

## Thermino® ePlus/xPlus with PV – Wiring & Settings (D0085)



### NOTICE

Please read & understand all these instructions before commencing installation.

Failure to install and operate this system in accordance with these instructions will invalidate the manufacturer's warranty. Please leave this manual with the customer for future reference.



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## 1. INTRODUCTION

### 1.1 GENERAL

The following instructions provide guidance for the installer and end-user of Thermino® ePlus and xPlus Heat Batteries when used with compatible solar/PV power diverters.

These instructions must be read in conjunction with the Installation and User Instructions Manual for the Thermino ePlus (D0083) and xPlus (D0084) products.

All installations must be carried out by a competent installer in accordance with local codes and regulations for plumbing, electrical installations and potable water supply.

### 1.2 SYMBOLS USED

In these instructions the following symbols are being used to draw the user's attention to information of particular importance.



#### WARNING

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



#### CAUTION

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury or material damage.



#### NOTICE

Signals information that is considered important but not hazard related.

### 1.3 ABBREVIATIONS

The following abbreviations are used throughout the manual:

- PV - Photovoltaics
- PDC – Power Diversion Controller



## 2. SAFETY

### 2.1 GENERAL SAFETY NOTICES



#### WARNING

Only competent persons suitably qualified to carry out plumbing and electrical work may undertake installations, repairs or relocations of the appliance.

Product training on the full range of Thermino Heat Batteries is available from Sunamp or authorised training partners.



#### WARNING

Risk of electric shock – potential dual supply. Always isolate the power supplies to the Heat Battery controller before working on the Heat Battery.



#### CAUTION

These instructions must be read in conjunction with the Installation and User Instructions for the Thermino ePlus (D0083) and xPlus (D0084) products.



#### CAUTION

Do not operate the immersion heater until all heat exchanger circuits have been filled and the plumbing has been appropriately commissioned.

## 4S – 4-NOKS POWER REDUCER SA



### WARNING

All Electrical wiring must be carried out by a competent person and be in accordance with the latest local wiring codes and regulations.

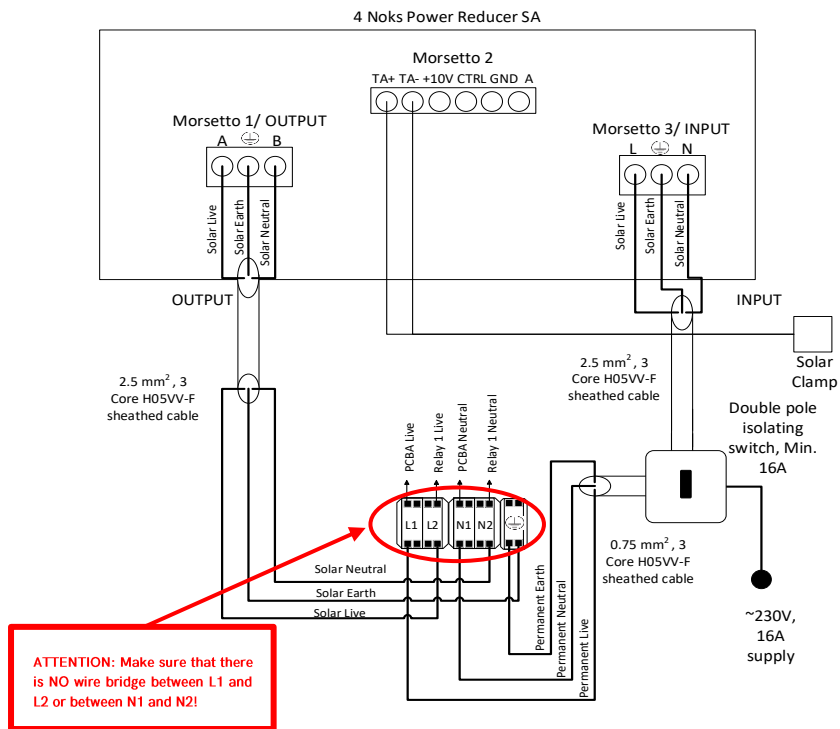
Risk of electric shock – potential dual-supply. Always isolate the power supply/ies to the Heat Battery, Heat Pump & Solar Diverter controller (if used) before working on the appliances.

These settings are applicable to the following products:

- Thermino ePlus with PV02 Optimino Key (D0083 – Section 6.4.2 for wiring instructions & Figure 1 below)
- Thermino xPlus with any "02" Optimino Key (D0084 – Section 6.4.2 for wiring instructions & Figure 4S.1 below)
- Solar Diverter Controllers from the 4 Noks Power Reducer SA range



## 4S.1 WIRING SETUP - 4 NOKS POWER REDUCER SA & THERMINO ePlus & xPlus



**Note:** 1) Heat Battery Controller Connection above only shows Power Terminal connections, for other Heat Battery wiring, please reference to Installation Manual provided with Heat Battery.  
2) Solar Clamp should be placed based on the Instructions provided in the 4 Noks Power Reducer SA Installation manual.

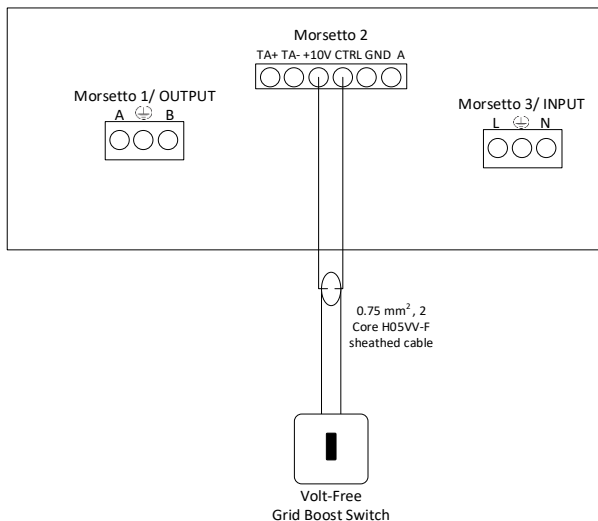
Figure 4S.1 – 4 Noks Power Reducer SA wiring instructions



## 4S.2 ADDITIONAL SETTINGS TO BE APPLIED TO THE 4 NOKS POWER REDUCER SA

### APPLYING A MANUAL GRID BOOST

A Manual Boost on absence of Solar load can be applied to the Thermino Heat Battery by wiring a Volt-Free Switch into the terminals “+10V” and “CTRL”, and closing the circuit as detailed in Figure 4S.2 below. Please note that to allow the device to revert to Solar Load only, the switch needs to be deactivated. The switch **MUST NOT** be a fused spur and needs to be Volt-Free.



**Figure 4S.2 – Wiring of Grid Boost Switch on absence of Solar Load**



## MI- MYENERGI EDDI SOLAR DIVERTER



### WARNING

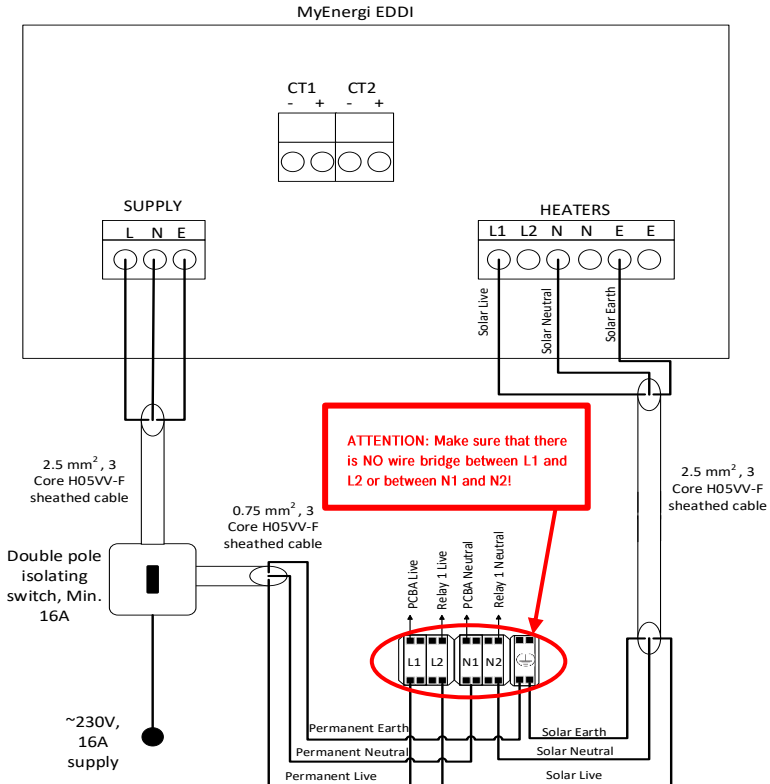
All Electrical wiring must be carried out by a competent person and be in accordance with the latest local wiring codes and regulations.

Risk of electric shock – potential dual-supply. Always isolate the power supply/ies to the Heat Battery, Heat Pump & Solar Diverter controller (if used) before working on the appliances.

These settings are applicable to the following products:

- Thermino ePlus with PV02 Optimino Key (D0083 – Section 6.4.2 for wiring instructions & Figure MI.1 below)
- Thermino xPlus with any "02" Optimino Key (D0084 – Section 6.4.2 for wiring instructions & Figure MI.1 below)
- Solar Diverter Controllers from the MyEnergi EDDI range

## MI.1 WIRING SETUP - MYENERGI EDDI & THERMINO ePlus & xPlus



**Note:** Heat Battery Controller Connection above only shows Power Terminal connections, for other Heat Battery wiring, please reference to Installation Manual provided with Heat Battery.

Figure MI.1 - Myenergi EDDI wiring instructions



## MI.2 SETTINGS TO BE APPLIED TO MYENERGI EDDI



### NOTICE

The settings below cross reference to the Myenergi eddi Operation and Installation Manual

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### HOT CANCEL DELAY

This function needs to be set on commissioning the Heat Battery. To do so, access the Heater Settings > Boost > set the duration of the delay to the maximum time and press (✓) to confirm.

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### PROGRAMMING BOOST TIMES

- From the main screen, press (X) to enter the Main Menu.
- Select Boost Timer by pressing (↓) until the option is highlighted, then press (✓).
- Then Select Heater 1 and then press (✓).
- The BOOST TIMER screen is then shown.
- The boost can now be edited. Use the (↑) or (↓) arrow buttons to highlight the time slot you wish to change.
- Alter the start hour with the (↑) or (↓) arrow buttons and then press (✓) to move to minutes.
- Edit the duration in the same way and then press (✓) again to edit the days of the week you wish 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.



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## APPLYING A MANUAL BOOST

During the Manual Boost, "Heater 1" 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, and this will start with a duration of 1 hour (which can be adjusted during the boost). The boost can also be cancelled at any time by following the steps below:

- From the main screen, press (✓).
- Select "Heater 1" to apply the Manual Boost & Press (✓) to start boost.
- The boost duration may be altered by pressing the (↑) or (↓) arrows during the boost.
- To cancel the Manual boost, press (✓) button twice.

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## SOLAR PERMANENT BOOST



### NOTICE

This option requires the additional "EDDI Relay & Sensor Board" part from Myenergi

Wire a H05 VV-F, 1.5mm<sup>2</sup>, 2 core sheathed cable from the Sunamp PCBA J5 "HEAT" "N" & "L" screw terminals out of the Heat Battery controller & Outer case cable exits and securing them with the provided strain reliefs or an appropriately sized and rated cable gland. Wire into the "EDDI Relay & Sensor Board", connections "e~" as detailed in Figure MI.2 below.

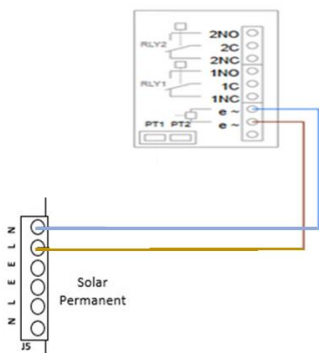
The function of this input can be set by accessing the following:



- Device settings > Advanced > Relay & Sensors > eSense Input

The function of the input can be set for the following function input options:

- Boost
- Heater Enable
- Boost Enable



**Figure MI.2 - Solar Permanent Connection to EDDI Relay & Sensor Board**

## MV – my-PV AC·THOR SOLAR DIVERTER



### WARNING

All Electrical wiring must be carried out by a competent person and be in accordance with the latest local wiring codes and regulations.

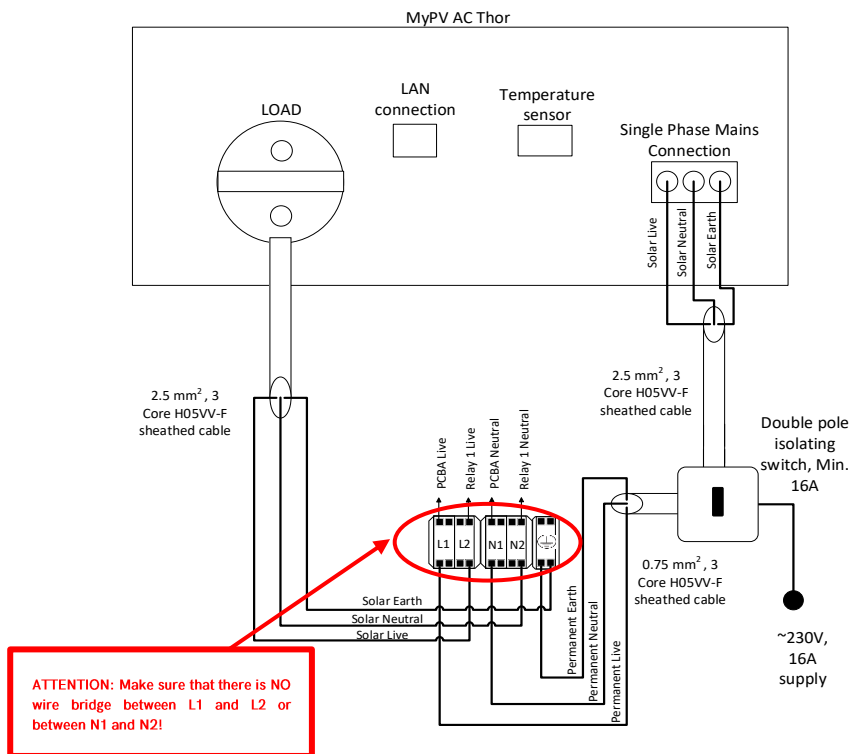
Risk of electric shock – potential dual-supply. Always isolate the power supply/ies to the Heat Battery & Solar Diverter controller before working on the appliances.

These settings are applicable to the following products:

- Thermino ePlus with PV02 Optimino Key (D0083 – Section 6.4.2 for wiring instructions & Figure MV.1 below)
- Thermino xPlus with any “02” Optimino Key (D0084 – Section 6.4.2 for wiring instructions & Figure MV.1 below)
- Solar Diverter Controllers from the my-PV AC·THOR range



## MV.1 WIRING SETUP - MY-PV AC·THOR & THERMINO ePlus & xPlus



**Note:** Heat Battery Controller Connection above only shows Power Terminal connections, for other Heat Battery wiring, please reference to Installation Manual provided with Heat Battery.

**Figure MV.1 – my-PV AC·THOR wiring instructions**



## MV.2 AC·THOR QUICKSTARTGUIDE AND OPERATION MANUAL

Find a short Quickstartguide [here](#)

Find a full operation manual [here](#)



## MV.3 SYSTEM OVERVIEW (ON-GRID SYSTEMS)

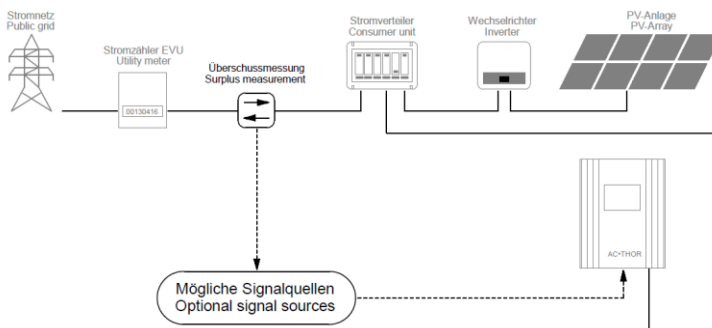


Figure MV.2: On-grid system overview



## MV.4 OPTIONAL SIGNAL SOURCES

### my-PV WiFi Meter

Instructions can be found [here](#)



### Compatible manufacturers

Instructions can be found [here](#)



## MV.5 SETTINGS TO BE APPLIED TO my-PV AC•THOR



### NOTICE

The settings below cross reference to the my-PV AC•THOR Assembly Instructions and Operation Manual

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### my-PV AC•THOR TEMPERATURE SENSOR

Route the Temperature sensor from the my-PV AC•THOR into the Heat Battery Case between the top Insulation layers of the Heat Battery. Please do not insert this into the Heat Battery inner cell or temperature sensor pocket.


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## SETTING BOOST TIMES

Boost times can be set by accessing the "Hot Water" section in the Main Menu. Here, it is also possible to set the time, duration and days of the week to which to apply the Boost Times.

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## APPLYING A MANUAL BOOST

A Manual Boost can be applied by pressing the button  "Single-boost" on the Main Page of the my-PV AC•THOR. The Boost can be cancelled by pressing the button once again.

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## LEGIONELLA

Ensure that all Legionella functions on the my-PV AC•THOR are disabled. This can be done by accessing the "Legionella-Mode" in the Main Menu, and setting "Prevention of Legionella" to "Off".



## PR – POWER DIVERTER MODEL 3 SOLAR DIVERTER



### WARNING

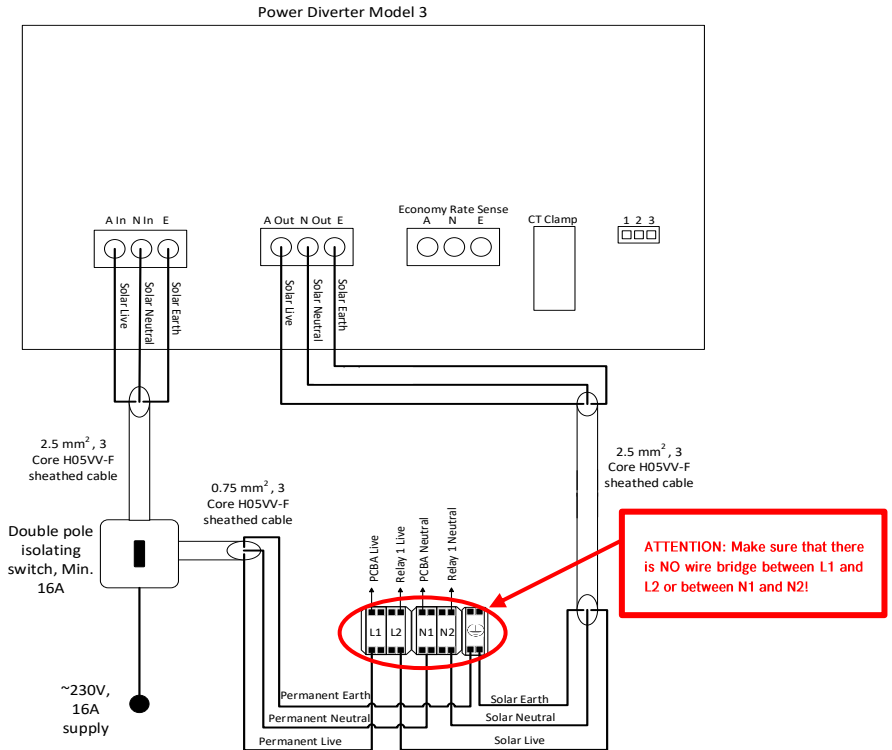
All Electrical wiring must be carried out by a competent person and be in accordance with the latest local wiring codes and regulations.

Risk of electric shock – potential dual-supply. Always isolate the power supply/ies to the Heat Battery, Heat Pump & Solar Diverter controller (if used) before working on the appliances.

These settings are applicable to the following products:

- Thermino ePlus with PV02 Optimino Key (D0083 – Section 6.4.2 for wiring instructions & Figure PR.1 below)
- Thermino xPlus with any "02" Optimino Key (D0084 – Section 6.4.2 for wiring instructions & Figure PR.1 below)
- Solar Diverter Controllers from the Power Diverter Model 3 range

## PR.1 WIRING SETUP - POWER DIVERTER MODEL 3 & ePlus & xPlus



**Note:** Heat Battery Controller Connection above only shows Power Terminal connections, for other Heat Battery wiring, please reference to Installation Manual provided with Heat Battery.

**Figure PR.1 – Power Diverter Model 3 wiring instruction**



## PR.2 SETTINGS TO BE APPLIED TO POWER DIVERTER MODEL 3



### NOTICE

The settings below cross reference to the "Power Diverter Model 3 Quick Install Guide".

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### PROGRAMMING BOOST TIMES VIA CLOCK

Please refer to Figure 7 below to successfully apply the following settings:



**Figure PR.2 – Power Diverter Model 3 Clock**

- Ensure when setting the Boost schedule that the Boost duration reflects the size of the Heat Battery installed, to ensure that the duration is sufficient to charge the Heat Battery.
- Unlock the Clock by pressing "C/R" button 4 times.



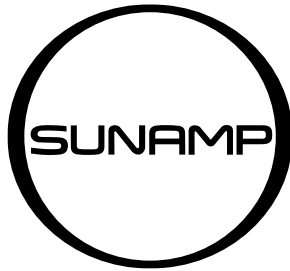
Set the Boost scheduling by applying the following:

- D+ sets the Day
- H+ sets the Hour
- M+ sets the Minutes
- Press the "Manual" button to "Auto" - this will engage the Power Diverter Model 3 to charge in the programmed Boost times.
- To remove the programmed boost function, Press "Manual" button to "Off".

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#### APPLYING AN "EASY BOOST" OVERRIDE FOR SET TIME PERIOD

- By Pressing the "Easy Boost" button on the front panel of the Power Diverter Model 3 once, this will initiate a Boost for a period of one hour.
- By pressing the "Easy Boost" button twice, it will be increased to 2 hours.
- By pressing the "Easy Boost" button 3 times, the boost time will be increased to 3 hours.
- To cancel all the boost times, the "Easy Boost" button must be pressed 4 times.



Manual Part Number: D0085

Version Number: 1.1

Publication Date: 03.06.2024

Sunamp Ltd  
1 Satellite Park  
Macmerry  
East Lothian  
EH33 1RY  
Scotland

Customer Service (Phone): +44 (0)1875 610 001

Customer Service (Email): [customerservice@sunamp.com](mailto:customerservice@sunamp.com)

[www.sunamp.com](http://www.sunamp.com)