⚡ myenergi

eddi

microgeneration energy diverter

User Manual

MODELS: 16A1P02H

Rev 3 April 2024 – ENGLISH

Contents

1. Introduction

Thank you for choosing eddi. eddi is an automatic power controller. It 'tracks' available surplus power from a grid-tied PV or Wind turbine system and varies the power to your heater to match the surplus power, therefore ensuring all of the green energy is fully utilised.

These instructions will help you to familiarise yourself with the eddi. By reading the instructions, you will be sure to get the maximum benefit from your 'eco-smart' device.

varisine™ Technology

varisine™ is the proprietary power control technology used in the eddi. The technology enables the output voltage to be very smoothly adjusted in order to alter the power to the heater. The power to the heater is always a sine wave and only the voltage is altered.
This control technology is more sophisticated than many other products on the market and the technology ensures trouble free operation with all inverters and compatibility with all import/export energy monitors and electric meters.

2. Safety

The device has been manufactured in accordance with the state of the art and the recognised safety standards, however, incorrect operation or misuse may result in:

- Injury or death to the operator or third parties
- Damage to the device and other property of the operator
- Inefficient operation of the device

All persons involved in commissioning, maintaining, and servicing the device must:

- Be suitably qualified and competent
- Have knowledge of and experience in dealing with electrical installations
- Read and follow these operating instructions carefully
- Always disconnect the device from the supply before removing the cover

3. Disposal

In accordance with European Directive 2012/19/EU on waste electrical and electronic equipment and its implementation in national law, used electrical devices **must** be collected separately and recycled in an environmentally responsible manner. In the UK these requirements are covered by The Waste Electric and Electronic Equipment (WEEE) Regulations 2013. Ensure that you return your used device to your dealer or obtain information regarding a local, authorised collection and disposal system. Failure to comply with this EU Directive may result in a negative impact on the environment.

4. Copyright

Copyright of these operating instructions remains with the manufacturer. Text and images correspond to the technical level at the time of going to press. We reserve the right to make changes. The content of the operating instructions shall not give rise to any claims on the part of the purchaser. We are grateful for any suggestions for improvement and notices of errors in the operating instructions.

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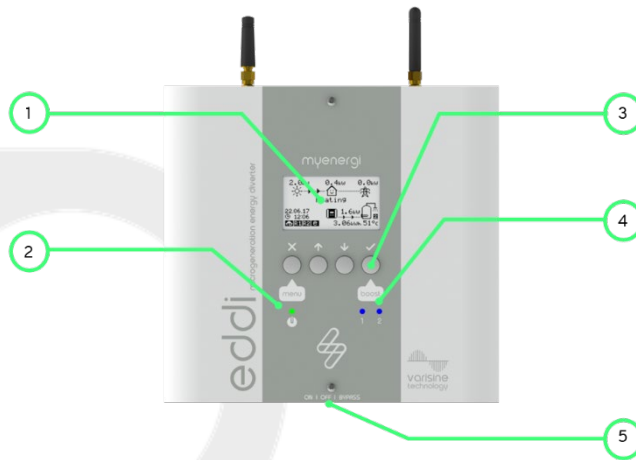
5. Overview

Microgeneration systems such as Solar PV and small wind turbines are at their most efficient when the generated energy is consumed on-site rather than exporting it to the grid.

A grid current sensor (supplied) simply clips around the incoming cable. This sensor is used to monitor excess power and eddi automatically adjusts the voltage to the heater load, thereby consuming the surplus power.

eddi utilises myenergi's proprietary varisine™ technology to ensure compliance with worldwide power grid standards.
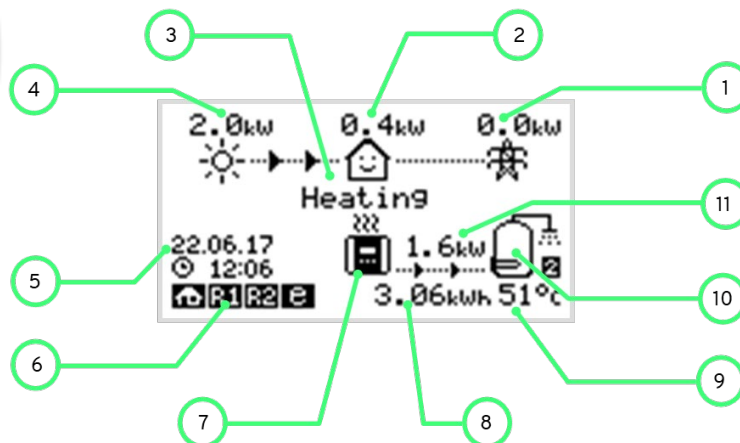
6. Operation

6.1   Controls & Indicators

| 1.	Display	Graphical LCD display with LED backlight
2.	Power 'ON' Indicator	Illuminates when: • Unit is connected to the mains supply and; • The ON/OFF and BYPASS switch is in the ON position (I)
3.	Control Buttons	Four tactile buttons to navigate the menus and alter settings: ❌ Enter menu (from main screen) │ Exit current menu ⬆ Move up a menu item │ Increase value ⬇ Move down a menu item │ Decrease value ✔ Boost │ Select item │ Confirm value and move to next setting
4.	Heater Output Indicators (1 & 2)	Illuminates when the respective heater output (1 or 2) is active. The brightness will vary with the output voltage. If both 1 & 2 are lit together, both heaters are at maximum temperature.
5.	ON/OFF and BYPASS Switch	This switch has three positions: • I ON – eddi is on (This is the normal position) • 0 OFF – eddi is off (The power on indicator will be off) • II BYPASS – eddi is bypassed; the mains supply is directly connected to the Heater 1 output. In this position the Power indicator will be off and the Heater 1 indicator will be illuminated.

7. Display

No.	Name	Description
1.	Import/Export Power	The power being either imported or exported from or to the grid (kW). The direction of the arrows indicate if the property is currently importing power (left) or exporting power (right)

The size of arrows is proportion to the level of power. When the property is neither importing or exporting power, the figure will be 0.0kW and there will be no animated arrows. The property is then said to be 'in balance'. |
| 2. | House Load Power | The power that the property is currently using in kW.

(Note: This is displayed only when the Generation Sensor is installed directly to a CT input or a harvi or other myenergi device.) |
| 3. | Operating Modes | The current operating mode is displayed here. |
| 4. | Generation Power | The power being generated at the time in kW.
(Note: This is displayed only when the CTs are installed either hard wired to the CT inputs of the eddi or wirelessly to a harvi or other myenergi device.) |
5.	Date & Time	The current date and time.
6.	Mode Icons	These icons indicate that the import limiting is active (house), Demand Side Response (~) or the eSense input is live (e).
7.	eddi Icon	The eddi unit. If there are wavy lines above the icon, the unit is thermally limiting! The output power is temporarily reduced.
8.	Energy Diverted Today	The accumulated energy that has been sent to the heater(s) today.
9.	Temperature	If the optional Relay & Sensor Board is fitted and temperature probes are installed, the temperature of the active heater is displayed.
10.	Heater Icon	This icon represents the active heater, and next to it is the heater number.
11.	Power Diverting to Heater	When eddi is heating, arrow will show along with the power in kW.

8. Operating Modes

Waiting for Surplus

```
                      0.8kW
☀·········🏠·◄··◄··✹
     Waiting for Surplus
22.06.17   |▥| ··II··🛢
⏱ 05:06              1
                  0.00kWh
```
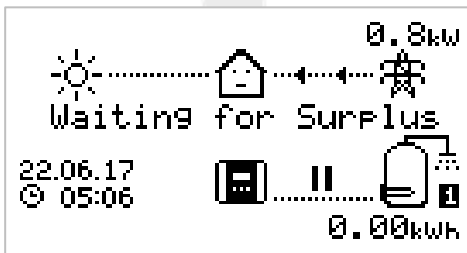
eddi is waiting for surplus power from the microgeneration system.

The house in the centre is straight faced as grid electricity is being used by the house (0.8kW in this example).

We can see that eddi hasn't started heating with surplus power yet today as there is no accumulated energy; indicated by the 0.00kWh under the water cylinder symbol.

Heating

```
                      0.0kW
☀··►··►··🏠··►··►··✹
        Heating
21.06.17   |▥| 1.6kW 🛢
⏱ 12:00              1
                  1.30kWh
```
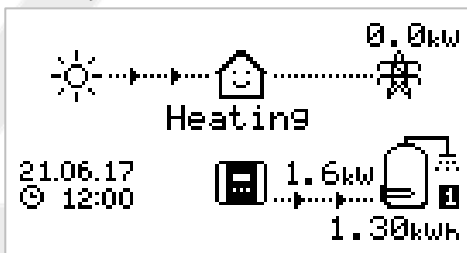
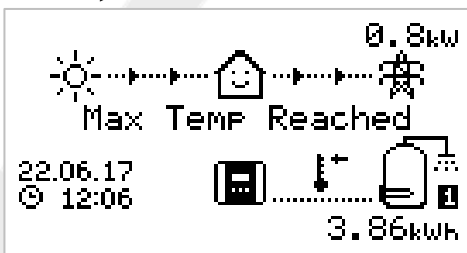eddi is now diverting power to the heater.

The heater currently being heated is shown by the icon on the right and the small number (1 in this case) corresponds to the heater number.

The amount of power being diverted at any one moment is shown between the eddi icon and the heater icon (in this screenshot the diverted power is 1.6kW).

All of the surplus energy which has been set to the heater today is displayed under the heater icon (1.30kWh) in this example.

Now the house is smiling because there is no grid electricity being used.

Max Temp Reached

```
                      0.8kW
☀··►··►··🏠··►··►··✹
    Max Temp Reached
22.06.17   |▥|  🌡  🛢
⏱ 12:06              1
                  3.86kWh
```
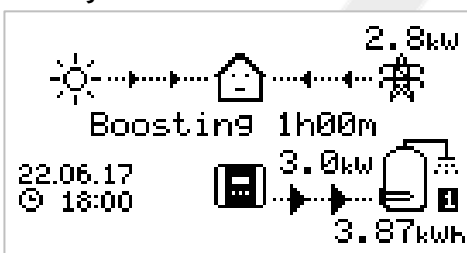
The heater is now at maximum temperature.

Now there are no arrows or power figures for the heater and a thermometer symbol is shown.

As eddi is no longer able to divert the surplus power to the heater and so this is now exported to the grid (0.8kW in this example).

If there is a second heater present (connected to Heater 2), eddi will switch over to start heating Heater 2.

Boosting

```
                      2.8kW
☀··►··►··🏠··◄··◄··✹
     Boosting 1h00m
             3.0kW
22.06.17   |▥|     🛢
⏱ 18:00    ►··►·    1
                  3.87kWh
```

Boosting means eddi is giving maximum power to the heater, irrespective of available surplus power.

The arrows going to the heater are large and the power figure (3.0kW in the example screen) is the heater's maximum power level.

During a boost , it is likely that there will be power imported from the grid (2.8kW here).

The timer starts at (1h00m) and will count down until the boost ends. The boost duration may be altered with the (↑) and (↓) arrows.
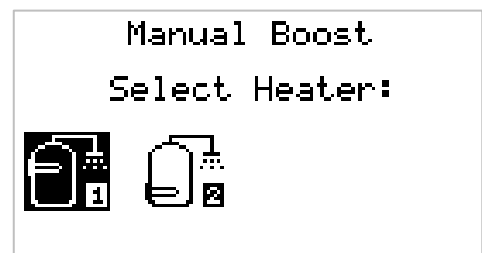
9. Manual Boost

A heater can be 'boosted' to full power for a short period regardless of the amount of available export power, this function is called Manual Boost and is activated from the main screen. Once the boost starts, the remaining boost period will be displayed, this will start with a duration of 1 hour, this can be adjusted during the boost. The boost can be cancelled at any time.

9.1   Activating Manual Boost

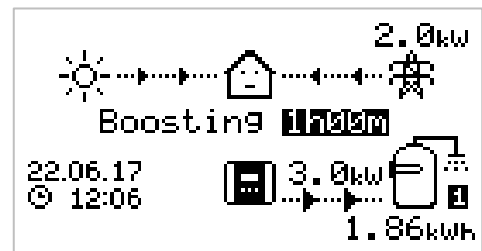**Step 1:** From the main screen, press (✓).
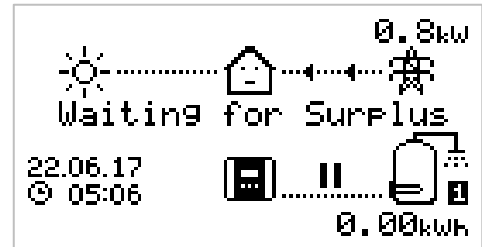
Step 2: If there is more than one heater you may select which heater you wish to boost by pressing (↑) or (↓) to change the heater. Press (✓) to start boost.
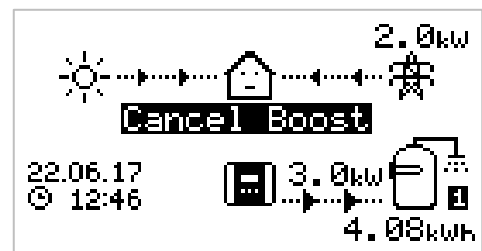
Step 3: The boost duration may be altered by pressing the (↑) or (↓) arrows during the boost.

9.2   Cancelling Manual Boost

The boost can be cancelled by pressing the (✓) button twice.

10. Boost Timer

eddi can be programmed to 'boost' the heating for each heater at certain times. Boost, means that the heater will be at full power regardless of the amount of available export power. This means that power may be drawn from the mains grid supply during boost times.

- There are four editable time slots for each heater.
- Setting the duration to 0h00 will make the boost inactive

10.1   Programming Boost Times

Step 1: From the main screen, press (X) to enter the Main Menu.

Step 2: Select Boost Timer by pressing (↓) until the option is

highlighted, then press (✓).

Step 3: Select the heater you wish to program the boost times

for (e.g. Heater 1) and then press (✓).

```
     BOOST TIMER
       Heater 1
  Start Dur   Days
e 07:30 1h30 MTWTF--
- 08:00 0h15 MTWTF--
- 12:00 0h00 ------SS
- 17:00 0h00 ------SS
```

Step 4: The BOOST TIMER screen is then shown.

Step 5: The boost can now be edited. Use the (↑) or (↓) arrow buttons to highlight the time slot you wish

to change. The screen above shows the start hour being edited.

Step 6: Alter the start hour with the (↑) or (↓) arrow buttons and then press (✓) to move to minutes.

Step 7: Edit the duration in the same way and then press (✓) again to edit the days of the week you want the

boost to be active for; each day of the week and can be toggled on/off with (↑) or (↓) arrow buttons, press

(✓) to go to the next day. Pressing (✓) on the last day (Sunday) will confirm the boost time slot and the whole

line will be highlighted again.

Step 8: Press (X) to exit the BOOST TIMER screen.

10.2 Economy Tariff Boosting

Boosting only when economy rate electricity is available can be achieved in one of three ways:

1. Setting the boost timer to coincide with the economy tariff times. This option should be used only if the electricity meter is a dual-rate meter (modern meters are usually multi-rate).
2. Boost only at set times AND if economy rate electricity is available*
3. Automatically boost whenever the economy tariff rate electricity is available, regardless of the boost times*

* Options 2 and 3 are available only when using the eSense input on the Relay & Sensor Board. The Relay & Sensors menu will be available when a Relay & Sensor Board is fitted inside the unit.

For option 2, the eSense Input in the Relay & Sensors menu option should be set to the appropriate Boost Enable setting. With the Boost Enable function set, the BOOST TIMER screen will include an extra column (see screenshot on previous page). The e can be toggled on/off, if e is present, the boost will activate only when the boost times are valid and the economy rate tariff is available.
Alternatively the eSense input can be used to activate the boost whenever the economy tariff rate electricity is available, regardless of boost times (option 3). To do this, the eSense Input in the Relays & Sensors menu should be set to Boost 1, Boost 2 or Boost 1&2. When using this option, the Boost Timer is not needed.

10.3 Boost Time Conflicts
Both heaters cannot be active at the same time and so if the boost times are conflicting, the higher priority heater will take precedence. If one or more boost times conflict for one heater, the boost will follow the latest time or longest duration.

10.4 Cancelling Boost
The boost can be cancelled by pressing (✓) twice during a boost.

10.5 Boost Stop Mode
On occasions where you have Timed Boost Scheduled but you do not want your boost to run i.e. if you are on holiday, you can put the Boost function in Stop Mode. To do this go to Heater Settings > Stop Mode and press (✓) to stop.

10.5.1 Cancelling Stop Mode
To reactivate your Timed Boost go to Heater Settings > Stop Mode and press (✓) to turn off Stop Mode.

11. Configuration Settings
The more commonly altered settings are described in more detail below.

11.1 Time & Date
The date and time are used for the Boost Timer and the savings calculations and therefore should be set correctly.

In the event of a power-cut, eddi will still keep track of the time and date for a few days, so when power is restored the clock will not need to be reset.

Time is always in 24-hour format but the date format can be changed.

eddi will automatically adjust the clock for Daylight Savings Time (DST) as long as Auto DST is enabled and the correct time zone is selected.

11.2   Priority

The priority for heater outputs can be set to Heater 1 or Heater 2. The priority heater will be heated first with the surplus power and only when fully heated will eddi start to divert power to the lower priority heater.

eddi will switch back to the priority heater if it has cooled and the thermostat for the heater is closed. When heating the lower priority heater, the Check Period sets how often the priority heater is checked to see if it can store any more heat.

If the Relay & Sensor Board is installed and temperature probes are used, eddi will immediately switch back to the priority heater if the temperature drops by more than the set Hysteresis. The Hysteresis can be set in the Temperatures menu of the Relays & Sensors menu option.

11.2.2 Hot Cancel Delay

If you would like to have a delay between switching from your priority heater to your lower priority heater there is a setting called Hot Cancel Delay where you can choose how long the delay should be from 0 to 61 minutes. To use this function go to Heater Settings > Boost > Select the duration of delay you require and press (✓) to confirm.

12.   Advanced Menu

The Advanced Menu is where you can find the setting to reset the WiFi and Restore Settings to your device, should you ever need to.

12.1   Restore Settings

Restoring settings will reset:

- Boost timers
- Backlight time
- Display contrast
- Generation icon visibility
- Auto DST
- Date format
- Heater icons
- Heater priority
- Generation PT temperature limit
- External relay settings – PT temperatures
- libbi preferences, if applicable

To reset, follow the steps below:

1. Navigate to the Advanced Menu
2. Click on "Restore Settings".
3. Press tick to confirm.

12.2   Reset WiFi Settings

If you are ever required to reset your WiFi settings, for example, because you have switched providers and have a new router or you have moved home, follow the steps below:

1. Navigate to the Advanced Menu

2. Click on "Reset WiFi Settings".

3. Press tick to confirm.

4. You will then need to set-up the WiFi to your device again. For instructions on how to do this, scan visit our Help Centre by scanning the QR code or clicking on the link below.

https://support.myenergi.com/hc/en-gb

13.   The myenergi App

We have a myenergi app for iPhone and Android devices. This allows you to control and monitor your eddi and other myenergi devices. The app is free to download and use and is available from the appropriate app store.

Please check on our website (www.myenergi.com) for more details

14.   Help Centre

If you experience any issues with your myenergi device, please visit our Help Centre by scanning the QR Code or clicking the link below.

https://support.myenergi.com/hc/en-gb

15.   Declaration of Conformity

Hereby, myenergi declares that the radio equipment type eddi microgeneration energy diverter is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available by scanning the QR code below which will take you to our Help Centre. From there, visit our Compliance section.

https://support.myenergi.com/hc/en-gb

16.   Warranty

Full details of the myenergi product warranty are available on our website or by using this QR code.

https://www.myenergi.com/terms-and-conditions/myenergi-product-warranty/

myenergi

Designed and manufactured in the UK by
myenergi Ltd, Pioneer Business Park, Faraday way,
Stallingborough, Grimsby, DN41 8FF

T: +44 (0)333 300 1303
E: sales@myenergi.com
W: myenergi.com