

EWS2 User Guide

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Accessing the Embedded Web Server (EWS)

To access the EWS, an ethernet cable connected to the LAN must be plugged into the port labelled 'ETH' on the EWS.

DHCP is enabled by default. For the EWS to obtain an IP address it must be connected to a network with DHCP server. The initial IP address may be obtained by either:

- On the front panel of the EWS, press either button labelled 'A' or 'B' multiple times until the IP address is displayed
- Inspect the DHCP server lease information

Once the IP address has been obtained the device may be accessed at the following URL:

- <https://IPAddress>

It is recommended to use Google Chrome, Microsoft Edge or Mozilla Firefox to access the EWS.

The EWS will prompt for a username and password. The default username and passwords are configured as follows:

- Username: admin
- Password: admin

Network Settings

Settings->Date and Time

The date and time on the EWS are automatically updated from the internet using SNTP if it is available. The current SNTP status, date, time, and SNTP servers on the EWS are displayed. The SNTP servers may be updated using either a DNS name, or an IP address.

Description	Settings
SNTP	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
SNTP Status	Updated successfully
Date	19/07/2021
Time	02:53:50 PM
Primary SNTP Server	<input type="text" value="pool.ntp.org"/>
Secondary SNTP Server	<input type="text" value="time.google.com"/>
Browsers Timezone	GMT+1000 (Australian Eastern Standard Time)

The time may be set manually by disabling SNTP, and the entering the time manually.

Description	Settings
SNTP	<input type="checkbox"/> Enabled <input checked="" type="checkbox"/> Disabled
SNTP Status	Disabled
Date	<input type="text" value="19/07/2021"/> <input type="button" value="📅"/>
Time	<input type="text" value="02:51:14 PM"/> <input type="button" value="🕒"/>
Primary SNTP Server	
Secondary SNTP Server	
Browsers Timezone	GMT+1000 (Australian Eastern Standard Time)

Settings->Network

The hostname and location may be set on this page. By default, the network settings are obtained automatically from the network using DHCP. With DHCP selected, network settings are displayed in a read only manner.

Description	Settings
Hostname	<input type="text" value="hostname"/>
Location	<input type="text" value="Location"/>
IP Assignment	<input checked="" type="radio"/> DHCP <input type="radio"/> Static
IPv4 Address	<input type="text" value="192.168.0.108"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.0.1"/>
Primary DNS	<input type="text" value="192.168.0.1"/>
Secondary DNS	<input type="text" value="8.8.8.8"/>
MAC Address	80:1f:12:37:05:cd

Should a static IP address be required, click the “Static” button. Once selected, the relevant fields are displayed allowing the configuration of network settings.

Description	Settings
Hostname	<input type="text" value="hostname"/>
Location	<input type="text" value="office"/>
DHCP Server	<input type="radio"/> DHCP <input checked="" type="radio"/> Static
IPv4 Address	<input type="text" value="192.168.0.101"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.0.1"/>
Primary DNS	<input type="text" value="192.168.0.2"/>
Secondary DNS	<input type="text" value="192.168.0.3"/>
MAC Address	80:1f:12:37:05:cd

Settings->SMTP

SMTP is disabled by default and must be enabled and configured on this page. To configure, set the SMTP Client to “Enabled”.

The status field provides real-time feedback on the status of the last email. The SMTP server address may be a DNS name or IP address.

Description	Settings
SMTP Client Enabled	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Status	Sent Successfully
SMTP Server Address	<input type="text" value="mail.company.com"/>
Sender Address	<input type="text" value="name@company.com"/>
Recipient Address	<input type="text" value="recipient@domain.com"/>
Port	<input type="text" value="25"/>
Basic Authentication	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled

Basic Authentication may be used to secure access to the SMTP server. Depending on the mail server configuration, the username may need to be entered in the form *domain\username*.

For emails to be sent based off a sensor, the following configuration is required:

- SMTP client needs to be configured on the SMTP settings page
- SMTP checkbox to be selected on the relevant sensor
- A low or high threshold needs to be configured (excluding tripped breakers and digital inputs)

Sensor	Alarm	Reading	Alarm Low	Alarm High	LEDS & Displays	Relay	SMTP	SNMP	Data Log	Sensor Description
Voltage(V)	●	48.2	<input type="text" value="0"/>	<input type="text" value="52"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Current(A)	●	4.8	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Power(kW)	●	0.2	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Busbar Temp(°C)	●	21.9	<input type="text" value="0"/>	<input type="text" value="60"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Core Temp(°C)	●	23.0	<input type="text" value="0"/>	<input type="text" value="40"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>

In the above example, a trap will be sent if the sensors value drops below ‘Alarm Low’, or exceeds ‘Alarm High’.

Settings->SNMP

SNMP MIB

The SNMP data provided by the EWS is defined in the MIB located on the AC&E website:

<https://www.acande.com/support/ipdu/ipdu-snmp-mib/>

The structure of the data is defined in the below table:

Parent OID	Description
1.3.6.1.5.1.1	System
1.3.6.1.4.1.50542	AC&E Enterprise ID
1.3.6.1.4.1.50542.1	IPDU
1.3.6.1.4.1.50542.1.4	Traps
1.3.6.1.4.1.50542.1.5	Trap Groups
1.3.6.1.4.1.50542.1.6	Feed Table
1.3.6.1.4.1.50542.1.7	Digital Inputs Table
1.3.6.1.4.1.50542.1.8	Digital Outputs Table
1.3.6.1.4.1.50542.1.9	Temp and Humidity Table
1.3.6.1.4.1.50542.1.10	Digital IO Table

SNMP Server

The SNMP server is enabled by default allowing requests in both version 1 and version 2c, with a community string of public.

Description	Settings
SNMP Server	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Status	Enabled, v1 and v2c
Version	<input checked="" type="checkbox"/> v1 and v2c <input type="checkbox"/> v3
Community String	<input type="text" value="public"/>

Additional security may be added by configuring SNMP v3, allowing authentication and encryption. Each encryption type uses 128-bit encryption.

Description	Settings
SNMP Server	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Status	Enabled, v3
Version	<input type="checkbox"/> v1 and v2c <input checked="" type="checkbox"/> v3
Context	<input type="text" value="normal"/>
Username	<input type="text" value="username"/>
Authentication Type	<input type="checkbox"/> None <input checked="" type="checkbox"/> MD5 <input type="checkbox"/> SHA
Password	<input type="text" value="....."/>
Encryption Type	<input type="checkbox"/> None <input checked="" type="checkbox"/> DES <input type="checkbox"/> AES
Encryption Key	<input type="text" value="....."/>

SNMP Traps

SNMP traps may be configured to send notifications to a SNMP server.

Description	Settings
Traps Enabled	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Status	Sent Successfully
Version	<input type="checkbox"/> v1 <input checked="" type="checkbox"/> v2c
Primary Trap Host	<input type="text" value="trap1.domain.com"/>
Secondary Trap Host	<input type="text" value="trap2.domain.com"/>
Community String	<input type="text" value="public"/>
Heartbeat Frequency	<input type="text" value="2"/>

The EWS only supports SNMP v1 and v2c traps. Trap hosts may be entered as names or IP addresses.

The heartbeat frequency determines the frequency a trap is sent to let the SNMP server know the EWS is still alive and responding. Setting a frequency of 0 disables the heartbeat trap.

For traps to be send on a sensor, the following configuration is required:

- Traps need to be configured on the SNMP settings page
- SNMP checkbox to be selected on the relevant sensor
- A low or high threshold needs to be configured (excluding tripped breakers and digital inputs)

Sensor	Alarm	Reading	Alarm Low	Alarm High	LEDS & Displays	Relay	SMTP	SNMP	Data Log	Sensor Description
Voltage(V)	●	48.2	<input type="text" value="0"/>	<input type="text" value="52"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Current(A)	●	4.8	<input type="text" value="0"/>	<input type="text" value="30"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Power(kW)	●	0.2	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Busbar Temp(°C)	●	21.9	<input type="text" value="0"/>	<input type="text" value="60"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Core Temp(°C)	●	23.0	<input type="text" value="0"/>	<input type="text" value="40"/>	<input type="text" value="off"/>	<input type="text" value="off"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>

In the above example, a trap will be sent if the sensors value drops below 'Alarm Low', or exceeds 'Alarm High'.

User Settings

Settings->User Accounts

By default, there is one administrative account with access to the EWS. This account may not be removed or have its permissions reduced from Admin. It may have its username changed from admin.

Additional users may be created with 3 different roles:

- Admin - Full access to all pages
- Power User - All pages under the settings menu are unavailable
- User - All pages under the settings menu are unavailable and sensors are read only

User accounts may be added, edited or removed. When an account is edited, the password for the account needs to be re-entered.

Username	Role	Actions
admin	Admin	<input type="button" value="Edit"/>
poweruser	Power User	<input type="button" value="Edit"/> <input type="button" value="Remove"/>
user	User	<input type="button" value="Edit"/> <input type="button" value="Remove"/>

Configuring Feeds

Settings->Feed

An EWS may have up to 2 feeds directly connected to it. The feeds names default to “A” and “B”, however may be renamed to suit the environment.

Order	Serial	Connection	Model	Feed Name (?)	Description
1 ▼	XXXX-0003	EWS	IPDU-XXXX	<input type="text" value="A"/>	A1
2 ▼	XXXX-0003	EWS	IPDU-XXXX	<input type="text" value="B"/>	B1

A feed may span across multiple devices, connected directly to the EWS, or via the expansion (EXP) bus.

Using the same feed name across devices, joins the feed on the dashboard and on the display. The dashboard then displays the lowest voltage of a feed’s members, along with the sum of the real time current and power through the feed.

Configuring the order of the feeds changes the order the devices are displayed on the Sensors->Feed page and on the display.

Order	Serial	Connection	Model	Feed Name (?)	Description
1 ▼	XXXX-0003	EWS	IPDU-XXXX	<input type="text" value="A"/>	A1
2 ▼	XXXX-0013	EXP	IPDU-XXXX	<input type="text" value="A"/>	A2
3 ▼	XXXX-0021	EXP	IPDU-XXXX	<input type="text" value="A"/>	A3
4 ▼	XXXX-0005	EXP	IPDU-XXXX	<input type="text" value="A"/>	A4
5 ▼	XXXX-0006	EXP	IPDU-XXXX	<input type="text" value="A"/>	A5
6 ▼	XXXX-0002	EXP	IPDU-XXXX	<input type="text" value="A"/>	A6
7 ▼	XXXX-0012	EWS	IPDU-XXXX	<input type="text" value="B"/>	B1
8 ▼	XXXX-0007	EXP	IPDU-XXXX	<input type="text" value="B"/>	B2
9 ▼	XXXX-0008	EXP	IPDU-XXXX	<input type="text" value="B"/>	B3
10 ▼	XXXX-0009	EXP	IPDU-XXXX	<input type="text" value="B"/>	B4
11 ▼	XXXX-0010	EXP	IPDU-XXXX	<input type="text" value="B"/>	B5
12 ▼	XXXX-0011	EXP	IPDU-XXXX	<input type="text" value="B"/>	B6

Sensors->Feed

Each feed device has a heading made up of multiple properties. These include:

- AC or DC Feed
- Feed Name
- Description

The feed name may be customised on the Settings->Feed screen. The description field is a customer field to help identify the device. Both the feed name and descriptions are displayed across the web interface, display and alerts via SNMP, SMTP and logs.

DC FEED A A1

Serial	Connection	Connected	Model	Feed Name	Primary Volts	Description
XXXX-0003	EXP	●	IPDU-XXXX	A	<input checked="" type="checkbox"/>	A1

When a feed spans multiple devices, the primary volts checkboxes specify which voltage is displayed for the feed on the dashboard.

Each sensor may have a low and high threshold set against it. It also has a series of outputs that may be selected from, that will be triggered if the thresholds are met. LEDs, displays and relay outputs may be directly connected to the EWS or plugged in via the EXP bus.

Sensor	Alarm	Reading	Alarm Low	Alarm High	LEDS & Displays	Relay	SMTP	SNMP	Data Log	Sensor Description
Voltage(V)	●	48.2	40	52	EXP Alarm 1 D103-05i	off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A1 V
Current(A)	●	4.8	5	10	off	off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A1 C
Power(kW)	●	0.2	0.0	0.1	off	off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A1 P
Busbar Temp(°C)	●	20.8	10	30	off	off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A1 T1
Core Temp(°C)		22.0			off	off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A1 T2

If the alarm is red, one of the thresholds has been breached. If no thresholds or outputs are set, no green or red alarm is displayed.

The sensor description field is used across the web interface, displays, SNMP, SMTP and logs as a way to identify the source of the alarm.

Recovering Access to an EWS

A factory reset may be necessary if access is lost to an EWS. Performing a factory reset will wipe all user configurations and logs on the EWS. The DHCP settings on the EWS will be restored to the default of enabled. A hardware factory reset can be performed as follows:

1. Hold the two black buttons down on the EWS
2. Press and release the red reset button
3. Continue holding the two black buttons for 12 seconds, then release them

Contact Us

For more information, you will find contact us and support information on the [AC&E website](http://www.acande.com) www.acande.com.