR



2 X CRIMP
FERRULE



NODE
STICKER



STICKY PAD

Items Supplied for Fixed-Speed Pump Installations Only



**RELPOL RELAY
& SOCKET**

Items Required But Not Supplied

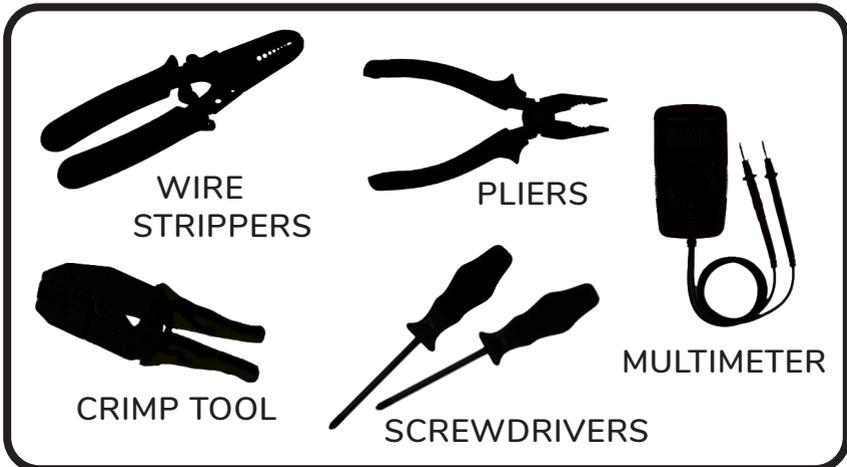


DATA CABLE

BELDEN 8723 OR STRANDED
CAT-5 RECOMMENDED

HOMELY INSTALLER APP

Tools Required



**WIRE
STRIPPERS**

PLIERS

CRIMP TOOL

SCREWDRIVERS

MULTIMETER

Determine Primary Pump Type

The heat pump may be installed with a PWM pump (variable speed) or a standard pump (fixed speed).

To determine which type of pump has been installed, check for connections to the control board at B1 and B6.

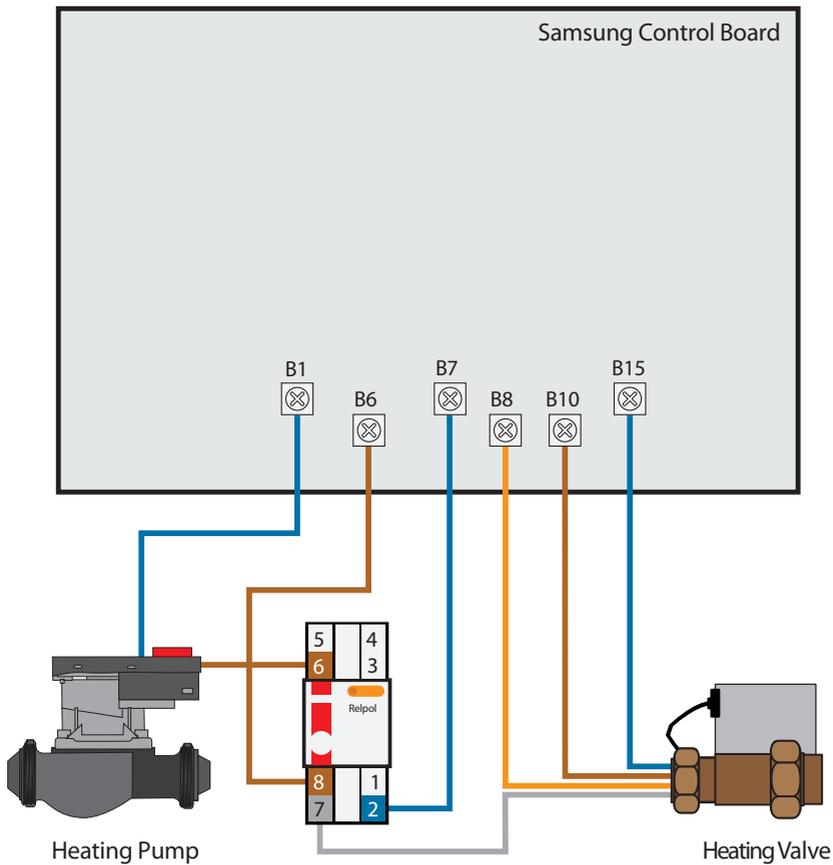
If the primary pump is connected at B1 and B6, it is a PWM pump and no further action is required.

If there are no connections on B1 and B6 and the primary pump is connected at B7 and B8, it is a fixed-speed pump and the supplied relay must be installed with the heating pump as shown opposite.

The order in which you connect the wiring is not important.

The 2-core cable used to connect the relay to B6 and B7 on the Samsung control board is provided.

Add a wire link between B20 and B22.



The configuration shown above is for installations with a fixed-speed primary pump.

Pre-Installation Checks

Before starting Homely installation, perform the following checks to confirm that the heat pump is working correctly.



Ensure that the Samsung controller call for heat is successfully activated and deactivated

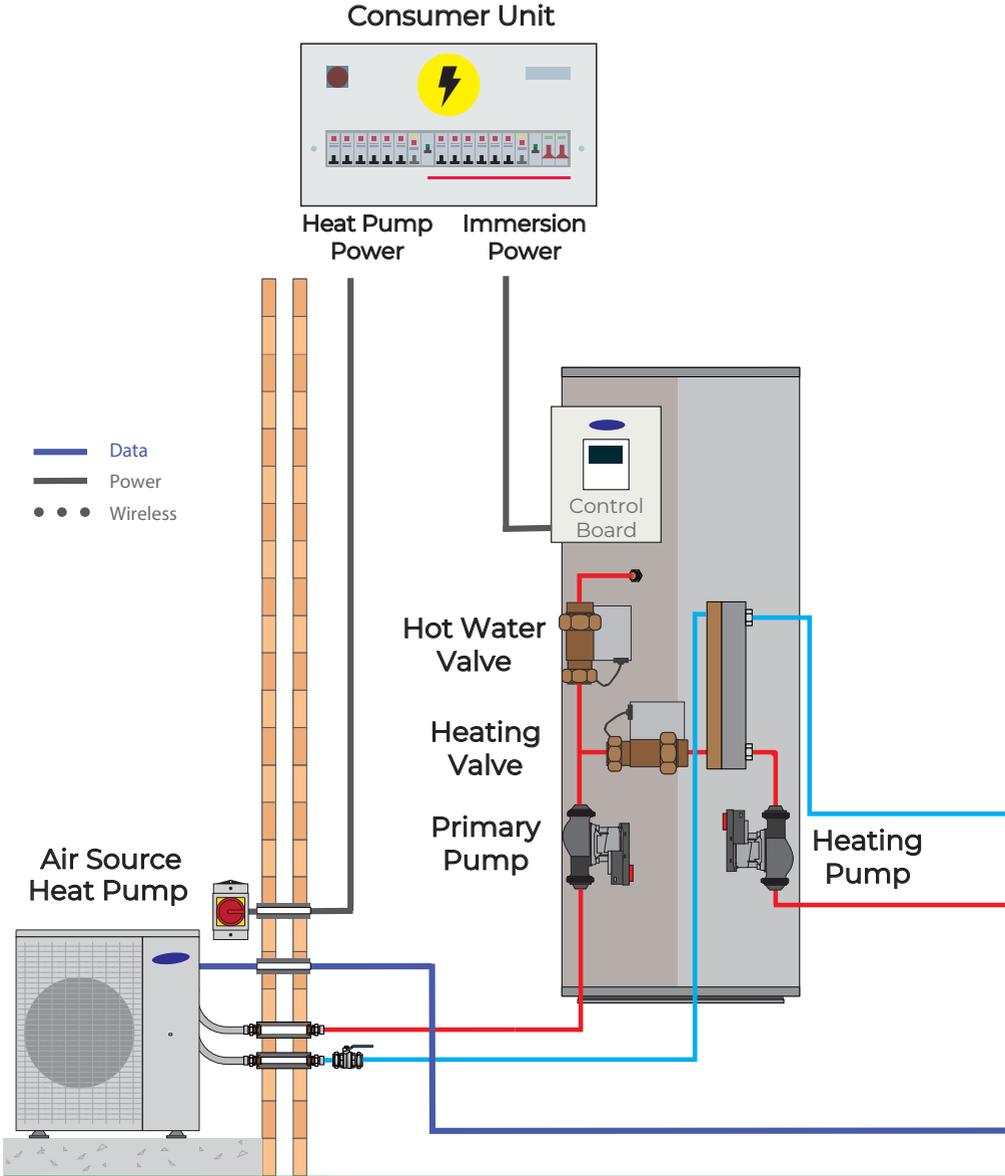


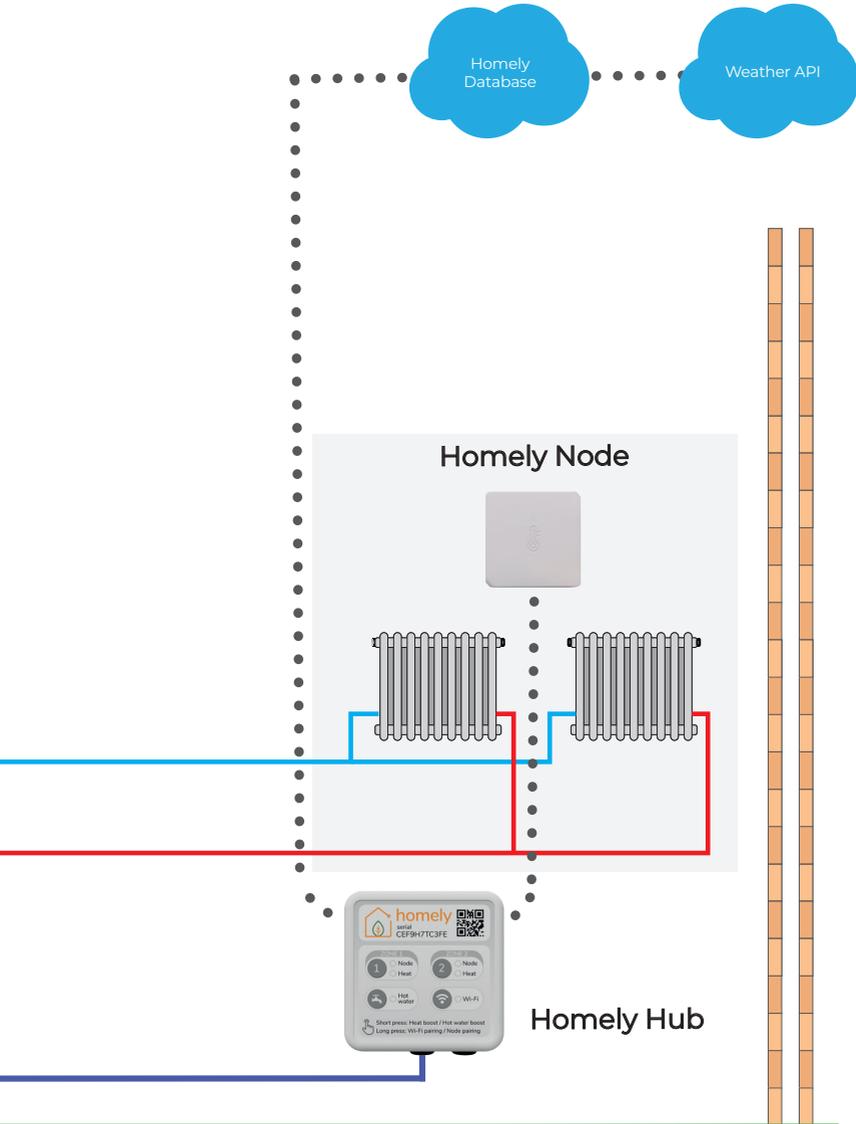
Ensure that the Samsung controller call for hot water is successfully activated and deactivated

Installer's Notes

Use this space to record any observations about the installed system.

System Diagram





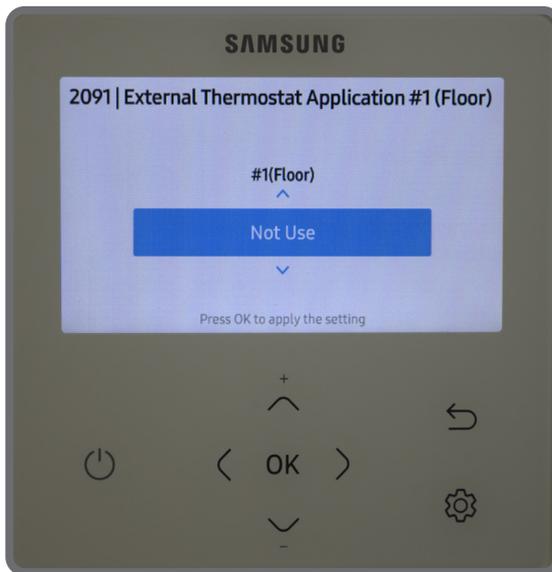
STEP 1:

Configure the Samsung Controller

Change the following settings on the Samsung controller.

i. Turn off Water Law mode.

Navigate to the 'Service Mode' by pressing the up and down arrows together. Enter the password. Go to 'Water Law' and find '2091 External Thermostat Application #1'. Set to 'Not Use'.



ii. Turn off any hot water schedules.

Select 'DHW' on the controller. Press the cog icon and navigate to 'Schedule'. Ensure that no schedules are stored.

STEP 2:

Install the MIM-B19N Board

Install the MIM-B19N board into the Samsung outdoor unit.

Follow the manufacturer's instructions included with the MIM-B19N.



WARNING

Ensure that the installation work is performed in accordance with the installation instructions.

Incorrect installation of equipment may result in electric shock or fire.

STEP 3:

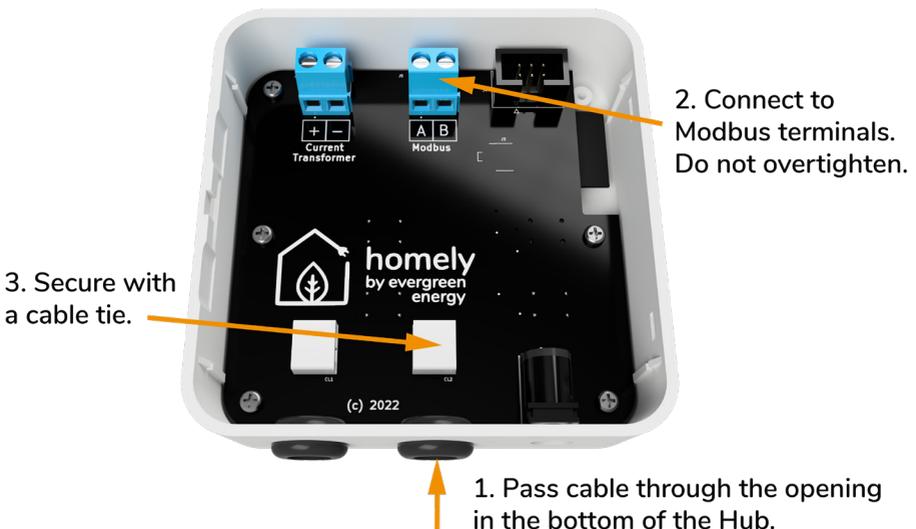
Complete Connections

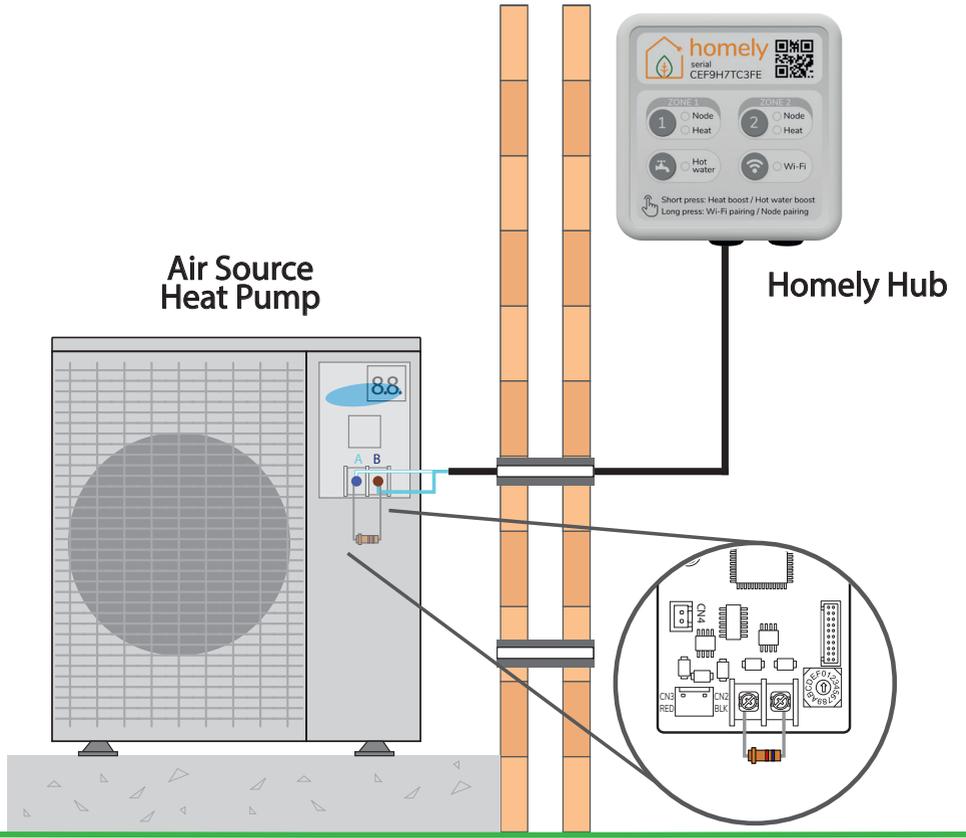
Connect the Homely Hub to the MIM-B19N board with data cable. Belden 8723 or stranded Cat-5 are recommended.

Remove the back of the Homely Hub and identify the terminals for Modbus connection.

A single twisted pair must be used. Connect the A terminal in the Homely Hub to the A terminal in the heat pump with one wire and connect the B terminal in the Homely Hub to the B terminal in the heat pump with the other. Only one wire should be connected to each terminal.

The supplied 120-ohm resistor must be placed between the A and B terminals as shown.





**Air Source
Heat Pump**

Homely Hub

STEP 4:

Connect the Power Supply

Connect the power supply to the Homely Hub as shown and plug into a power outlet.

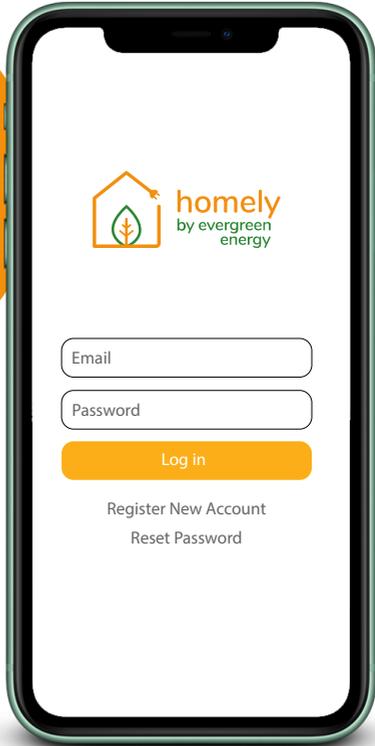


NOTE

It may be necessary to install a new outlet on a spur if there is not one within range.

STEP 5: System Configuration

Download
the Homely
Installer App
and register
an account



Follow the in-app instructions to connect the Node to the Hub, connect the Hub to a WiFi network and complete the Homely configuration.

Contact homely@evergreenenergy.co.uk if you do not have a login for the Homely Installer App.

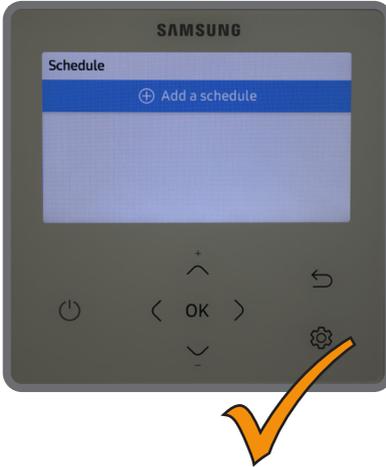
System Checks

With the system powered on, perform the following checks to ensure correct operation.

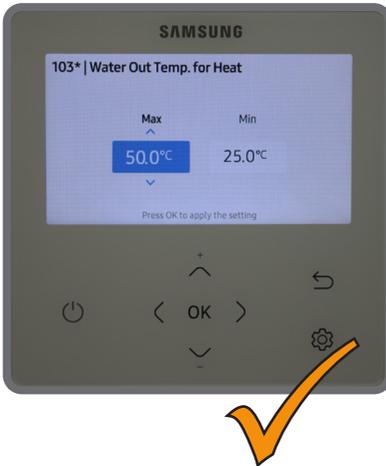
Ensure that a wire link has been installed between B20 and B22 as specified earlier.

Ensure that Water Law mode has been correctly configured as shown in Step 1: on the Samsung display, select Heat. As shown below, the value displayed should be at least 25°C.





Ensure that all hot water schedules are deleted as instructed earlier: open the Hot Water screen and confirm no schedules are listed as shown here.



Ensure that the maximum flow temperature has been specified correctly: no more than 55°C for radiators, no more than 45°C for underfloor heating.

This completes the checks.
If problems persist, contact Homely Support.

Specifications

Homely Hub

Dimensions:

86 x 86 x 25mm

Communication protocols:

Proprietary 868MHz

Bluetooth v4.2

WiFi 802.11 b/g/n

Power:

5V \equiv 1.0A

Recommended operating conditions:

10 to 35 °C



Homely Node

Dimensions:

43 x 43 x 14mm

Communication protocols:

Proprietary 868MHz

Power:

Internal: CR2450 battery

Temperature Sensor Accuracy:

Internal: 0.4 °C (max), 10 to 85 °C

Humidity Measurement:

Accuracy: 2% Relative Humidity (RH)

Range: 0% to 100% RH

Recommended operating conditions:

10 to 35 °C



UK Declaration of Conformity

This UK Declaration of Conformity is issued under the sole responsibility of Evergreen Energy Limited. Registered address: Evergreen Energy, The Edge Business Centre, The Edge, Clowes Street, Manchester M3 5NA. Contact details:

Email: homely@evergreenenergy.co.uk
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Evergreen Energy Limited declares that the Homely system consisting of Homely Hub and Homely Node v2 is in compliance with the essential requirements of the following:

Radio Equipment Regulations 2017
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012



Signed for and on behalf of Evergreen Energy Ltd:

A handwritten signature in black ink, appearing to read 'Steve Elliott', is written over a horizontal line.

Name:	Steve Elliott
Function:	Technical Director
Place of issue:	United Kingdom
Date of issue:	07/03/2023

Standards applied

Standard	Description
ETSI EN 301 489-1 V2.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
ETSI EN 301 489-3 V2.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz
ETSI EN 301 489-17 V3.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems
EN 55032:2012	Electromagnetic compatibility of multimedia equipment – Emission requirements
EN 55035:2017	Electromagnetic compatibility of multimedia equipment – Immunity requirements
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements
EN 62368-1:2020	Audio/video, information and communication technology equipment – Part 1: Safety requirements

EU Declaration of Conformity

This EU Declaration of Conformity is issued under the sole responsibility of Evergreen Energy Limited. Registered address: Evergreen Energy, The Edge Business Centre, The Edge, Clowes Street, Manchester M3 5NA, UK. Contact details:

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Phone: +44 (0)161 818 9005

Evergreen Energy Limited declares that the Homely system consisting of Homely Hub and Homely Node v2 is in compliance with the essential requirements of the following:

Directive 2014/53/EU (Radio Equipment)
Directive 2011/65/EU (RoHS)



Signed for and on behalf of Evergreen Energy Ltd:

A handwritten signature in black ink, appearing to read 'Steve Elliott', is written over a horizontal line.

Name:	Steve Elliott
Function:	Technical Director
Place of issue:	United Kingdom
Date of issue:	07/03/2023

Harmonised standards applied

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