

# Installation / User Manual

## APsystems ECU-C Energy communication unit with advanced functions

Rev 1.5



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Symbols replace words on the equipment, on a display, or in manuals

ALTENERGY POWER	Trademark.
$\bigwedge$	Caution, risk of electric shock.
	Equipment protected throughout by double insulation or reinforced insulation
CE	CE mark is attached to the solar inverter to verify that the unit follows the provisions of the European Low Voltage and EMC Directives.
Qualified personnel	Person adequately advised or supervised by an electrically skilled person to enable him or her to perceive risks and to avoid hazards which electricity can create. For the purpose of the safety information of this manual, a "qualified person" is someone who is familiar with requirements for safety, refrigeration system and EMC and is authorized to energize, ground, and tag equipment, systems, and circuits in accordance with established safety procedures. The inverter and endues system may only be commissioned and operated by qualified personnel.

### **1.Introduction**

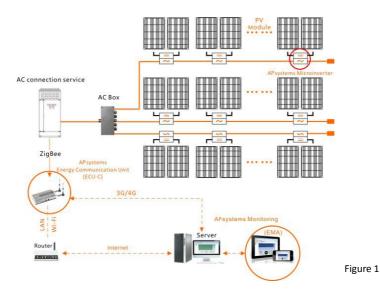
The APsystems Energy Communication Unit (ECU-C) is the information gateway for our microinverters. The unit collects module performance data from each individual microinverter and transfers this information to an Internet database in real time. Through the APsystems Energy Monitoring and Analysis software, the ECU-C gives you precise analysis of each microinverter and module in your solar installation from any web-connected device. The ECU-C's integrated http webserver offers the simplest and most flexible network integration of any data logger on the market. The user-friendly browser-based interface lets you access your solar array in seconds.

#### Features

- Collects individual module and microinverter statistics
- Remote communication
- Requires no additional wiring
- Applicable commercial system

The APsystems Microinverter is used in utility-interactive grid-tied applications, and is made up of three key elements:

- APsystems Microinverter
- APsystems Energy Communication Unit (ECU-C)
- APsystems Energy Monitoring and Analysis (EMA) web-based monitoring and analysis system

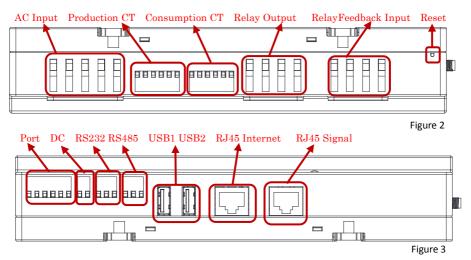


## **2.Interface Explanation**

### 2.1 Interface Layout

The ECU-C interface includes, (figure 2)from left to right, are AC Input, Production CT, Consumption CT, Relay Output, RelayFeedback Input, Reset.

(figure 3) from left to right, are Port DC , RS232 RS485 , USB1 USB2 , RJ45 Internet , RJ45 Signal.



### 2.2 AC Input Port

The AC Input port connects power through the power line. If only single-phase power is needed, the L1 must be connected.

	L1	L2	L3	Ν	PE
Three Phase	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Single Phase	$\checkmark$	×	×	$\checkmark$	$\checkmark$

### NOTICE

The AC input power should be assembled with disconnector(e.g. when the current is bigger than 1A, the disconnector shold be operated).

### 2.3 DC Input Port

The DC Input port connects power through the 16V DC power line.

## **2.Interface Explanation**

### 2.4 RJ45 Ethernet Network Port

The ECU-C allows the user to communicate with the EMA, or log in to the ECU-C's local page in the absence of the wired LAN and WLAN, to set up the system and view the system data via Ethernet network port.

### 🔔 NOTICE

Ethernet cable connection is recommended for stable communication.

### 2.5 RJ45 Signal (Only for Australia)

The RJ45 Signal is designed for DRM0/5/6/7/8, it should be connected by RJ45 connector in the package otherwise the inverters will not work.

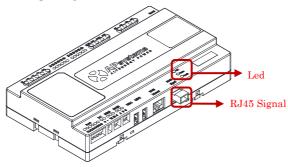


Figure 4

### 2.6 USB Interface

The USB interface is reserved.

### 2.7 Reset

Press the Reset button for three seconds or longer, and the ECU-C will automatically return to the default settings.

### ANOTICE

The historical power generation won't be cleared.

### 2.8 LED

The OK light will blink when ECU-C starts up, and it will keep on after registerring.

The Comm light will be on when the ECU-C connects to EMA.

The Fault light will be on when the ECU-C breaks down.

#### **3.1 Preparation**

Make sure you have the following components ready before beginning to install the ECU-C:

- A broadband Internet connection available for your use.
- A broadband router with either a CAT5 Ethernet, or a wireless router .
- A laptop with a web browser (to view the APsystems EMA online monitoring application).
- A pre-programmed ECU-C.

#### 3.2 Selecting an Installation Location for the ECU-C

- Choose a location that is electrically as close to the array as possible.
- The ECU-C is NOT rated for outdoor use, so if installing outdoors near a junction box or breaker panel, make sure you enclose it in an appropriate weatherproof NEMA electrical box.
- Avoid to install in the place children can not touch.
- 1) Power Distribution Cabinet Installation

If you use the energy communicator in power distribution cabinet:

• Pull the four snap out with a screwdriver.

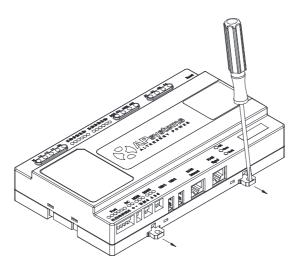


Figure 5

• Attach two buckles below in the edge of the guide, press two buckles above, then embed to the edge of the guide.

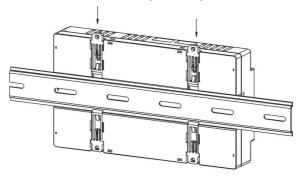


Figure 6

### 🔔 NOTICE

Do not put the antennas inside a metal box, that will block the signal.

2) Using a Wall Mount

When mounting the ECU-C to a wall, make sure to select a cool, dry indoor location.

- According to the size of an icon, The energy communicator is fixed on the wall with two Wall screws or wall anchors.
- Four M4 screws + spacers are fixed to the wall, and the punch sizes are as follows:

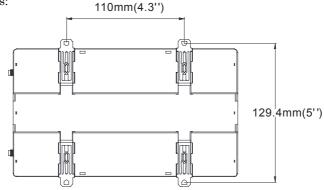
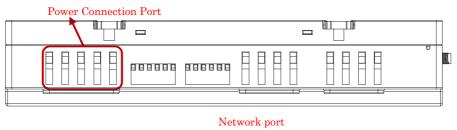


Figure 7

### 3.3 Cable Connections



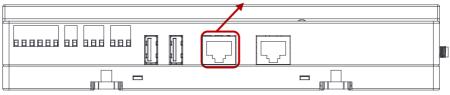


Figure 8

- Connect the power cable to the power connection port on the top of the ECU-C.(Can also be DC power supply).
- Connect the supplied LAN cable to the network port on the bottom of the ECU-C.

#### 3.4 RJ45 Signal connection

Plug the RJ45 connector in the package to RJ45 Signal port.

### **3.5 Internet Connection**

There are three different approaches to connecting the ECU-C to the Internet: Option 1: Direct LAN cable connection.

1) Make sure the LAN cable is connected to the network port on the bottom of the ECU-C.

2) Connect the LAN cable to a spare port on the broadband router.

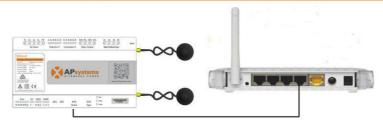


Figure 9

Option 2: Wireless Connection.

Use ECU-C internal WLAN (see Managing the WLAN Connection, pg. 23).

Option 3: Using a PLC bridge:

- 1) Make sure the LAN cable is connected to the network port on the bottom of the ECU-C.
- 2) Connect the LAN cable to the "send" unit of the PLC bridge.
- 3) Connect a LAN cable from the "receive" unit of the PLC bridge to a spare port on the broadband router (refer to the bridge users manual for specific operating instructions).

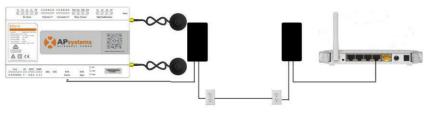


Figure 10

### 🔔 NOTICE

The network cable in the package can be used to connect the ECU-C with PC directly. One side is connected with the ECU-C and the other side is connected with the PC. Then change the IP address and the network mask to 192.168.131.1 and 255.255.255.0, respectively.

### 🔔 NOTICE

- 1. A PLC bridge uses the power line to communicate and requires both a "send" and "receive" unit.
- 2. The quality and length of the LAN cable will affect the ECU-C communication quality. You can use a Switch to enhance the communication quality if necessary.

#### 3.6 Current transformer interface

By installing Current Transformer(CT), the integrated meter in ECU-C can measure the production&consumption power and energy. Please refer to the picture.

It is mandatory to install the current transformer on production and consumption side to get the anti-backflow function.

Anti-backflow function manages inverters one by one: it turns on/off each inverter through PLC communication, in order to get production inferior or equal to consumption.

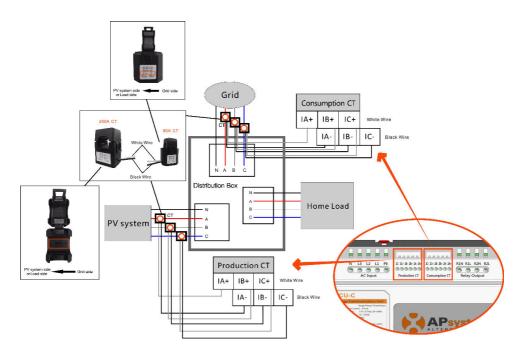


Figure 11

### 🌲 NOTICE

Please ensure that the ECU-C is in a power off state when installing the transformer. APsystems can provide the current transformers, please contact us or our distributors.

#### 3.7 Contactor connection

ECU-C provides two contact driver signal interface, two-way contact signal interface.

Interface	Interface description
R1L	The first road contactor drives the output L, and is connected with the power supply interface L1.
R1N	The first road contactor drives the output N, and is connected with the power supply interface N.
R2L	Second road contactor driver output L, with the power supply interface L1.
R2N	Second road contactor driver output N, with the power supply interface N.
A1 A2	First contact feedback signal input, non polarity.
A3 A4	Second way contactor feedback signal input, non polarity.



Figure 12

ECU-C automatic detection and judgment of the current power grid environment, through the drive signal interface to control the opening or closing of the contactor. The feedback signal interface and NO of contactor are often connected to inform the ECU that the contactor is effectively closed.

## **4.Basic Operation**

#### 4.1 Restore the factory set operation

The following diagram shows the connetions on the bottom of APsystems the ECU-C.

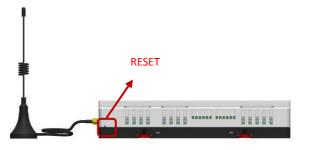


Figure 13

To restore the ECU-C's factory settings, simply press the "Reset" button for three seconds or longer. The unit will automatically return to its default settings.

### 5.1 Connecting to the ECU-C via the Local Wireless

- 1. Turn on the Wi-Fi function on PC or phone.
- 2. Scan the ECU 's SSID which named "ECU-WIFI\_XXXX" (the "xxxx" refers to the last 4 numbers of the ECU-C ID), connect to the ECU-C's SSID. The first connection has no password.
- 3. Using a standard web browser on your computer, Enter the ECU 's IP 172.30.1.1 into browser.

The ECU-C's "splash" screen is displayed.

	on .	
tome		2015-09-09 14-11:24 Wednesday
ECU ID	203100026410	ENVIRONMENTAL BENEFIT
lifetime generation	70.26 kWh	CO <sub>2</sub> Offset Equivalent to
Last System Power	193 W	CO <sub>2</sub> Offset Equivalent to
Seneration of Current Day	0.88 kWh	GALLONS
ast Connection to website	2015-09-07 12:45:00	2
fumber of Inverters	1	TREES
ast Number of Inverters Online	1	51 KG
Current Software Version	V4.0	
Current Time Zone	Asia/Shanghai	
ECU Eth0 Mac Address	80:97:18:00:67:93	
ECU Wlan0 Mac Address	60.C5.A8.E0.99.4B	
Inverter Comm. Signal Level	4	

#### 5.2 Home Screen

Select "Home" at the top of the page. The Home Page is displayed.

Home		2015-09-09 14:16:01 Wednesday
ECU ID	203100026410	ENVIRONMENTAL BENEFITS
Lifetime generation	70.27 kWh	CO <sub>2</sub> Offset Equivalent to
Last System Power	193 W	5
Generation of Current Day	0.89 kWh	GALLONS GALLONS
Last Connection to website	2015-09-07 12:45:00	2
Number of Inverters	1	TREES
Last Number of Inverters Online	1	51 KG
Current Software Version	V4.0	
Current Time Zone	Asia/Shanghai	
ECU Eth0 Mac Address	80:97:18:00:67:93	
ECU Wlan0 Mac Address	60:C5:A8:E0:99:4B	
Inverter Comm. Signal Level	4	

Figure 14

ECU-C ID:	This is a unique number that identifies this specific ECU-C.
Lifetime Generation:	Amount of power this system has generated during its lifetime.
Last System Power:	Amount of power the system was generating during its last polling cycle.
Generation of	
Current Day:	Amount of power that has been generated during the most current day.
Last connection to	
Website:	The last time the ECU-C checked into the central APsystems EMA database.
Number of Inverters:	Number of inverters that have programmed into the ECU-C.
Last Number of	
Inverters Online:	Number of inverters that are checking in with the ECU-C.
Current Software	
Version:	Current version of the firmware. Time zone that has
Current Timezone:	been programmed into the ECU-C.
ECU-C Eth0 Mac	
Address	Address of ECU-C's LAN.
ECU-C Wlan0 Mac	
Address	Address of the ECU-C's internal WLAN.
Inverter Comm.	
Signal Level	The communication strength between inverters and
	ECU-C. The range is 1-5, the higher the better.

#### 5.3 Real-time Data Screen

#### a) Real Time Data

To view the real-time system operation data statistics for your solar array, click "Real Time Data" from the ECU-C home screen to navigate to the real-time data screen.

The Real Time Data screen is displayed.

nverter ID	Current Power	Grid Frequency	Grid Voltage	Temperature	Reporting Time	Power
04900022078-A	193 W	50.0 Hz	219 V	37 °C	2015-09-09 14:16:03	Energy
04900022078-B	0 W	50.0 Hz	219 V	37 °C	2015-09-09 14:16:03	

Figure 16

#### b) Trend of system power

To view the system power of any period, click "Power" at the real-time data page.

The Trend of system power screen is displayed.

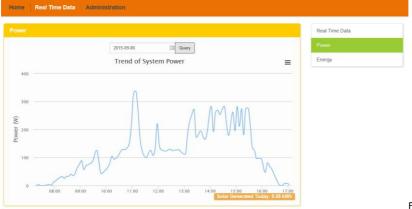


Figure 17

#### c) Power generation statistics

Press "Energy" at the real-time data page to view the system power generation of your solar array.

#### The Power generation statistics screen is displayed. Performance data for the current week:



Figure 18

### Performance data for the current month.



Figure 19

#### Performance data for the current year.

		1	Real Time Data
	Current Year 2015-09-06  Query -		Power
	Power Generation Statistics	=	
50			
40			
40			
30		_	
ñ	_		
20			
10			

Figure 20

### 5.4 Administration Screen

#### a) Managing Inverter IDs

The inverter IDs must be programmed into the ECU-C for the ECU-C to recognize the inverters. The ECU-C will NOT auto-sense the inverters.

Initial Programming of the ECU-C with the Inverter IDs.

### A NOTICE

The "Enter Inverter ID" window field will be blank if you have not yet entered any of the inverter IDs.

1) Select "Administration" at the top of the page.

#### The ID Management page is displayed.

Home Real Time Data Administration	
ID Management	ID Management
404900022078	Date, Time, Time Zone
	Language
	Network Connectivity
	WLAN
	Firmware Update
Update Clear ID	

Figure 21

If you manually input the inverter IDs -

- 1) Enter each 12-digit inverter ID.
- 2) Once all the ID have been entered, press "Update". "ID updated successfully!" will displayed after a few seconds.

If using the Scanning Gun to input the inverter IDs -

- 1) Copy the scanned IDs into the ID Management box
- 2) Press "Update". The message "ID updated successfully !" will be displayed after few seconds.

Adding Additional Inverter IDs

If the number of inverter ID displayed on the page is less than the actual number of inverters installed:

1) Select "Administration" at the top of the page.

The ID Management page with the existing inverter IDs is displayed.

Real Time Data	Administration	
anagement		ID Management
	404900022078	Date,Time,Time Zon
	404900022079	Language
		Network Connectivity
		WLAN
		Firmware Update

Figure 22

- 2) Scroll down to the end of the existing list.
- 3) Enter the new ID.

4) Press "Update". The "ID updated successfully!" message will be

displayed after few seconds.

Deleting an Existing Inverter ID

If the number of inverter IDs displayed on the page is more than the actual number of inverters installed:

1) Select "Administration" at the top of the page.

The ID Management page with the existing inverter IDs is displayed.

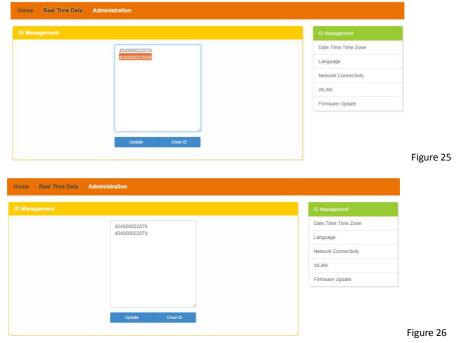
Home Real Time Data Administration		
1D Menagement	ID Management	
404900022078	Date, Time, Time Zone	
404900022079 404900022080	Language	
	Network Connectivity	
	WLAN	
	Firmware Update	
Update Clear ID		
		Figure 2
Home Real Time Data Administration		
ID Management	ID Management	
404900022078 404900022079	Date, Time, Time Zone	
404900022079	Language	
	Network Connectivity	
	WLAN	
	Firmware Update	
Update Clear ID		
		Figure 2

- 2) Highlight the IDs to be deleted from the list.
- 3) Press "Update". The "ID updated successfully!" message will be displayed after few seconds.

Modify an Existing Inverter ID

If the inverter ID displayed on the page does not match the actual inverters ID installed, modify the wrong inverters ID from "Input Inverter ID" section, then click "Update". The message "ID updated successfully!" will be displayed after few seconds.

The ID Management page with the existing inverter IDs is displayed:



Clearing inverter IDs

Pressing "Clear ID" deletes ALL of the inverter IDs from the list.

The ID Management page with the existing inverter IDs is displayed.

D Management D Management Date.Time.Zime Zone Language Network Connectivity WLAN Firmware Update	Home Real Time Data Administration	
Language Network Connectivity ViLAN	ID Management	ID Management
Network Connectivity VLAN		Date,Time,Time Zone
WLAN		Language
		Network Connectivity
Firmware Update		WLAN
		Firmware Update
	A	
A	Update Clear ID	
Update Clear ID		

#### A NOTICE

Combine the above two steps when swapping out an inverter. Add the new inverter, and Delete the old one. Remember to follow up with the same process on the APsystems EMA because the ECU-C and EMA need to be in sync with each other.

#### b) Changing the Date, Time Zone

It is critical for accurate power production reporting that the ECU-C is programmed with the correct date, time, and time zone.

- 1) Select "Administration" at the top of the page.
- 2) Select "Date, Time, Timezone".

The Date, Time, Time Zone page is displayed:

,Time,Time Zone		ID Management
Date Time	2016/01/28 09:48:17	Date, Time, Time Zone
	Update	Language
		Network Connectivity
Time Zone	Asia/Shanghai •	WLAN
	Update	Firmware Update
NTP Server	0.asia.pool.ntp.org	

Figure 28

- 3) Adjust the correct date in the "Date Time" field
- 4) Select the correct time zone from the Time Zone pull down.

### 🔔 NOTICE

You can skip step 3 by selecting the correct time zone. Selecting the correct time zone automatically updates both the date and current time.

#### c) Changing the Language

Users can switch language between English and Chinese.

- 1) Select "Administration" at the top of the page.
- 2) Select "Language".

The Language management page is displayed:

Language English •	ID Management
	Date, Time, Time Zone
English Chinese	Language
	Network Connectivity
	WLAN
	Firmware Update

- 3) Select the language from the Current Language pull down.
- 4) Press "Update".

#### d) Managing the Network Connection

The default network connection setting for the ECU-C is "DHCP," which allows the ECU-C to automatically establish a connection assignment from the router. The ECU-C can be assigned a static.

IP Address if the network design requires it.

- 1) Select "Administration" at the top of the page.
- 2) Select "Network Connectivity".

#### The Network Connectivity page is displayed:

Network Connectivity		ID Management
GPRS Settings		Date, Time, Time Zone
	Use GPRS Module	Language
	Update	Network Connectivity
IP Settings		WLAN
n oottingo	Obtain an IP address automatically	Firmware Update
	Use the following IP address	
	Update	

Figure 29

- 3) Select "Obtain an IP address automatically".
- 4) Press "Update".

#### e) Managing the WLAN connection

The ECU-C can both work in two modes: WLAN and Local Wireless Access. In WLAN mode, the ECU-C can connect to a router by Wi-Fi. In Local Wireless Access mode, user's phone or PC can connect to ECU-C to access local web.

WLAN mode

- 1) Select "Administration" at the top of the page.
- 2) Select "WLAN", and click "WLAN" tab.



Figure 31

3) The ECU-C will display the available networks.

Select the button next to the available network that you wish to access SSID, and a password entry field will be displayed below the network name. Enter the password into the password entry field, then click "Connect".

The WLAN	Connectivity	page is	displayed.

		ID Management	
LAN LWA		Date, Time, Time Zone	
		Language	
vailable Networks		Network Connectivity	
dlink-FEA4	.al	WLAN	
LieBaoWiFi666	l	Firmware Update	
D ECU-WIFI_0899	sat		
ECU-WIFL_6410	ail		
LieBaoWiFi495	l		
百歲	l		
yuneng_ecu	l		
LieBaoWiFi495 百度 yuneng_ccu	at		
Connect			

4) If ECU-C has connected to the router, it will display the SSID and IP address. Now you can connect by PC or phone to the router. Enter the ECU-C's IP (e.g., 192.168.1.112) into the browser to access the local web.

	ID Management	
MLAN LWA	Date, Time, Time	one
	Language	
Connected	Network Connect	vity
SSID yuneng_ecu	WEAN	
IP address 192.168.1.110	Firmware Update	
Disconnect		
Available Networks		
0 dink-FEA4	all	

Local Wireless Access mode

- 1) Scan the ECU-C's SSID on PC and phone, and connect to ECU-C. Enter the ECU-C's IP 172.30.1.1(The IP is fixed) into browser to access the local web.
- 2) On the page, you can modify SSID, Channel, Safe Type and Password. If you don't select the Safe Type, the Password is hidden.

The Local Wireless Access page is displayed.

		ID Management
LWA		Date, Time, Time Zone
		Language
Up Local Wireless Acce	SS	Network Connectivity
SSID	ECU-WIFI_0678	WEAN
Channel	Auto	Firmware Update
Safe Type	NONE	
IP	172.30.1.1	
	Save	

#### f) Firmware Update

Select the ECU-C upgrade package, and click OK to upgrade ECU-C firmware. The upgrade package can be downloaded at www.APsystems.com.

are Update		ID Management
Upload Package	Browse	Date,Time,Time Zone
ок		Language
		Network Connectivity
		WLAN
		Firmware Update

The ECU-C has been designed with remote connect functionality. You can access this remote functionality through the APsystems Energy Monitoring & Analysis (EMA) website, using your installer login credentials. Changes made remotely through the EMA do not take effect until the ECU-C's next reporting cycle. The ECU-C must first be installed with Internet connectivity.

The ECU-C remote functionality allows you to do the following:

- Set Time Zones
- Manage Inverter IDs

There are additional ECU-C functions available but the instructions are not outlined in this document. If you need to access one of the following features, please contact APsystems Technical Support:

- Change system parameters
- Turn the inverters ON and OFF
- Reset GFDI
- Reset Power Settings

#### A NOTICE

This section of the documentation assumes you have a working knowledge of the APsystems EMA.

1) Log onto your APsystems EMA account.

Your Customer List within the Installer Portal is displayed.

2) Select the customer's ECU-C you want to manage and click on the username in the "Customer Account" column.

JSTO	MER LIST									
Custo	umer Account		ECU ID	Inverter	ID	Q Query	Export			
D	Customer Account	ECU ID 💠	True Name 🔹 💠	Country 🜩	State 💠	City 💠	System Size(KW) 🔶	Register Date 🔶	System Status	Action
1	czthor	203000014617	Mike	United States	WA	La Center		2015-11-18	۲	Delete
	Steven Langer	203000024740	Steven Langer	United States	WA	Camas	8	2015-11-10	۲	Delete
i.	NickDrouin	203000006557	Nicolas Drosin	United States	WA	Bellevue	10.0	2015-05-05	۲	Delete
	pwinser	203000015787	Paul Unser	United States	NY	Smithtown	5	2015-01-31	۲	Delete
5	dideszcz	203000016109	Don Kleszcz	United States	CA	Camarillo		2014-12-24	۲	Delete
6	ethomason	203000012880	Earl Thomason	United States	WA	Vancouver	7.5	2014-11-14	۲	Delete
1	propez	203000014540	Jaime Lopez	United States	CA	South Gate		2014-10-07	۲	Delete
8	Scheff	203000014624	Phil Scheff	United States	CA	Newbury Park	8.25	2014-10-03	۲	Delete
	Ribic	203000012755	Rachael Ribic	United States	WA	Spokane	3.3	2014-06-20	۲	Delete
10	PVUSA	20300008668	Steve Coonen	United States	Caifornia	Davis		2014-02-07	۲	Delete

### 6.1 ECU-C Configuration/ECU-C Status Page

ECU-C SETTING page under the Remote control page.

APsystems	USTRILIST REGISTRATION SETTING	English   Settings   Sign out Bluefrog Olympia,Washington,United States
Current User: NickDrouin	ECU Status	
DASHBOARD	If the ECU Connection Status is changed,Please change it.	
MODULE		
REPORT ~	ECU STATUS	
HISTORY ~		
🖋 REMOTE CONTROL 🔍	ECU ID 203000006557 *	
EQUISTATUS EQUISETING ACPHOTECTION PARAMETERS NVENTER STATUS NVENTER GEN SETTING LIST	ECU Connection Status: normal v Submit	
DIAGNOSE		
Op USER REGISTRATION ~		
S BACK		

Figure 37

The ECU-C SETTING tab allows you to:

Set Time Zones

• The ECU-C time zone can be set or adjusted remotely through the ECU-C setting tab. If the time zone is not properly set, the solar production data will not post properly on the EMA site.

Load Inverter IDs

• Once the ECU-C has been installed you can access the ECU-C remotely to add the inverter IDs. Until the inverter IDs are loaded, the ECU-C will not be able to collect data from the inverters.

Update Inverter ID list

• If an inverter(s) is added or swapped for a new unit, then the ECU-C's programmed list of inverters will need to be updated.

### 6.2 Setting the ECU-C Time Zone

- 1) Click the remote control menu to enter the remote settings page
- 2) Select the "ECU-C SETTING" tab.

The ECU-C Configuration page is displayed.

			Time Zone Pull Down Field					
			*	°°		English   Settings   Sign out		
é	APsystem	E 8	USER LIST REGISTRAT			Bluefrog Olympia,Washington,United States		
Curre	ent User: NickDrouin		ECU Setting					
#	DASHBOARD			inks between the ECU and inverters as necessary.				
ш	MODULE							
	REPORT	×	TIME ZONE CONFIGUAR	ION				
0)))	HISTORY	Ŷ	Please select ECU ID	20300006557 *				
F	REMOTE CONTROL	÷	Please select ECO ID	203000000331				
ECU STATUS		ECU time zone	America/Los_Angeles	Send				
	ECU SETTING							
	AC PROTECTION PAR	AMETERS						
	INVERTER STATUS							

Figure 38

- 3) Using the "Time Zone" pull down field, select the appropriate time zone.
- 4) Press "Send".

#### 6.3 Managing Inverter IDs and Updating the Inverter ID List

1) Select the "ECU-C SETTING" tab.

The Inverter Links Configuration page is displayed

								Inverter Links			
APsyste	ms Sweet	USERLIST			<b>C</b> SETTING					English Settings   Nympia, Washington, Un	Sign out Bluefrog ited States
Corrent User: NickDrouin		FCUS	Sett	ina							1.1
DASHBOARD		ECU Setting Set the ECU there zone or most fields between the ECU and inventes as increasary.									
MODULE										1	
E REPORT	×	TIME ZONE CONFIGUARION								/	
HISTORY	¥	Please select ECU ID		283000006557							
				0.0	203000000557						
ECU STATUS				America/Los, Ang	ntes 🔻 Se	md		/			
INVESTER STATUS		INVERTE	R LINK	(S CONFIGUE	ATION						
INVERTER STATUS		_	R LINK		283000006557	v					
INVERTER STATUS INVERTER GFOR SETTING LIST DIAGNOSE		Please		CU 10		•					
INVENTER STATUS INVENTER GED SETTING LIST DIAGNOSE USER REGISTRATION		Please	select EG	CU 40 30	28300006557 Add	•					
INVERTER STATUS INVERTER STATUS INVERTER STATUS SETTING LIST DIAGNOSE USER REGISTRATION		Piezse	select EC e operatio e the inve	CU ID 38 riters	283000006557	•	md				
BYVERTER STATUS BYVERTER GFOI SETTING LIST DIAGNOSE CLUSER REGISTRATION BACK		Piezse	select EG	CU ID 38 riters	283000006557 Add Select from below	•	rend	D	Bryester (D	Luk Satus	
BYVERTER STATUS BYVERTER GFOI SETTING LIST DIAGNOSE CLUSER REGISTRATION BACK		Piezse	select EC e operatio e the inne ter List ID	CU 10 38 rters	20300006557 Add Selict from below	ritet v			Invertier ID 40300000767	Link Status Link	
BYVERTER STATUS BYVERTER GFOI SETTING LIST DIAGNOSE CLUSER REGISTRATION BACK		Please	select EC e operation the inver teer List ID 1	CU ID 38 riters 1 Inventor IC	283000006557 Aat Select from below	ritat v Sea	E	2			
BYVERTER STATUS BYVERTER GFOI SETTING LIST DIAGNOSE CLUSER REGISTRATION BACK		Please Choose Invert	select EC e operatio e the inee teer List ID 1 3	standard and a stand A standard and a st A standard and a standard	203000006557 Add Select from below	Titt V Link Status Link	1	2	403000009767	Link	

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#### **Operation Selection (Add or Delete)**



Adding Complete List of Inverter IDs for a Newly Installed System There are two different approaches to add the inverter IDs: Option 1: Webpage -

1. Select Add inverter based on registration list

- 1) Select "Add" in Operation Selection.
- 2) Select the Inverters"select from below list".
- 3) Select the inverter to be added
- 4) Press "Send".
- 2. The specified inverter ID
  - 1) Select "Add" in Operation Selection.
  - 2) Select the Inverters" input the special ones".
  - 3) Enter all of the inverter IDs into the Inverter ID Field(one per line).
  - 4) Press "Send".
- Option 2: Mobile phone-
  - 1) Log onto ArrayAPP.
  - 2) Select user account.
  - 3) Select Link ECU.
  - 4) Press "Send".

#### Delete IDs from Inverter List

1. Select Delete inverter based on registration list

- 1) Select "Delete" in Operation Selection.
- 2) Select the Inverters"select from below list".
- 3) Select the inverter to be deleted.
- 4) Press "Send".
- 2. The specified inverter ID
  - 1) Select "Delete" in Operation Selection
  - 2) Select the Inverters" input the special ones".
  - 3) Enter all of the inverter IDs into the Inverter ID Field(one per line).
  - 4) Press "Send".
- 3. Delete all
  - 1) Select "Clear" in Operation Selection.
  - 2) Press "Send".

## 7.Technical Data

Model	ECU-C
Communication Interface	
Communication Method	ZigBee
Integrated Wi-Fi	802.11g/n
Ethernet	10/100M Auto-sensing, Auto-negotiation
USB Interface	Standard
RS232	Standard
RS485	Standard
RJ45	Standard
Power Supply	
AC Power Supply	110~277VAC, 50~60Hz Single Phase – ( 3-Phase Optional)
DC Power Supply	12~16V
Power Consumption	3W
Mechanical Data	
Dimensions (W×H×D)	210 x 120 x 41mm (8.3" x 4.7" x 1.6")
Weight	500g (1.1lbs)
Ambient Temperature Range	-40°C to +65°C (-40°F to 149°F)
Cooling	Nature Convection; No Fans
Enclosure Environmental Rating	Indoor - IP20 (NEMA 1)
Other Features	
Grid Type	Single Phase/ Three Phase
Relay Driver	Control external AC contact or relay
Relay Feedback	Get relay signal, could do anti-backflow control, and energy management
Digital Input	For external control device connection
CT Sensor	Production and consumption metering
Meter Accuracy	Integrated PV production metering (+/- 0.5% via CT) and optional consumption monitoring (+/- 2.5% via CT)
Compliance	
Compliance	IEC/EN61010-1,EN61000-6-2, EN61000-6-4,2014/53/EU,EN301489-1/-17,EN62311, EN 300328

Specifications subject to change without notice.

Please ensure you are using the most recent update found at www.APsystems.com.

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# :: WEEE (for Europe)



### Disposal of your old appliance

- 1. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2002/96/EC.
- 2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
- 3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
- 4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

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