

# Installation Guide

## 1. Purpose and Background

The new Hansol AIO system (powered by SAMSUNG batteries) has been redesigned for residential use to store your solar energy for later use. In the event of grid outage, the AIO unit will supply power to 'backed up' circuits.

This document provides a quick overview of AIO unit installation especially in relation to interface with balance of plant such as Bypass Switch and External meter etc. Detailed Installation manual should be referred.

**a. Who can install the AIO unit?**

Any Clean Energy Council certified installer with A Grade Electrician certificate. It's also strongly recommended that before installing the first AIO unit you contact ZECO Energy and attend Installation Course.

**b. How long does installation take?**

It depends on the site specifics. However, as the AIO unit is an fully integrated unit including PV inverter and Battery inverter, it takes substantially less time than most battery systems in Australia.

**c. What tools are required?**

Please refer to AIO Installation Manual (Refer <https://www.zecoenergy.com.au/products.html>)

## 2. Safety Procedure

- a. At all times, the technician/electrician must ensure electrical and mechanical safety procedures are followed.
- b. If in doubt, please call ZECO Energy helpline 1300 00 ZECO (1300 00 9326) or email [technicalsupport@zecoenergy.com.au](mailto:technicalsupport@zecoenergy.com.au)
- c. Please use the right/appropriate tools required to perform this procedure including lifting of heavy objects.

Secure | <https://www.zecoenergy.com.au/products.html>


and highest performance Lithium-ion batteries available in the world.

HANSOL is the Associate Company of SAMSUNG Group in South Korea.

[Download Data Sheet](#) [Download Info Sheet](#)

## PRODUCTS

### SOLAR and BATTERY




**RESIDENTIAL ALL IN ONE SYSTEMS**

7.2 kWh storage

10.8 kWh storage

[Download Data Sheet](#)

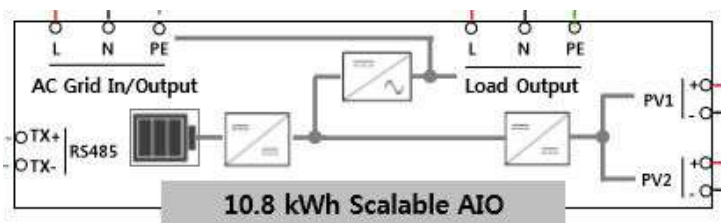


**Hansol**

Powered by SAMSUNG

[Download Detailed Specifications](#)  
[Download Wiring Diagram](#)  
[Download Quick Installation Guide](#)  
[Download Installation Manual \(Part 1\)](#)  
[Download Installation Manual \(Part 2\)](#)

# Hansol/Samsung All-In-One Scalable



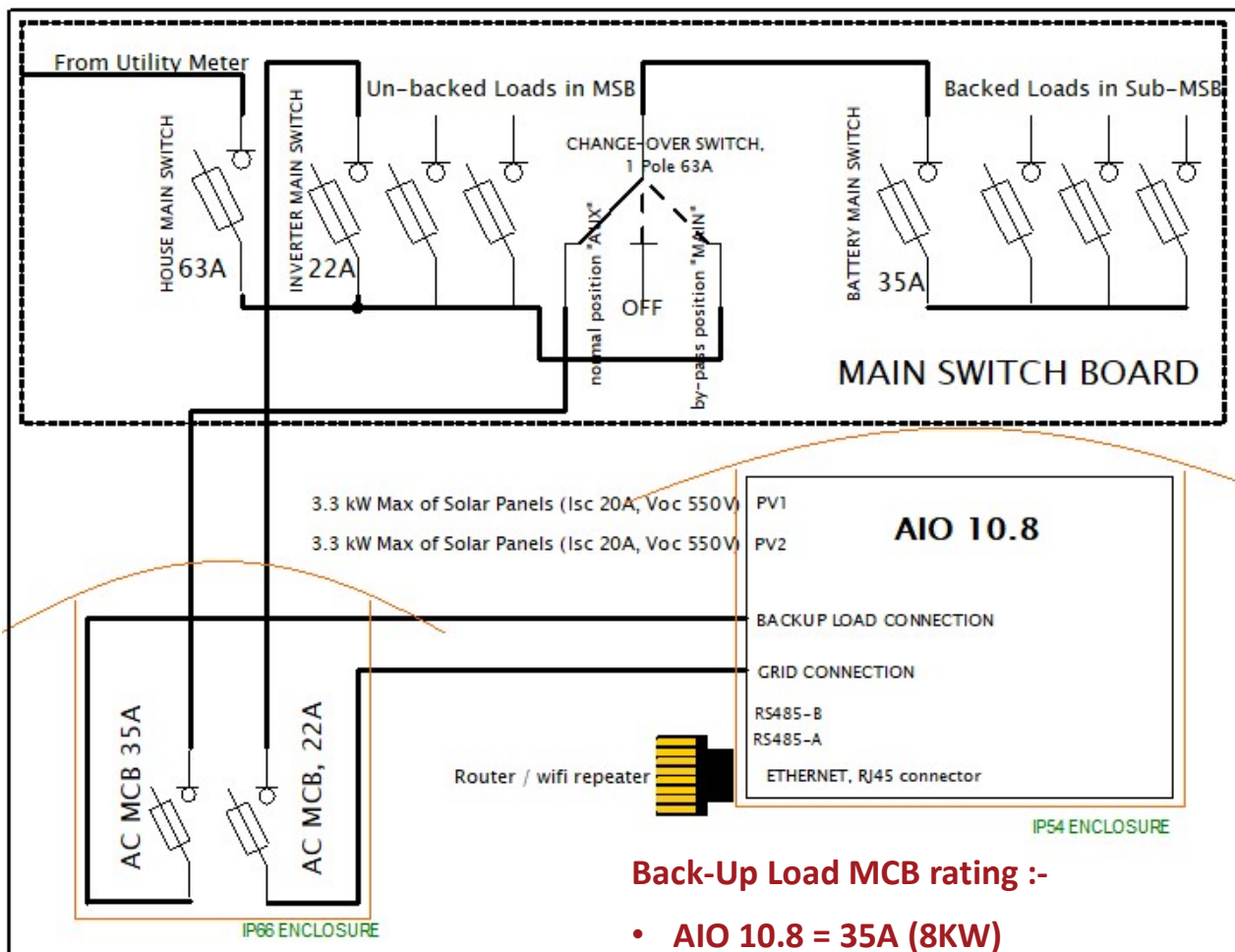
- |   |   |
|---|---|
| • Can AIO be used for Off-grid application?                       | Yes   |
| • Can AIO be used in Off-Grid configuration on GC Site?           | Yes   |
| • Can GRID / Generator be used for charging battery?              | Yes   |
| • Can AIO be used in multiphase site?                             | Yes   |
| • Can two AIO units be paralleled on the same phase?              | Yes   |
| • Is there a grid exporting limit feature?                        | Yes   |
| • What is the maximum Back-Up Loads that can be connected to AIO? | AIO 10.8, 8kW(GC)/5kW(SAPS)<br>AIO 7.2, 7kW(GC)/4kW(SAPS) |
| • Can battery discharge into non-back-up / 3phase loads?          | Yes   |
| • Does AIO have a PV charge controller?                           | Yes   |
| • Is PV generation active when there is no GRID?                  | Yes   |

## Basic Specifications

Max. input total power	6.6 kWp	
Max. input power per string	3.3 kWp	
Max. input voltage	550 V	
Min. input voltage/Initial input voltage	125 V/150 V	
MPPT voltage range	125 V~500 V	
Max. input current per string	15 A	
Number of independent MPP trackers	2	
Battery Data (DC)		
System model No.	ELSR722-00004	ELSR103-00001 (*)
Battery rated capacity	7.2 kWh	10.8 kWh
DOD (Depth of Discharge)	90 % (6000cycles, 5 ~ 95 %),	
Battery voltage range/nominal voltage	96 ~ 132 V / 120 V	145 ~ 198 V / 180 V
Battery Max. current	46 A	38 A
Battery DC/DC Converter Data		
Rated power	4.0 kW	4.98 kW
Grid Connection Data (AC)		
Rated power	4.98 kW	
Max. apparent AC power	4.98 kVA	
Max. output current	22 A	
Max. input AC power	8 kW	
Max. allowed current for fuse protection	43 A	
Nominal AC voltage/range	230 V/200 V~270 V	
Rated power frequency	50 Hz	

(\*):2 battery trays for 7.2 kWh; 3 battery trays for 10.8 kWh

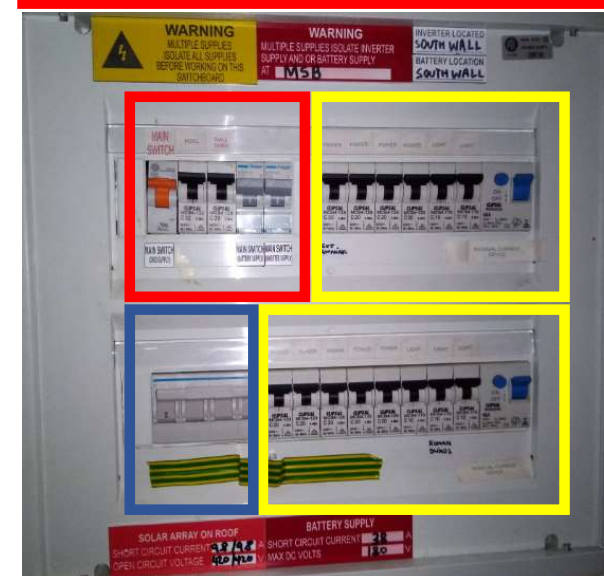
## Configuration #1 : SLD of AIO unit in Grid Connect System



### Back-Up Load MCB rating :-

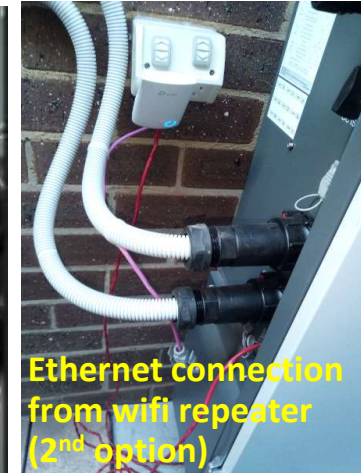
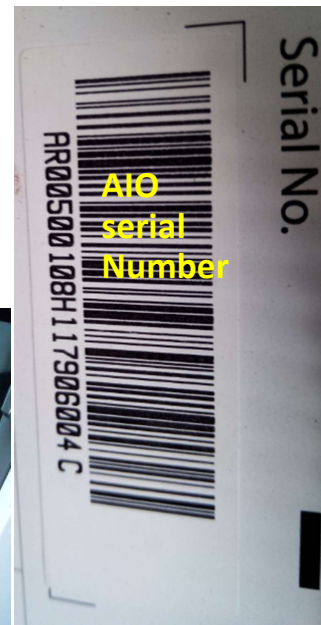
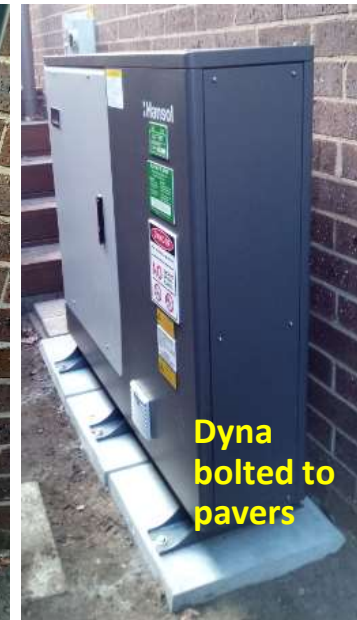
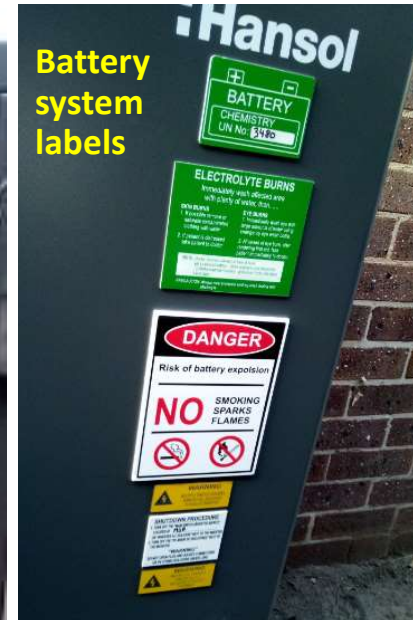
- AIO 10.8 = 35A (8KW)
- AIO 7.2 = 30A (7KW)

Grid Connection MCB rating = 22A (5kW)

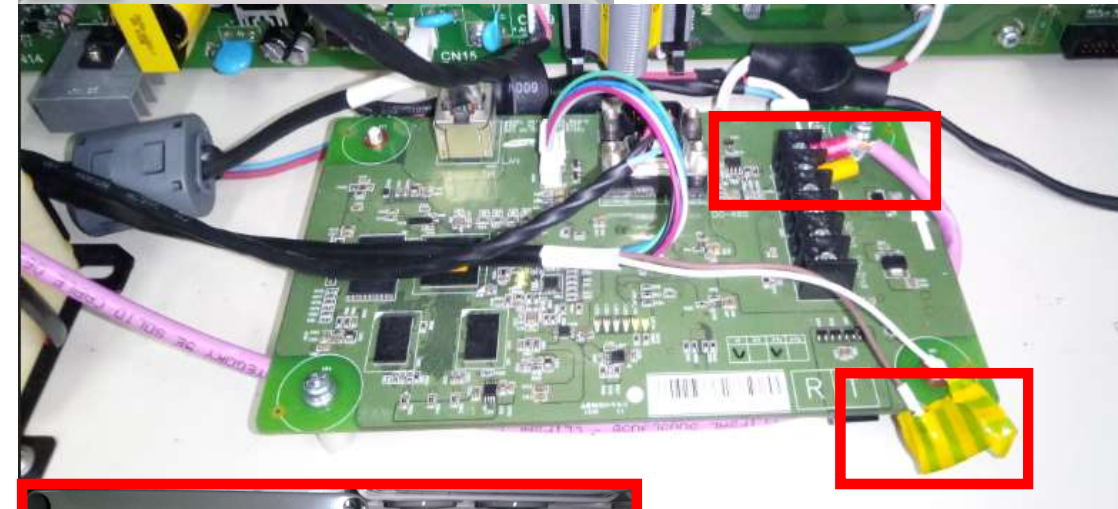
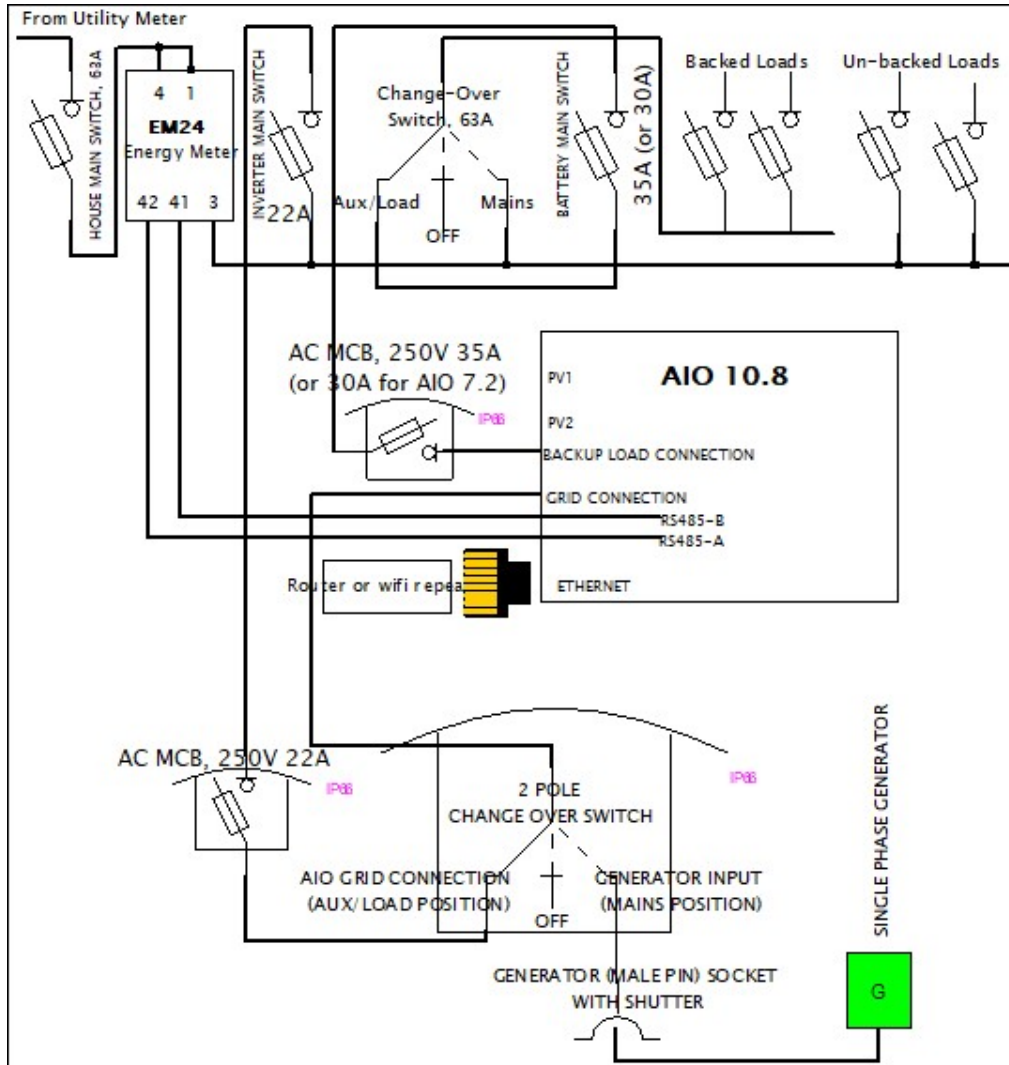




## AIO unit in Grid Connect configuration ....continued

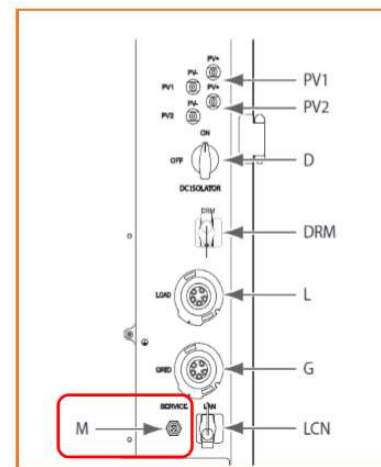
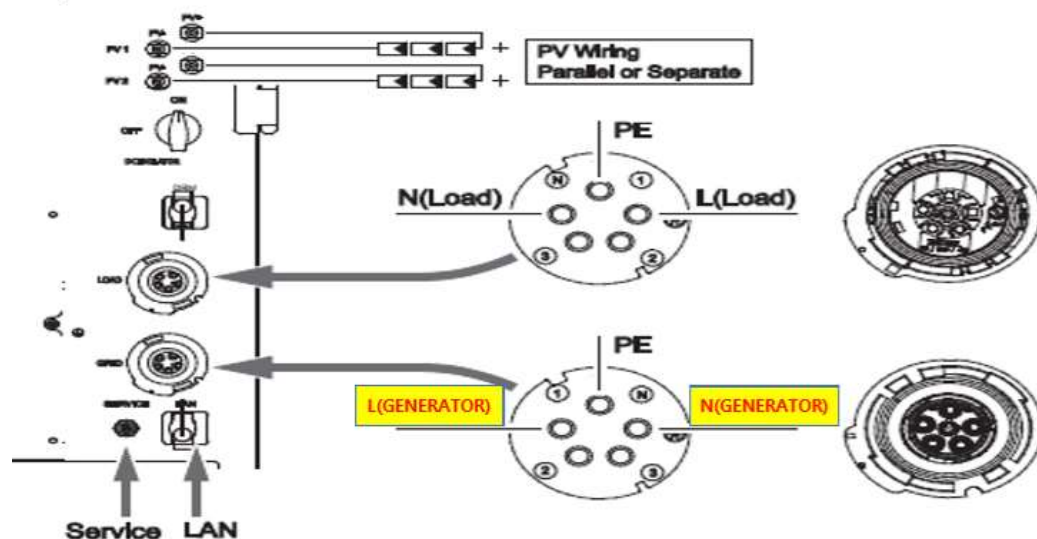
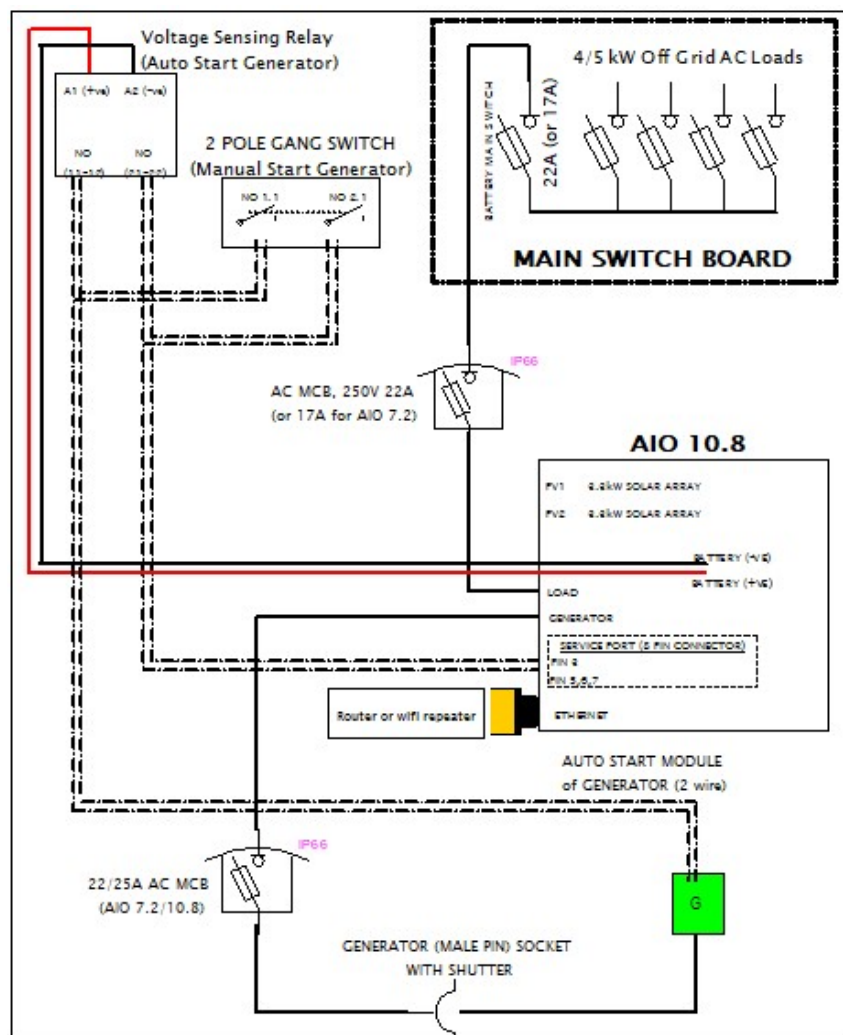


## Configuration #2 : SLD of AIO unit in Grid Connect System, with External Energy Meter and Generator Input





### Configuration #3 : SLD of AIO unit in Off-Grid system



#### GENERATOR SHORT BAR

THE BATTERY CHARGER MODE MUST HAVE GENERATOR SHORT BAR

GENERATOR SHORT BAR MUST BE INSERTED DURING THE BATTERY CHARGER MODE



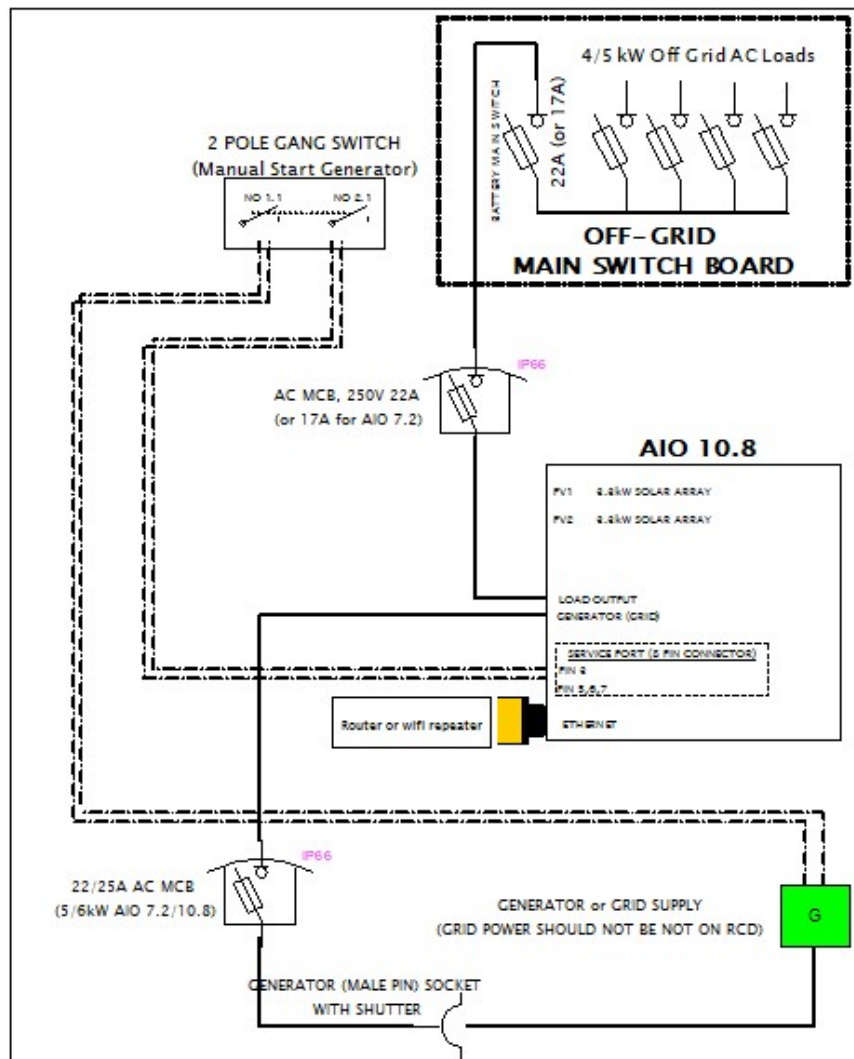
Object	Part List	Type
PV 1	PV input 1	INVERTER
PV 2	PV input 2	INVERTER
D	DC Isolator	INVERTER
L	ESS Load Output	INVERTER
G	Grid Input	INVERTER
LCN	LAN Connector	INVERTER
M	Service for installation	INVERTER
DRM	DRM Connector	INVERTER

#### NOTE :

#1) For AIO 10.8, Back-Up loads can be up-to 5kW (22A).

#2) For AIO 7.2, PV and Grid Connection specifications are same as AIO 10.8, but Back-Up Loads are 4kW (17.4A).

### Configuration #4 : SLD of AIO unit in Off- Grid System, on a Grid Connect Site



- For a Grid Connect Site with Premium Feed-in tariff, add an Off-Grid Solar and battery Storage system using AIO 7.2/10.8.
- No violation of PFIT T&Cs. Customer should confirm with their DNSP.
- Off-Grid STC still available on panels that are added.
- Separate Sub-Main Switch Board and MEN needed.
- Loads can be connected to Off-Grid Power Points.
- Battery can be charged in Generator Charge Mode.
- A Generator can be plugged into the 3 PIN Generator socket or a GRID Power can be supplied through a Grid Power Point that is not on RCD.

OFF-GRID SYSTEM TO TAKE THE HOUSE LOADS, OFF THE GRID BUT STILL KEEP THE OPTION TO USE THE GRID TO CHARGE THE BATTERY, IF NEEDED



## AIO special modes



- Hardware needed : EM-24
- Battery power available for non back-up loads (loads that are too big to put on battery back-up or are 3-phase)



- Hardware needed : Generator mode switch
- Grid / Generator power available for charging the battery
- Generator mode switch can be operated manually or automatically
- Auto mode operation based on low Battery SOC in an Off-Grid system
- Auto mode operation based on time (viz., to avail lower TOU tariff in a Grid connected system)

AIO unit in Off-Grid configuration....continued



## AC Cable size for maximum cable run, from AIO to Main Switch Board

It is recommended that the voltage drop between the inverter and the main switchboard should be kept as small as possible (recommended <1%) to minimize voltage rise within the installation

Voltage Drop, %	Amperage, A	Wire Material	Core	Maximum Cable run, meters	CSA, mm <sup>2</sup> (No derating)
1% (max)	AIO Grid Connection to Main Switch Board (5kVA / 22A)	Copper (Coductor) /PVC (Insulation)	Multi	15	6
				30	10
				45	16
				70	25
				95	35
				125	50
1.2%	AIO 10.8 Load Output to Main Switch Board (8kVA / 35A)			15	6
1.4%				30	10
1.4%				45	16
1.4%				70	25
1.4%				95	35
1.4%				125	50
1.0%	AIO 7.2 Load Output to Main Switch Board (7kVA / 30A)			15	6
1.2%				30	10
1.2%				45	16
1.2%				70	25
1.2%				95	35
1.2%				125	50



## AS4777 specified passive anti-islanding limits

TABLE 13  
PASSIVE ANTI-ISLANDING SET-POINT VALUES

Protective function	Protective function limit	Trip delay time	Maximum disconnection time
Undervoltage (V<)	180 V	1 s	2 s
Overvoltage 1 (V>)	260 V	1 s	2 s
Overvoltage 2 (V>>)	265 V	—	0.2 s
Under-frequency (F<)	47 Hz (Australia) 45 Hz (New Zealand)	1 s	2 s
Over-frequency (F>)	52 Hz	—	0.2 s

### 7.5.2 Sustained operation for voltage variations

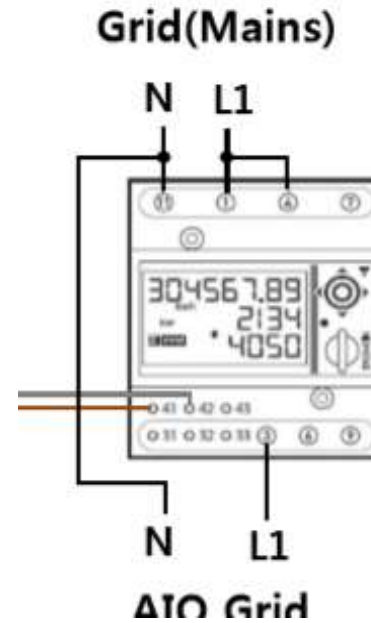
The inverter shall operate the automatic disconnection device (see Clause 7.2) within 3 s when the average voltage for a 10 min period exceeds the  $V_{\text{nom-max}}$ , where  $V_{\text{nom-max}}$  lies in the range 244–258 V.

The sustained operation for voltage variations shall not interfere with the active and passive anti-islanding requirements of Clauses 7.3 and 7.4.

The limit  $V_{\text{nom-max}}$  shall be preset to the default set-point and may be programmable up to the maximum 258 V. The default set-point for  $V_{\text{nom-max}}$  shall be as follows:

- (a) In Australia: 255 V.
- (b) In New Zealand: 248 V.

## EM-24 (CARLO GAVAZZI) External Energy Meter Installation for Feed-In Control

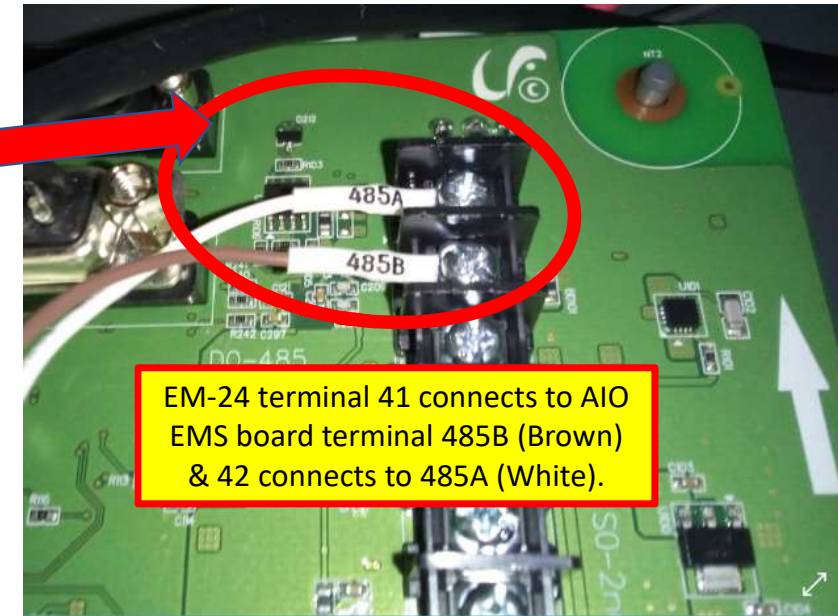
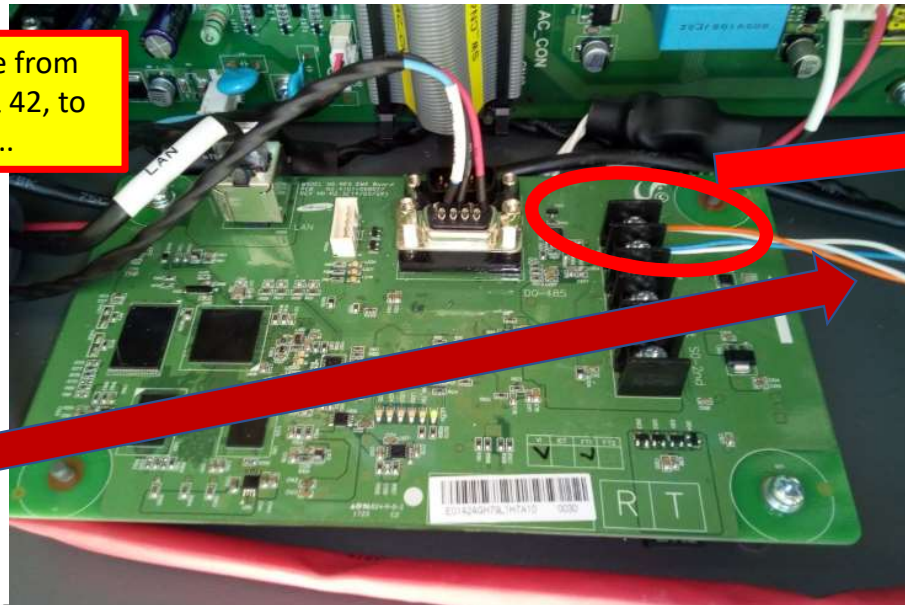
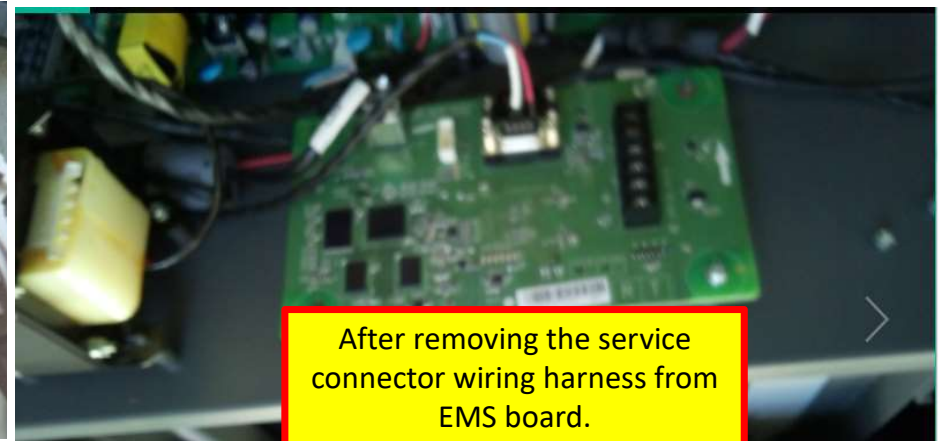
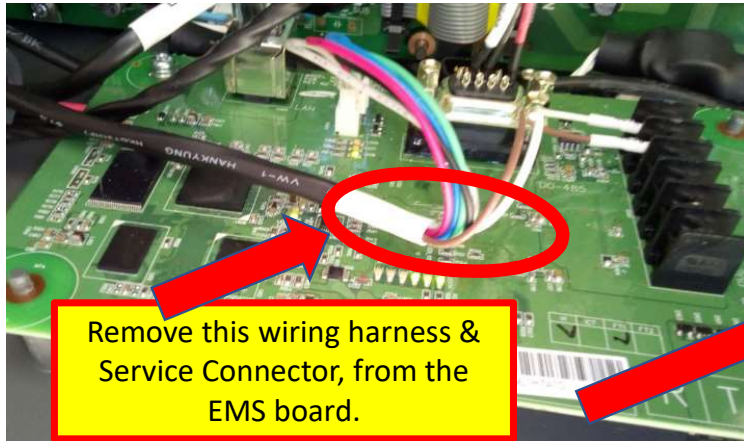


Meter (EM24-RS485)		Grid/AIO
(1) L1	Short Circuit	L(Grid)
(4) L2		-
(11) N		N(Grid)
(3) L1		L(AIO)
(11) N		N(AIO)
(41) A-		RS485-B (Brown)
(42) B+		RS485-A (White)





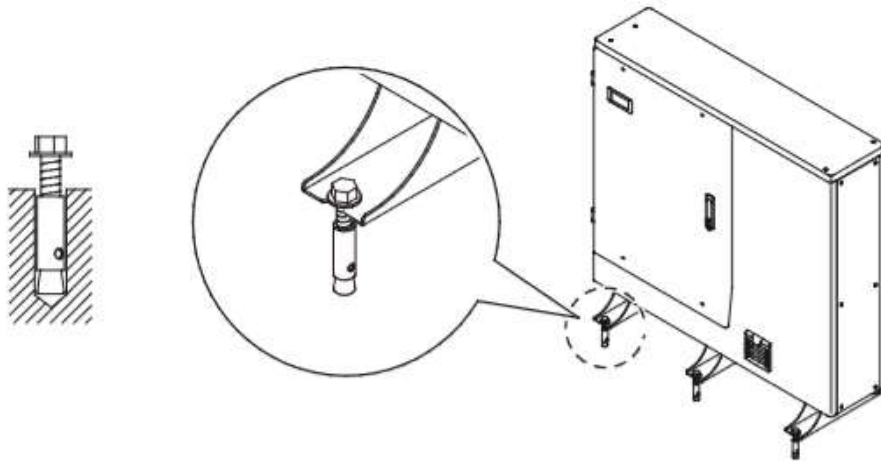
## EM-24 External Energy Meter RS485 connection to AIO EMS board



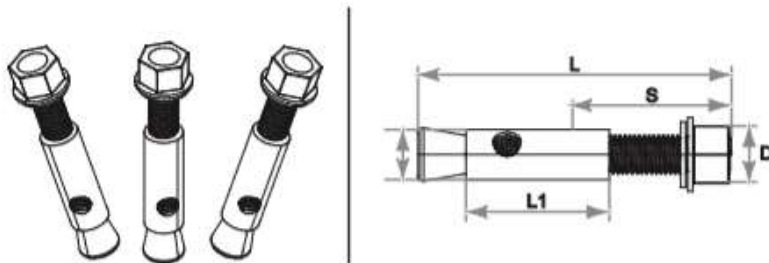


## Free standing mounting, IP54 rating and scalable

### 4.2 Mounting Instructions

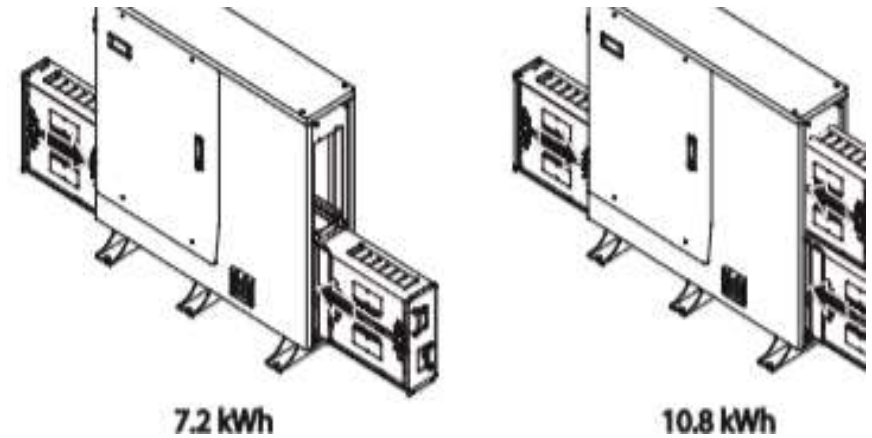


[Figure 4-4: Spanner for fastening anchor nuts (Minimums 4 ea)]



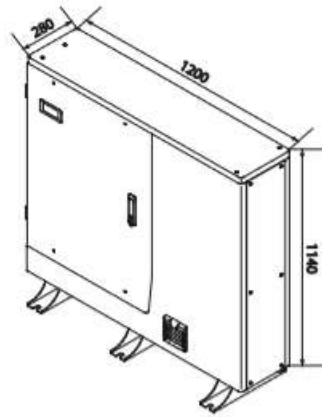
[Figure 4-5: Anchor Bolt]

#### 4.1.1 Possible locations for installation



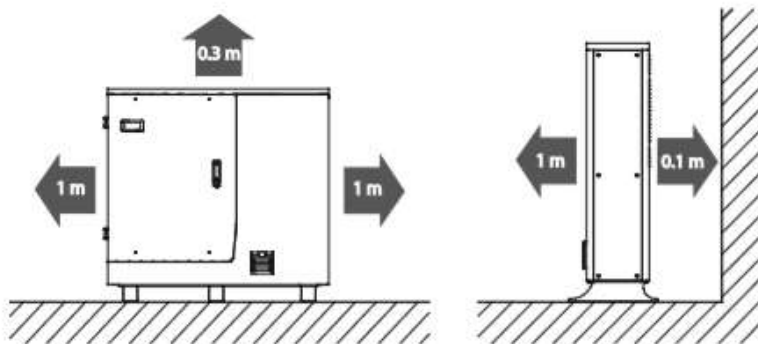
[Figure 5-7: Battery Connection]

## Dimensions, Weight, Clearance Zone, Electrical Connections



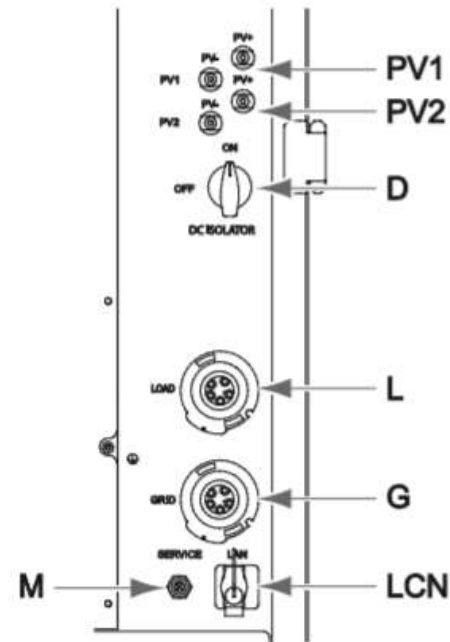
[Figure 4-1: Dimension of All in One]

System	Battery	Inverter ( Include case)	Total
7.2 kWh	90 kg	104 kg	194 kg
10.8 kWh	135 kg	104 kg	239 kg



[Figure 4-2: Minimum Clearance for All in One]

### 5. Electrical Connections

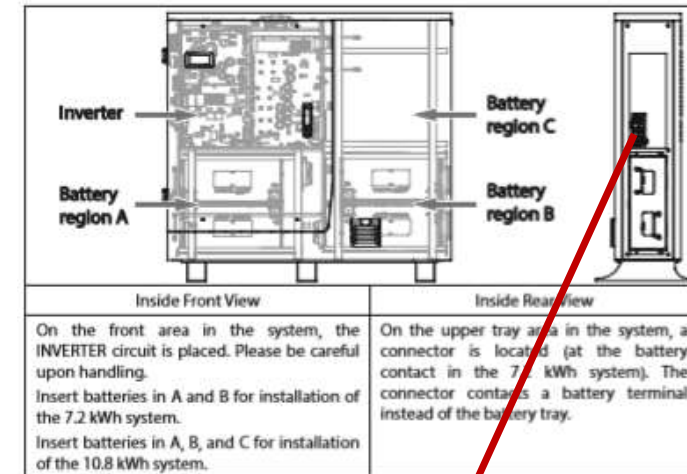


[Figure 5-5: Side View]

Object	Part List	Type
PV 1	PV input 1	INVERTER
PV 2	PV input 2	INVERTER
D	DC Isolator	INVERTER
L	ESS Load Output	INVERTER
G	Grid Input	INVERTER
LCN	LAN Connector	INVERTER
M	Service for installation	INVERTER

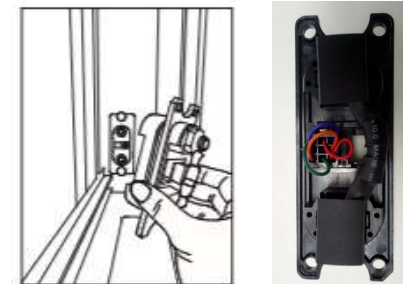
### The Overview of the Connection Area

The [Table 5-4] shows the inner structure of the 7.2 kWh All in One when the front case cover is removed (Section 5.1).



[Table 5-4: Front and Rear view of All in One (For 7.2 kWh system)]

**“Short-Bar” for 3<sup>rd</sup> battery tray in AIO 7.2**



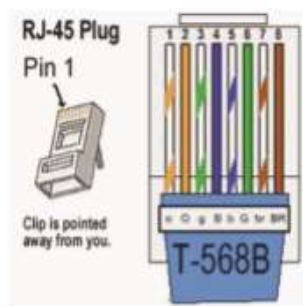
## RJ-45 Connector

### 5.9 A connecting method of DRM connection

The inverter supports the DRM (Demand Response Mode) function as specified in AS4777.2:2015. The terminal block inside the inverter is used for connecting to a demand response enabling device (DRED). The DRED asserts DRMs. The inverter detects and initiates a response to all supported demand response commands within 2s. The following table lists the DRMs supported by the inverter.

Mode	Explanation
DRM0	The inverter is in the state of "Key-stop".
DRM1	The import power from the grid is 0.
DRM2	The import power from the grid is no more than 50% of the rated power.
DRM3	The import power from the grid is no more than 75% of the rated power.
DRM4	The import power from the grid is 100% of the rated power, but subject to the constraints from other active DRMs.
DRM5	The export power from the grid is 0.
DRM6	The export power from the grid is no more than 50% of the rated power.
DRM7	The export power from the grid is no more than 75% of the rated power.
DRM8	The export power from the grid is 100% of the rated power, but subject to the constraints from other active DRMs.

[Table 5-8: DRMs Supported by the Inverter]



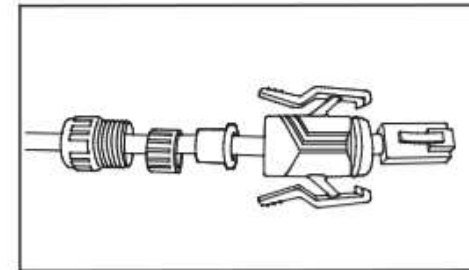
Corresponding Relationship Between Cables and Pins(568B)

Pin.1 : White-orange	: DRM 1/5
Pin.2 : Orange	: DRM 2/6
Pin.3 : White-green	: DRM 3/7
Pin.4 : Blue	: DRM 4/8
Pin.5 : White-blue	: RefGen
Pin.6 : Green	: Com.DRM0
Pin.7 : White-brown	: -
Pin.8 : Brown	: -

### 5.10 LAN Cable Connection between PC and System

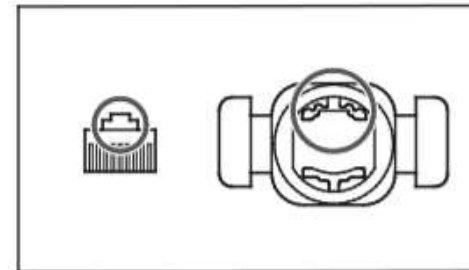
#### 1. Assembling the cable for the RJ45 sleeve housing.

- a. The structure of the cable for the RJ45 sleeve housing is as follows.



[Figure 5-34: Structure of the cable for RJ45 sleeve housing]

- b. Check the locations for the RJ45 cable clip and the groove of the RJ45 sleeve housing.

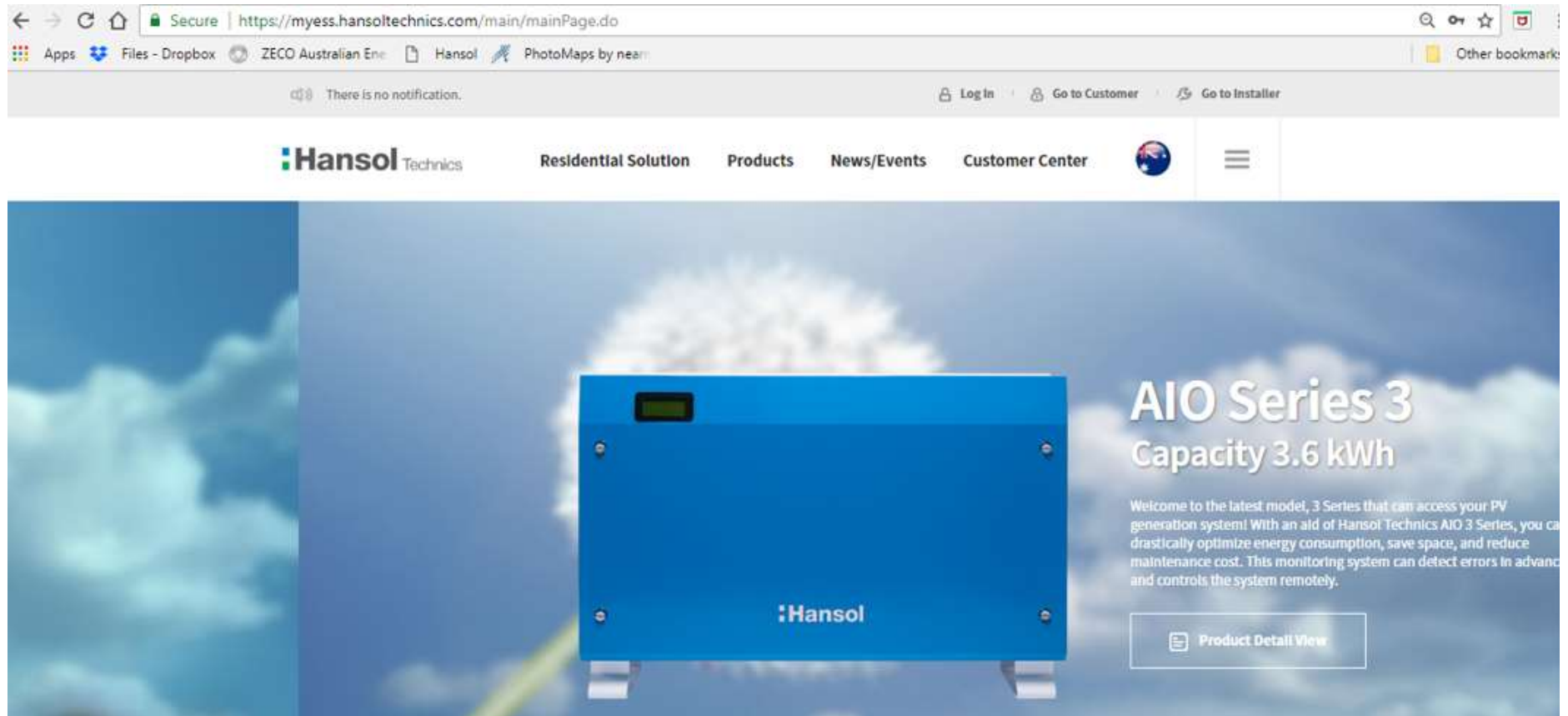


[Figure 5-35: RJ45 cable clip and the groove of RJ45 sleeve housing]



## Registering the AIO unit & setting up online monitoring

<https://myess.hansoltechnics.com/main/mainPage.do>



**Installer log-in to register the AIO serial number**  
**(please note Zeco will set-up an Installer account, if not already available, prior to the installation)**

The screenshot shows a web browser window with the URL <https://myess.hansoltechnics.com/main/mainPage.do>. The page is titled "Log In" and features a large blue padlock icon. Below the icon, the text reads: "Thanks for using the Hansol Technics ESS solution. Log In according to the following instructions." There are two input fields: the first contains the text "BrodieDuff" and the second contains a masked password "\*\*\*\*\*". A blue "Log In" button is positioned below the password field. At the bottom of the login area, there are links for "Find ID" and "Find Password". At the very bottom of the page, there is a link that says "You are not a member? [Join](#)".

## Go to Product > Installation

The screenshot displays the installer login interface for the myess.hansoltechnics.com system. The browser window shows the URL and a secure connection. The navigation menu is organized into five main categories: Remote, Product, User, Maintenance, and Statistics. The 'Product' category is expanded, showing sub-options like Product List, Installation (highlighted), and PV Calculator. Below the menu, a status bar provides a quick overview of system health with counts for Run (1), Standalone (1), Error (0), Warning (0), and Offline/Sleep (0). The main content area is divided into two sections: VOC (Volatile Organic Compounds) and Recent Activities. The Recent Activities section shows a log of requests for logs, each dated 03/05/2018 21:24 and associated with a specific EMS Log ID.

Category	Sub-category
Remote	Remote Monitoring Event History Remote Control
Product	Product List <b>Installation</b> PV Calculator
User	Account Management VOC Management
Maintenance	Maintenance History Activity List
Statistics	Operational Statistics

Status Bar:

- 1 Run
- 1 Standalone
- 0 Error
- 0 Warning
- 0 Offline/Sleep

VOC

Recent Activities

- Request for Logs: 03/05/2018 21:24, EMS Log, AR00500108H117906011C
- Request for Logs: 03/05/2018 21:24, EMS Log, AR00500108H117906011C
- Request for Logs: 03/05/2018 21:24, EMS Log, AR00500108H117906011C



## Get customer sign-off on T&Cs

installer x

Secure | [https://myess.hansoltechnics.com/installer/redirect.do?urlPath=/prod/install\\_sign](https://myess.hansoltechnics.com/installer/redirect.do?urlPath=/prod/install_sign)

Apps Files - Dropbox ZECO Australian Energ Hansol PhotoMaps by near

**For product installation,  
explain the terms for personal privacy protection to your customer.  
If the customer does not agree to the terms, click the Cancel button.**

[Terms for Personal Privacy Protection \(Commonwealth of Australia\)](#)

☐ To proceed with installation, it is required to receive consent to the terms and signature of the customer.

☒ I have read and accept the terms of Samsung SDI's Privacy Policy (Mandatory)

Samsung SDI Co., Ltd., of 150-20 Gongse-ro, Gihwang-gu, Yosu-si, 446-577, Republic of Korea and our affiliates ("Samsung SDI", "we", "our" or "us") manufactures and supplies certain batteries and services related to their use internationally.

Samsung SDI collects, uses and discloses your personal information in connection with your registration for our services, the provision of products and services and to communicate with you. We may also use it to comply with our regulatory and legal obligations.

☒ I have read and accept the terms of the following Collection Statement (Mandatory)

Samsung SDI collects, uses and discloses your personal information in connection with your registration for our services, the provision of products and services and to communicate with you. We may also use it to comply with our regulatory and legal obligations.

If you do not provide us with your personal information, we may be unable to process your registration, provide you with services and/or

☐ Signature

for Zeco Energy Ramona

## STEP #1 : Fill-out the Product Info. (use Installer code for Fleet Monitoring)

installer x

Secure | <https://myess.hansoltechnics.com/installer/prod/installList/goView.do>

Apps Files - Dropbox ZECO Australian En Hansol PhotoMaps by near

### Installation

01. Product Info. 02. Installation Info. 03. Setup Info 04. Rates Info

\* If not agreed to the terms, you may not use the services.

- Serial No. AR00500108H117906004C

- PIN Code 4 digit installer log in

- Device Type RES

- Inverter Power 5 kW

- Model Name ELSR103-00001

- Country Commonwealth of Australia

- User Telephone Customer Phone No.

Product Image

Area for Upload

**Hansol** Technics

Support No. 01-8000-00001  
Support No. 01-800-00001

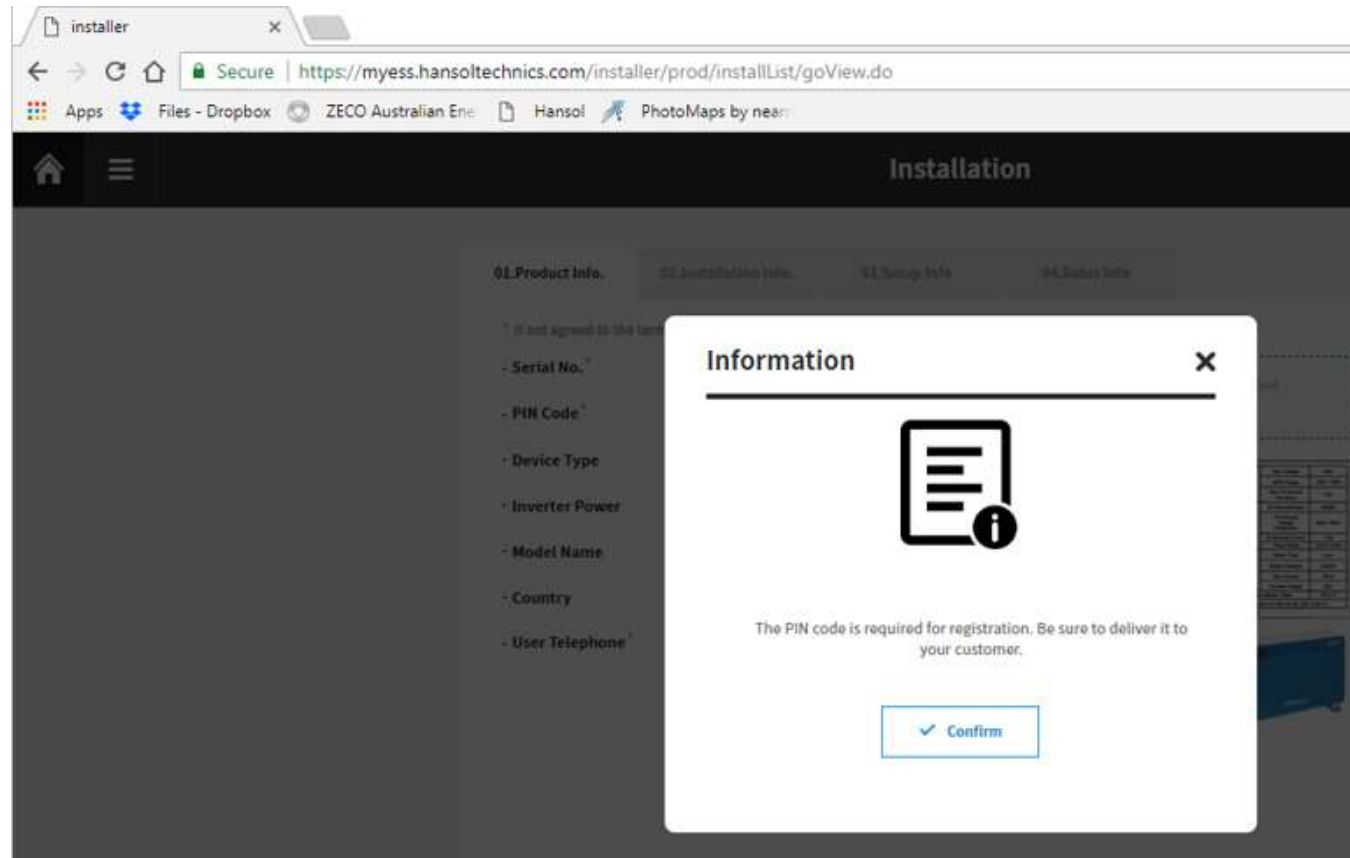
CE

YOUR SERIAL NO.

Model Name	ELSR103	1000
Power (kW)	5	1000
Max. DC Voltage (V)	1500	1000
Max. AC Voltage (V)	240	1000
Max. AC Current (A)	20	1000
Max. AC Power (kW)	4.8	1000
Max. DC Current (A)	30	1000
Max. DC Power (kW)	7.5	1000
Max. DC Voltage (V)	1500	1000
Max. DC Current (A)	30	1000
Max. DC Power (kW)	7.5	1000
Max. DC Voltage (V)	1500	1000
Max. DC Current (A)	30	1000
Max. DC Power (kW)	7.5	1000

Refresh Next >

## STEP #1.1 : Confirm the Product Information





## STEP #2 : Fill-out the Installation Address

The screenshot shows a web browser window with the URL <https://myess.hansoltechnics.com/installer/prod/installList/goView.do>. The page is titled "Installation" and has four tabs: "01. Product Info.", "02. Installation Info.", "03. Setup Info", and "04. Rates Info". The "02. Installation Info." tab is active.

Below the tabs, there is a note: "\* If not agreed to the terms, you may not use the services." Below this is a Google Map showing a location in Australia. To the right of the map, there are fields for "Location" and "Installer Info.".

**Location**

- Address: Site Address
- Latitude: -37.994499
- Longitude: 145.07350900000006

**Installer Info.**

- Company: Brodie Duff Pty Ltd
- Telephone: 0403410556
- E-Mail: brodie@brodieduff.com.au

At the bottom of the form, there are three buttons: "Previous", "Refresh", and "Next".

Below the buttons, there is a note: "• The address of the installed site is required for after-sales service and must not be used for other purposes."

### STEP #3 : Fill-out the Set-Up Info

installer

Secure | <https://myess.hansoltechnics.com/installer/prod/installList/goView.do>

Apps Files - Dropbox ZECO Australian En Hansol PhotoMaps by near

## Installation

01.Product Info. 02.Installation Info. 03.Setup Info 04.Rates Info

\* If not agreed to the terms, you may not use the services.

- PV1 Capacity (W)  3000 Enter the maximum capacity of PV String 1.

- PV2 Capacity (W)  3000 Enter the maximum capacity of PV String 2.

- Feed-In Limit (%)  100 Set the maximum feed-in limitation rate. (0% Feed-In Disabled, 100% No Feed-In Limit)

- Meter Type ☐ DO ☒ Internal Select the type of the energy meter.

- Grid Max Voltage (V)  The setting range is 230.0 to 270.0 V.

- Grid Min Voltage (V)  The setting range is 200.0 to 230.0 V.

- Grid Max Freq. (Hz)  The setting range is 50.00 to 55.00 Hz.

- Grid Min Freq. (Hz)  The setting range is 45.00 to 50.00 Hz.

< Previous Refresh Next >

## STEP #4 : Fill-out the Tariffs

installer x

Secure | <https://myess.hansoltechnics.com/installer/prod/installList/goView.do>

Apps Files - Dropbox ZECO Australian En Hansol PhotoMaps by nearr

### Installation

01.Product Info. 02.Installation Info. 03.Setup Info. 04.Rates Info

**Demand Rate ( \$ )**

Weekdays		
00:00 ▾	23:59 ▾	0

**Weekend**

00:00 ▾	23:59 ▾	0
---------	---------	---

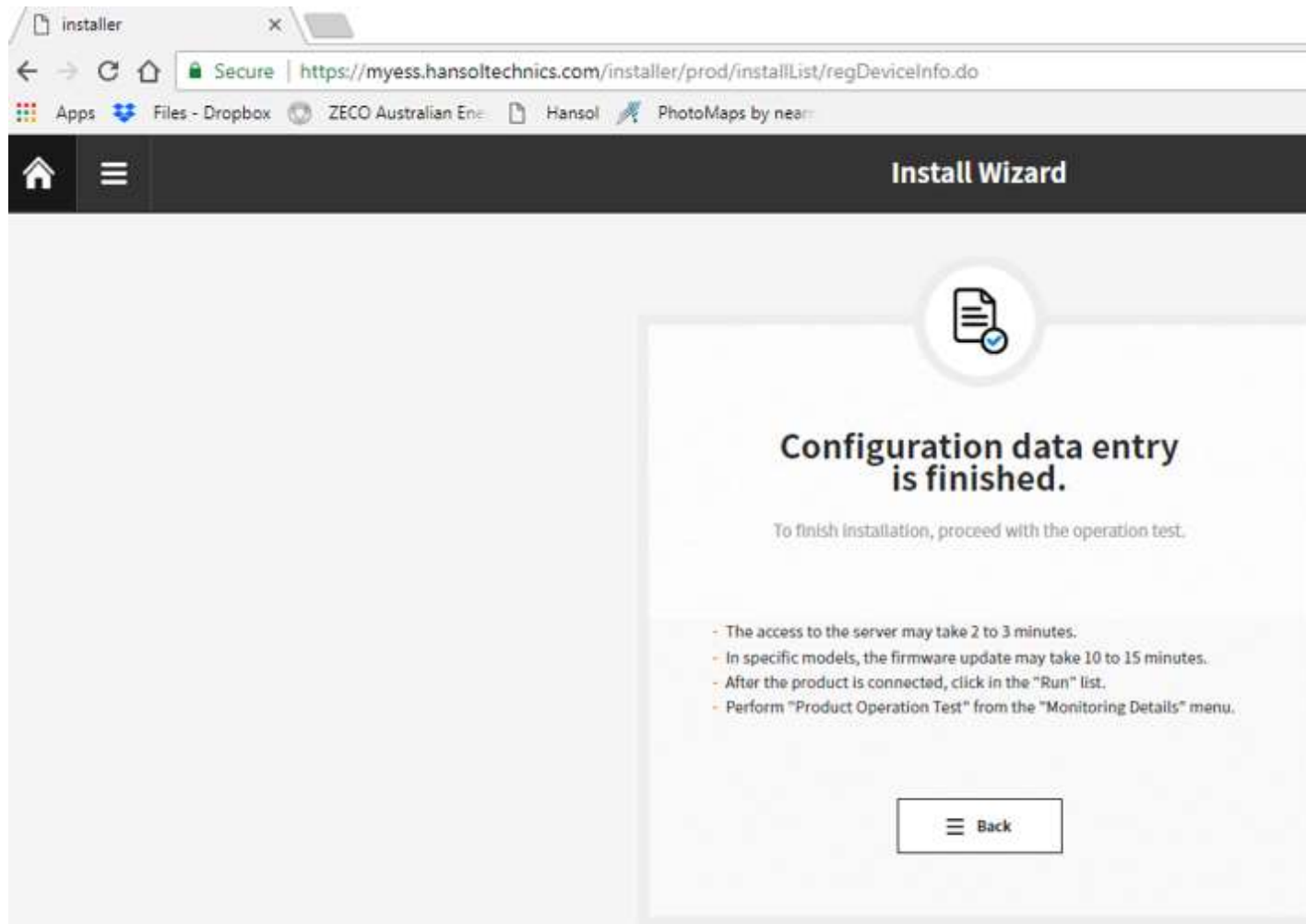
**Feed-in Rate ( \$ )**

Weekdays & Weekend		
00:00 ▾	23:59 ▾	0

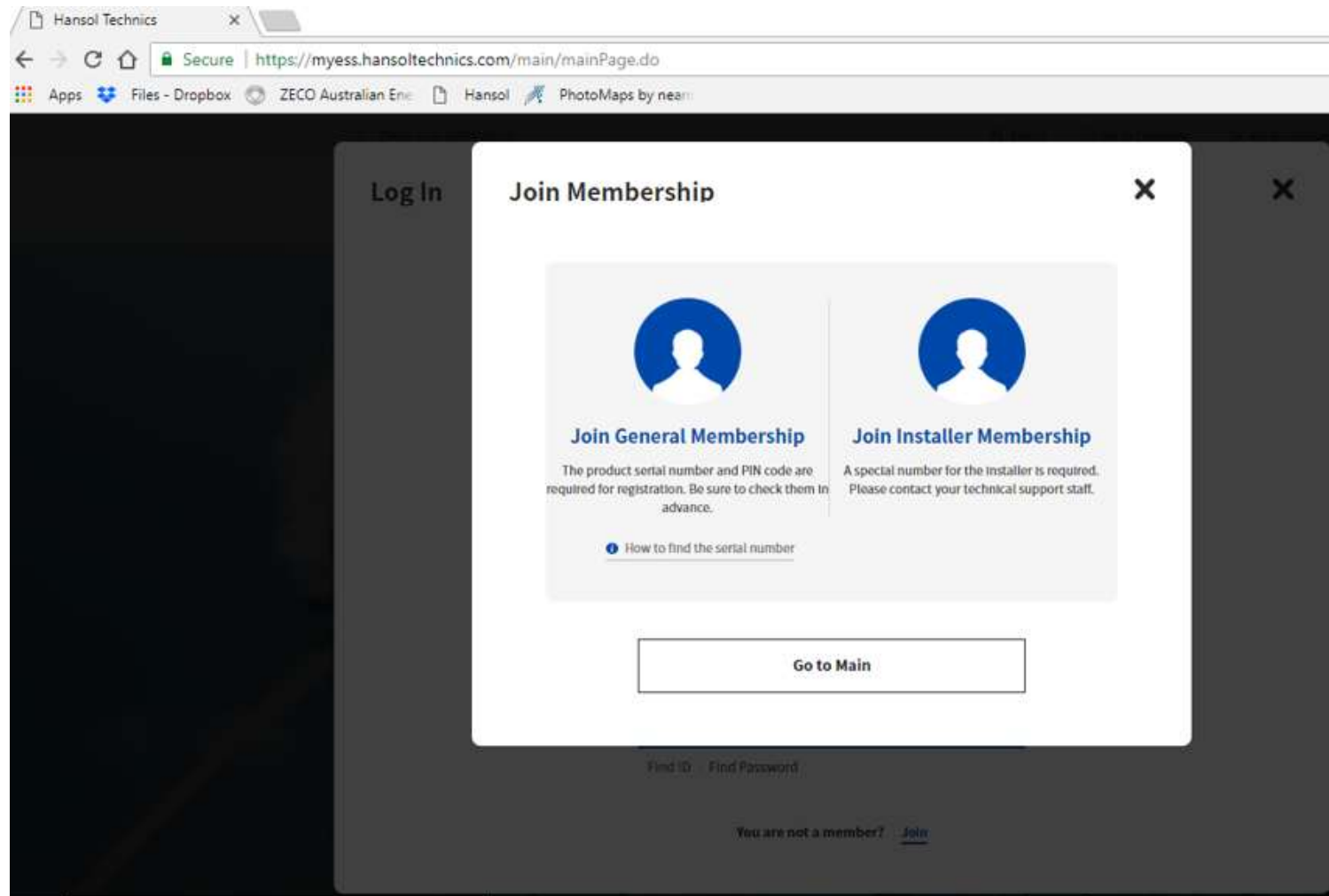
< Previous Refresh ✓ Finish



## Completion



## Setting-up Customer Account : Go to “Join General Membership”



## Setting-up Customer Account : Agree to T&Cs

The screenshot shows a web browser window with the URL <https://myess.hansoltechnics.com/main/mainPage.do>. A modal dialog titled "Join Membership" is open, showing a progress bar with three steps: 01 (Terms and Conditions), 02 (Required Data), and 03 (Optional Data). Step 01 is active. The text reads: "Before joining as a member, carefully read the personal privacy terms of Hansol Technics. If you do not want to join as a member, select the Cancel button." Below this are two links: "Personal Privacy Terms and Conditions" and "EU data protection(GDPR) compliance". At the bottom, there are two mandatory checkboxes, both of which are checked: "I have read and accept the terms of Hansol Technics's Privacy Policy (Mandatory)" and "I have read and accept the terms of the following Collection Statement (Mandatory)". Each checkbox has a corresponding text box containing the relevant policy details.

This screenshot shows the same "Join Membership" dialog box as the previous one, but with the "OK" button highlighted in blue. The "Cancel" button is also visible. The progress bar and text are identical to the previous screenshot, indicating that the user has accepted the terms and conditions and is ready to proceed to the next step.



## Setting-up Customer Account : Required Customer Log-In Details

**Join Membership**

01 Terms and Conditions 02 Required Data 03 Optional Data

(\*) Required item

Enter in the required fields for registration.  
Click the [link](#) to see the purpose of data collection.

Serial No. AR00500108H117906004C ✓

ID [Redacted] ✓

Password [Redacted] ✓

Check Password [Redacted] ✓

Email [Redacted] ✓

PIN Code [Redacted]

Cancel OK

## Setting-up Customer Account : Optional Customer Log-In Details

Hansol Technics X

Secure | <https://myess.hansoltechnics.com/main/mainPage.do>

Apps Files - Dropbox ZECO Australian Energy Hansol PhotoMaps by near

### Join Membership

03

Terms and Conditions Required Data 0

**The additional information is optional.**  
If not specified, you may not use the services that require the data. For additional services, enter the optional information.  
Click the [link](#) to see the purpose of data collection.

**Name**

**Telephone**

**Building Area (m<sup>2</sup>)**

☒ **Individual Usage Profiles (Optional)**


I herewith agree that Hansol Technics creates my individual usage profile concerning my electricity consumption and usage of electricity per space in order to inform me about the trend of my consumption or usage and to provide me with relevant statistics. \*You can withdraw this consent at any time by sending an e-mail to [ess.service@hansol.com](mailto:ess.service@hansol.com) or by adjusting your preferences in your privacy settings.

☒ **Direct Marketing (Optional)**

I herewith agree to receive information by mail or e-mail about Hansol Technics's and third parties' products or services, promotions, newsletters, special offers and other information which we believe may be of interest to you and that, for this purpose, I also agree that you can use, share (with these third parties) or otherwise process my name and mail or e-mail address for this purpose. \* You can withdraw this consent and object to receive such direct marketing communications at any time by sending an e-mail to [ess.service@hansol.com](mailto:ess.service@hansol.com) or by adjusting your preferences in your privacy settings.

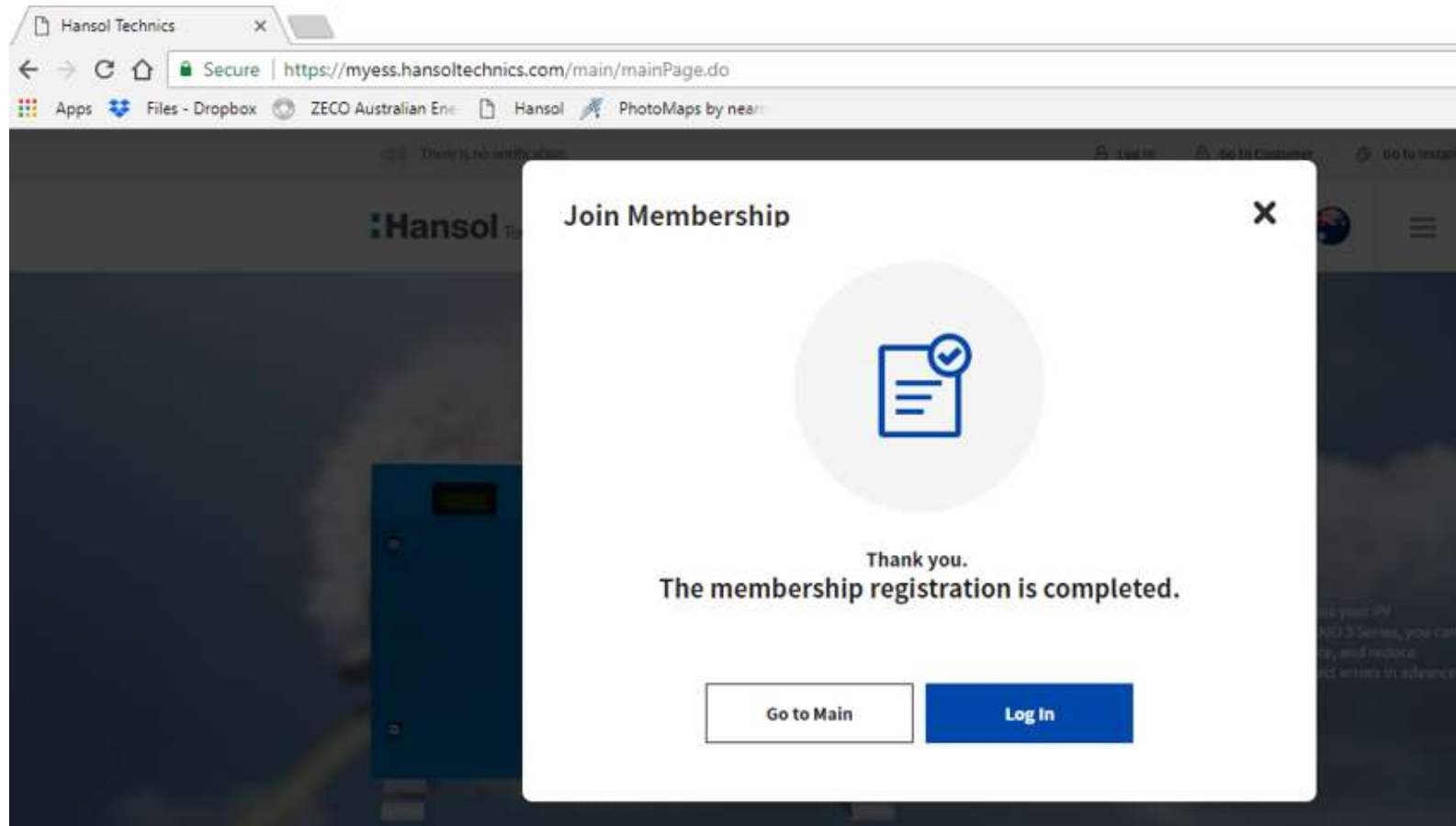
☒ **Individual Usage Profiles (Optional)**

I herewith agree that Hansol Technics creates my individual usage profile concerning my electricity usage of electricity per space in order to inform me about the trend of my consumption or usage and to provide me with relevant statistics. \*You can withdraw this consent at any time by sending an e-mail to [ess.service@hansol.com](mailto:ess.service@hansol.com) or by adjusting your preferences in your privacy settings.

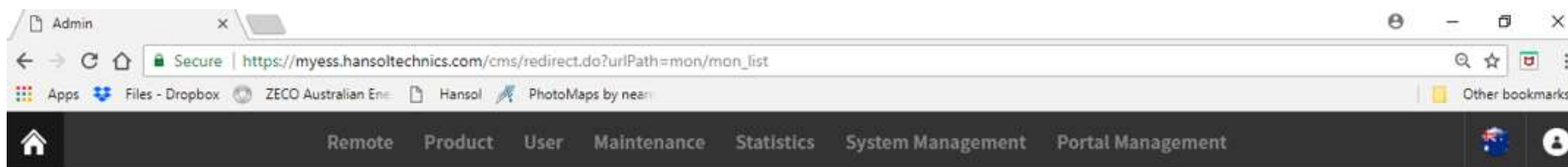


Enter the text string on the image to the left.

## Setting-up Customer Account : Registration Complete



Serial Number will now be visible on-line as standalone system and when internet connection is established, it will show as in “RUN / Warning / Error “ Mode....



### Remote Monitoring

Serial No.

☒ Run
 ☐ Warning
 ☐ Error
 ☐ Offline
 ☐ Sleep
 ☐ Standalone

☐ Germany
 ☐ Austria
 ☐ United Kingdom
 ☐ Italy
 ☐ Portugal
 ☒ Australia
 ☐ France
 ☐ Denmark
 ☐ Morocco
 
☐ Discharge
 ☐ Charge
 ☐ Standby

Country	Status	Date Collected	Serial No. ▲	Battery (Status/SOC)	Demand Amount (Wh/Day)	PV Generation (Wh/Day)	Load Amount (Wh/Day)	Charge Amount (Wh/Day)	Discharge Amount (Wh/Day)	EMS Mode	PCS Mode 1	PCS Mode2	Feed-In	EMS Version	PCS Version	Date Updated	Timeline
Australia	<span style="color: green;">●</span>		AR00500108H117906004C	%	0	0	0	0	0				0				



Country	Status	Date Collected	Serial No. ▲	Battery (Status/SOC)	Demand Amount (Wh/Day)	PV Generation (Wh/Day)	Load Amount (Wh/Day)	Charge Amount (Wh/Day)	Discharge Amount (Wh/Day)	EMS Mode	PCS Mode 1	PCS Mode2	Feed-In	EMS Version	PCS Version	Date Updated
Australia	<span style="color: orange;">●</span>	15/06/2018 11:22:48	AR00500108H117906004C	27%	3,265	4,950	6,040	3,182	1,107	ELA	Auto	Both	100	E2017_V00001	P2015_V00009	06/07/2016 01:23:45

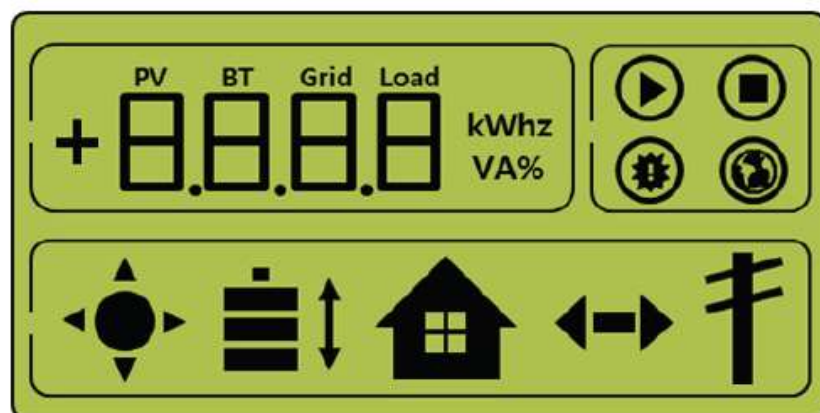


## After Installation

### Starting the System

After completing the installation, turn on the AC circuit breaker and the DC Isolator installed in the distribution box. (See the Section 5.6)

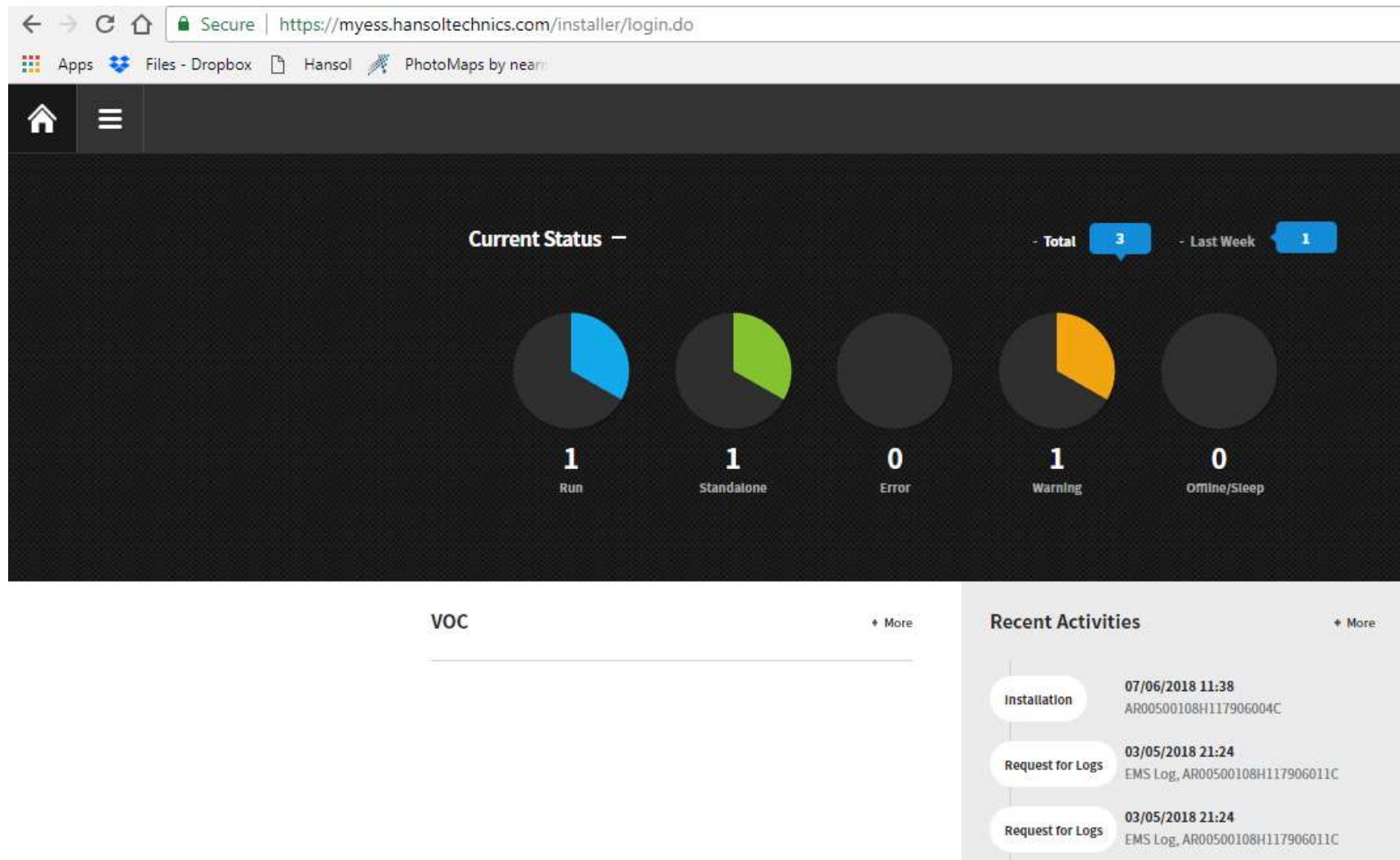
Check the system check message on the front LCD screen.



[Figure 8-1: Initial indication screen on power on]

Icon	Displayed	Not Displayed
	System running	System not running
	System stopped/in standby	System not stopped
	Fault occurred	No fault
	EMS running	EMS stopped or not accessible
	PV generating	PV not generating
	1. BATTERY: Normal BMS communication 2. Up arrow: Discharged 3. Down arrow: Charged	1. BATTERY: Abnormal BMS communication 2. Up arrow: Not discharged 3. Down arrow: Not charged
	Always turned on	
	1. Left arrow: Buy from GRID 2. Right arrow: Sell to GRID	1. Left arrow: No purchase from GRID 2. Right arrow: No sale to GRID
	GRID in normal status	GRID in abnormal status (Running standalone)

## Installer's fleet monitoring view : Shows all systems installer under their 4 digit log-in code



## Installer access to online monitoring data : Operation Test, Error Codes and detailed data

### Remote Control Process

#### 01.Operation Checkup for Energy Meter

#### 02.ESS Operation Test

① Energy Meter Configuration ② Energy Meter Errors

Grid Power (w)	Load Power (w)	Inverter Power (w)
+ 13.2	2,518.1	+ 2,504.9
(+)Demand, (-)Feed-In		(+)Output, (-)Input

- If the energy meter is wired adversely, the values for reception and sale in Grid Power are reversed.  
- If there is an error in the configuration of the energy meter, the values in Grid Power may be different from normal values.

- ☒ I confirm that the actual load at the home matches the value measured by the energy meter.  
☒ I fully understand that the operation test must be performed with the product.

Next >

#### 01.Operation Checkup for Energy Meter

#### 02.ESS Operation Test

52 sec

It may take about 1 to 2 minutes before you can view the control results.

Stop	PV Only	Charge	Discharge	Automatic
------	---------	--------	-----------	-----------

PV Info.		Energy Meter Info.		System Info.	
PV1 Power(W)	394	Grid Power(W)	13.2	Control Result	-
PV1 Voltage(V)	313			Inverter Power(W)	2,511
PV2 Power(W)	378	Load Power(W)	2,518.1	Battery Power(W)	-1,732.8
PV2 Voltage(V)	326			Battery SOC(%)	25

#### Status Diagnostic Flag

System Info.	Charge Available	Discharge Available	PV Available	Grid Status	Energy Meter Info.
OK	OK	OK	OK	OK	OK

< Previous

✓ Finish

### Event History

- Period 16/05/2018 ~ 15/06/2018 Search

- Event Category All  
- Search AR00500108H117906004C

Search : 0

Start Date End Date Serial No. Event Code Event Category Event Description

SAMSUNG SDI SAMSUNG Hansol

- Period 16/05/2018 ~ 15/06/2018 Search

- Event Category All

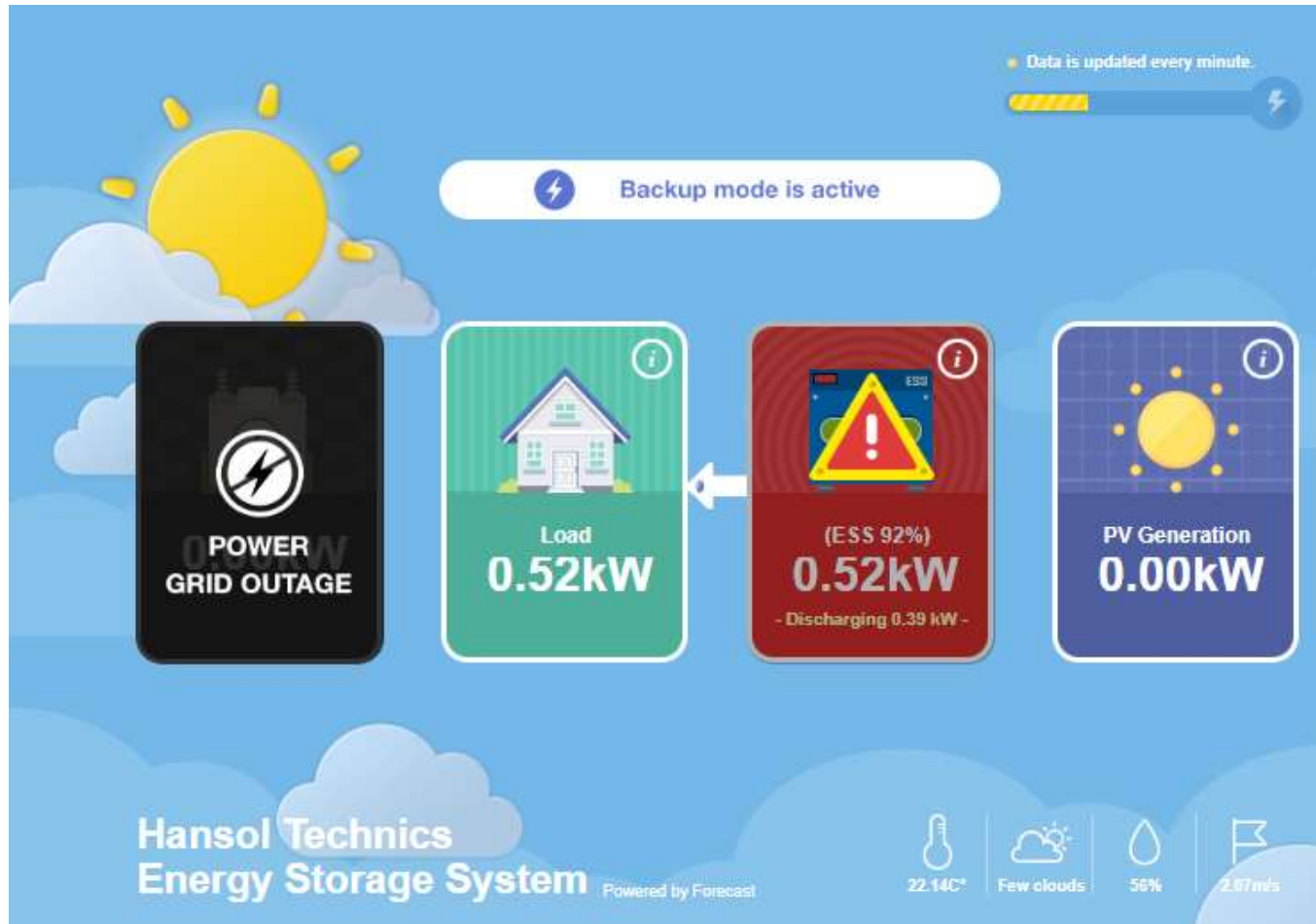
- Search AR00500108H117906004C

Search : 4

Start Date	End Date	Serial No.	Event Code	Event Category	Event Description
14/06/2018 18:47:38		AR00500108H117906004C	E509	Warning	Cell Voltage Imbalancing
14/06/2018 17:00:34	14/06/2018 17:01:21	AR00500108H117906004C	E602	Notification	Ethernet Communication Error
14/06/2018 16:03:39	14/06/2018 17:00:34	AR00500108H117906004C	C128	Notification	Offline
14/06/2018 14:27:08	14/06/2018 18:35:40	AR00500108H117906004C	E509	Warning	Cell Voltage Imbalancing

- Error Codes : Notification, Warning and Protection.
- When protection level events occur, the product stop the generating process.

## Customer's view of monitoring website : OFF-GRID SYSTEM



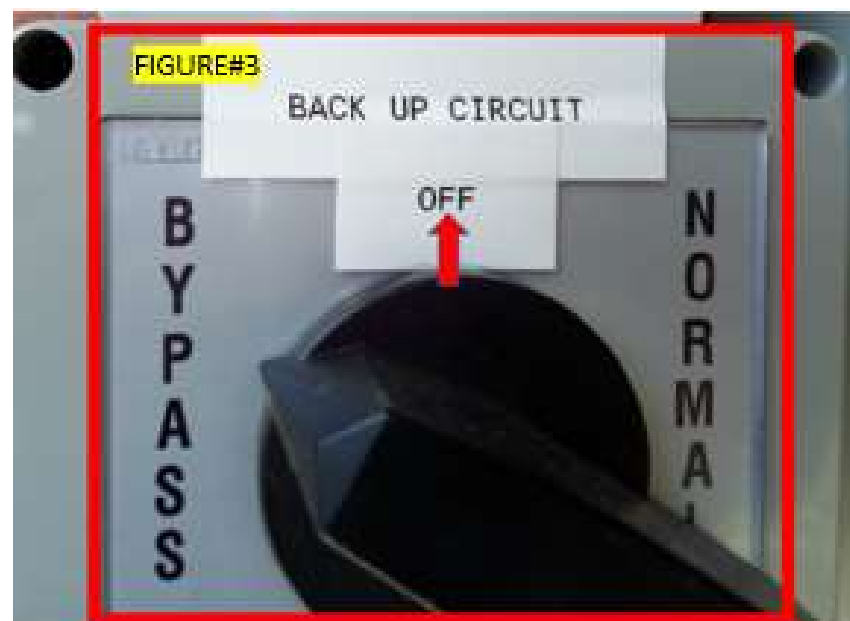


## Customer's view of monitoring website : GRID CONNECT SYSTEM



## Procedure to shut down and restart the AIO, to make it connect to internet and hansol server

- Turn OFF the “DC Isolation Switch” (on the side of AIO Unit). **Pointed out by RED ARROW in FIGURE#1 below.**
- Turn OFF the “Main Switch Battery Inverter” (can also be labelled as “Main Switch Inverter Supply” and would be inside the Main Switch Board of the house). Note “OFF” is down position of the knob. **Pointed out by RED ARROW in FIGURE#2 below.**
- Turn OFF the “ Main Switch Critical Supply” (can also be labelled as “Battery DC Isolator” and would be inside the Main Switch Board of the house). Note “OFF” is down position of the knob. **Pointed out by RED ARROW in FIGURE#2 below.**
- Turn the Change Over Switch to “OFF” position (if this switch is not installed in your system, Turn the “By-Pass switch” to OFF position). Note “OFF” is middle position of the knob. **Pointed out by RED ARROW in FIGURE#2 and #3 below.**
- The LCD screen on the front of AIO unit will go blank. Wait for 5 minutes before turning ON the DC Isolation, Main Switch Battery Inverter & Main Switch Critical Supply to ON Position. Turn the Change Over Switch (or the by-pass switch) to Normal Position.
- The LCD screen will show display now. Wait for approximately 5minutes for AIO to connect to internet.



# Samsung MSDS and AIO Warranty Policy

Samsung SDI Co., LTD  
Revision date : 21.09.2016  
MODEL : ELPT362-00002

Revision no : 1.05



## Material Safety Data Sheet

### 1. Product and Company Identification USA, EU

**Important Note:** As a solid, manufactured article, exposure to hazardous ingredients is not expected with normal use. This battery is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement. The information contained in this Material Safety Data Sheet contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

#### Commercial product name

MODEL ELPT362-00002 (63 Ah capacity)



AIO - MSDS.pdf

## Hansol Technics Warranty Policy

(Product Name: Scalable All-in-One)

### I. Product Warranty

1. Hansol Technics and Hansol Technics Europe GmbH (in the following referred to as "Hansol Technics") warrant that the Product<sup>1</sup> will (i) be free from defects in material and workmanship under normal use and (ii) conform to the applicable Technical Specifications for the Product.
2. The warranty period of the Product ("Product Warranty Period") is specified as follows  
: The warranty period shall be five (5) years from the Date of Installation<sup>2</sup>
3. In the event that the Product fail to conform to the above warranty during the Product Warranty Period, Hansol Technics shall, at Hansol Technics's option: (i) repair the non-conforming or defective Product; or (ii) provide End-User with a replacement for the Product without undue delay, within 7 working days in Germany, for the other countries within 7 working days plus delivery dates.. Hansol Technics shall be responsible for all reasonable costs of repair or replacement in connection with such non-conforming or defective Product;

<sup>1</sup> "Product" means the battery pack of Hansol Technics that consists of Battery, Inverter, and the Enclosure.

<sup>2</sup> "Date of Installation" To claim any warranty hereunder, End-User must provide the date of installation. If End-User is unable to submit any proof of the Date of Installation, Hansol Technics will calculate the Product Warranty Period from the manufacturing date which is written on the Product's label.



AIO Warranty Statement.pdf

# CEC approved inverter : Samsung and Hansol AIO

Manufacturer / Certificate Holder	Series	Model No	Type	No of MPPT	MPPT Min V	MPPT Max V	No of Phases	Rated Apparent AC Power (VA per port)	Tested to IEC 62116?	Tested to (AS) IEC 62619?	Listing Start Date	Listing Expiry Date
Hansol Technics Co. Ltd	Scalable All-in-One	Scalable All-in-One	UPS Multiple Mode Inverter - PV and Battery	2	125	500	1	4980			02/05/2017	19/02/2022

Manufacturer / Certificate Holder	Series	Model No	Type	No of MPPT	MPPT Min V	MPPT Max V	No of Phases	Rated Apparent AC Power (VA per port)	Tested to IEC 62116?	Tested to (AS) IEC 62619?	Listing Start Date	Listing Expiry Date
Samsung SDI Co Ltd	PV energy storage system	Scalable All-in-One 2016	All-in-One (UPS) (Energy Storage & Inverter)	2	125	500	1	4980			17/08/2016	27/06/2021

SAMSUNG SDI



Hansol



**Certificate of Suitability**

**Certificate No.:** SAA170264

**Certificate Holder:** Hansol Technics Co., Ltd  
55 Hansam-ro, Deoksan-myeon,  
Jincheon-gun,  
Chungcheongbuk-do  
South Korea

**Class Description:** Non-Declared  
**Product Description:** PV Energy Storage System

**Brand Name:** Hansol  
**Model No.:** Scalable All-in-One  
**Markings:** PV Input: 550Vdc Max  
MPPT range 125-500Vdc 15A Max per string 1<sub>sc</sub> 20A  
Grid input: 230V~ 50Hz, 35A Max  
Grid output: 230V~ 50Hz 4.98kW, 22A Max  
Load output: 230V~ 50Hz 8.00kW, 35A Max  
Battery: 120Vdc (2 battery packs) 7.2kWh  
Max Charging Current: 46A  
180Vdc (3 battery packs) 10.8kWh  
Max Charging Current: 38A

**Standard:** Class I IP54  
IEC 62109-1 Ed. 1.0  
IEC 62109-2 Ed. 1.0  
AS/NZS 4777.2:2015  
AS 62040.1.1:2003 (R2013)  
Nil

**Conditions:** Nil

**Certification Mark:** SAA170264 or RCM

**Date First Registered:** 20 February 2017  
**Date of Expiry:** 20 February 2022

For and on Behalf of  
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd is accredited by JAS-ANZ under ISO/IEC 17066:2015 in accordance with the SAA approved Electrical Product Safety Certification Scheme and the product nominated in this certificate complies with nominated brand.

When using the RCM the requirements of all relevant parts of AS/NZS 4411 applicable to the article must be fulfilled.

For SAA Contact Details and to verify this Certificate go to:  
www.saaapprovals.com.au

JAS-ANZ  
C

www.jas-anz.org/region

Issued: 22-02-17 170264/1a  
Amendment to Brand Name