

AC&E Cloud

User Guide

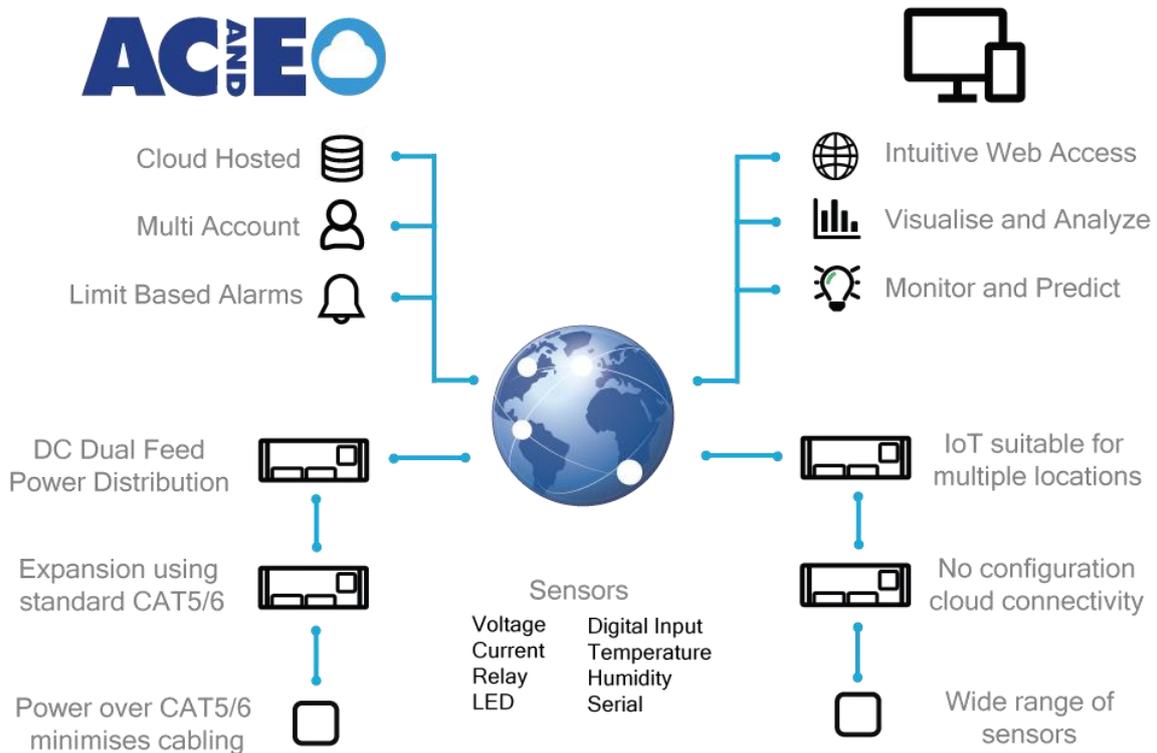
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AC&E Cloud User Guide

Overview

AC&E Cloud is a web-based service used to store, monitor and visualise telemetry from AC&E products. It provides a single pane of glass to organise, visualise, and gain insights into sensor data. The cloud platform is designed from the ground up as a turnkey solution to simplify the management and monitoring of sensor information, without the need of infrastructure and software developers.



AC&E design and make sensor solutions to monitor industrial environments, including current, voltage and temperature. These sensors feed data into AC&E's EWS, which is a small, low cost, low power device that collects and stores the sensor information. The EWS can serve that information via a web site, SNMP, or the AC&E cloud.

Once several EWS are installed, logging into multiple web sites and cross-referencing data becomes time consuming and inefficient. Businesses look to centralised solutions to solve this problem. SNMP has been around a long time and is a great protocol to monitor a wide range of products. However, SNMP requires large amounts of expertise, cost, infrastructure and time which becomes difficult to manage at scale.

An EWS may be configured to securely transfer its sensor telemetry over the internet to the AC&E Cloud. Devices may be pre-configured in the factory to connect to the cloud, or existing EWS in the field may be configured where compatible. The telemetry data is then stored and made available via web interface.

1. Requirements

1.1 EWS

For an EWS to successfully connect to the AC&E Cloud, the following requirements are necessary:

- EWS1 with firmware minimum 2.1.23
- EWS2 with firmware minimum 1.0.41 or 1.0.47 for cloud based firmware updates
- The EWS needs to be connected to a network with a functional internet connection, and outbound access on port 8883
- Functional DNS and SNTP

1.2 Authentication

To log into the AC&E Cloud, verified Microsoft or Google accounts must be used.

1.3 AC&E Cloud Tenant Provisioning

With the organisation of a trial, or, purchase of licenses, AC&E are required to provision a new tenant in the region specified. Microsoft or Google account(s) provided by the customer. After initial tenant creation, customer can manage account access to AC&E Cloud.

After the tenant has been provisioned, AC&E will provide customers with an address to be configured in each EWS. This may not be required if EWS are factory programmed.

2. Connecting an EWS

2.1 EWS settings

EWS may be pre-programmed to connect automatically to the cloud.

To manually configure a cloud connection, browse to the page under 'settings' → 'cloud'. Enter the address provided by AC&E in the address field. The status of the connection may be seen under the status field.

By default, the EWS will remain connected to the cloud, publishing telemetry every 60 seconds.

The screenshot shows a web browser window displaying the AC&E Cloud settings page. The browser's address bar shows the URL `/cloud.cgi`. The page has a dark blue header with the AC&E logo and navigation links: Dashboard, Sensors, Logs, Settings, About, Help. The user is logged in as 'admin'. The main content area is titled 'AC&E Cloud' and contains a table with the following data:

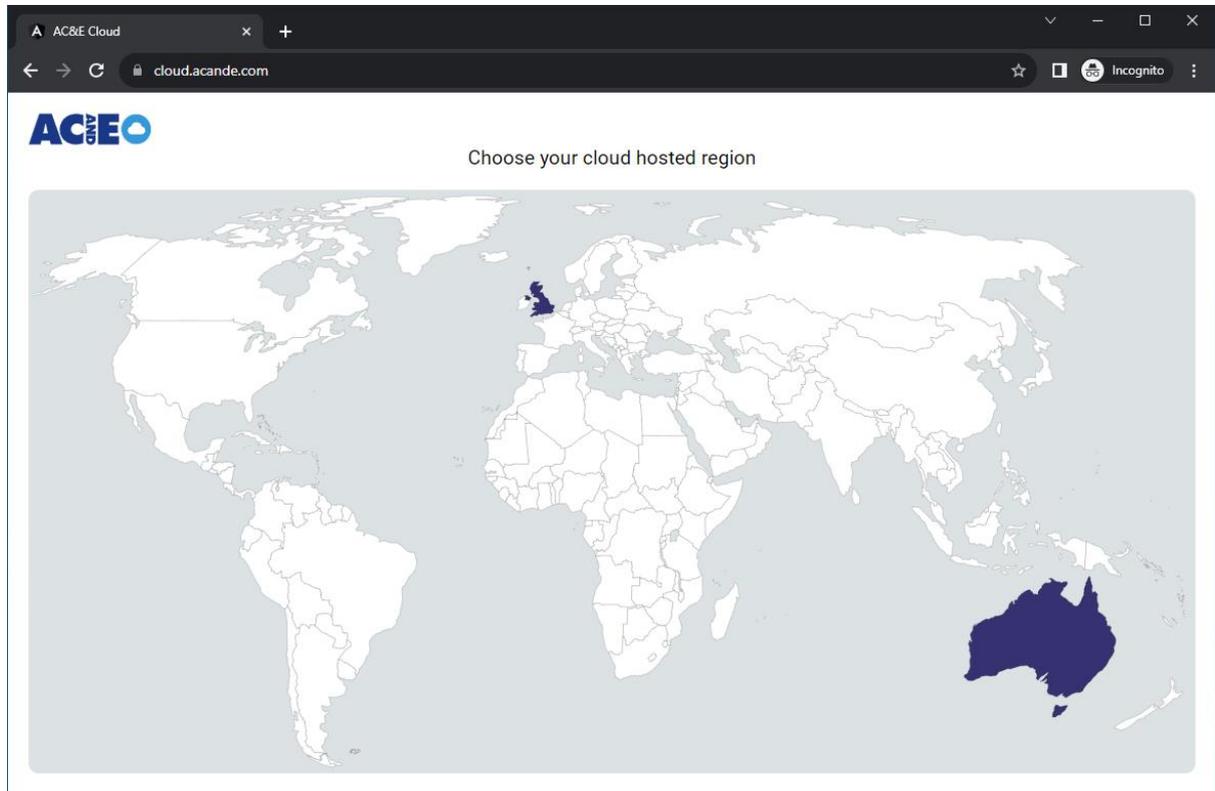
Description	Settings
Cloud Connect	<input checked="" type="checkbox"/> Enabled <input type="checkbox"/> Disabled
Status	Success
Address	<input type="text" value="demo1"/>

Below the table is an 'Update' button. The footer of the page displays system information: 'Description: Description Hostname: hostname Location: Location Firmware: 1.0.41 (GA)'.

3. AC&E Cloud Authentication

3.1 Region Settings

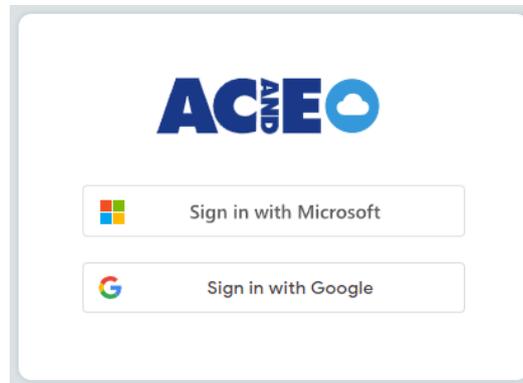
To access AC&E Cloud, browse to <https://cloud.acande.com>



AC&E Cloud requires a one-time setting per browser to select the region the tenant was set up in. Once set this is saved in a cookie. To change region, click the settings cog  and select change region.

3.2 Authentication Provider

AC&E Cloud then requires you to select your authentication provider.



When an authentication provider is selected, the authentication flow is handled by the respective service, respecting the providers multi-factor authentication rules and permissions.

3.3 Multi-Factor Authentication

If your account has multi-factor authentication enabled, you will be required to validate with the configured method.

A composite screenshot showing two authentication screens side-by-side. The left screen is a Microsoft 'Approve sign in request' screen. It shows a blurred email address, the text 'Approve sign in request', and an instruction to open the Authenticator app and enter a number. A large box displays the number '67'. Below this, there is a note about upgrading the app, a checkbox for 'Don't ask again for 30 days', and a link for 'I can't use my Microsoft Authenticator app right now'. The right screen is a Google '2-Step Verification' screen. It features the Google logo, the title '2-Step Verification', and the text 'To help keep your account safe, Google wants to make sure it's really you trying to sign in'. A dropdown menu shows a blurred email address. Below this, it says 'Choose how you want to sign in:' and lists three options: 'Tap Yes on your phone or tablet' (with a device icon), 'Use your phone or tablet to get a security code (even if it's offline)' (with a phone icon), and 'Get a verification code at ... 2-Step Verification phone' (with a text message icon).

3.4 Permissions

On the first use of AC&E Cloud, you will be asked to confirm you give permission for AC&E cloud access to your basic profile information.

 Microsoft

@

 **Let this app access your info? (1 of 2 apps)**

ACE Cloud needs your permission to:

-  **View your basic profile**
ACE Cloud will be able to see your basic profile (name, picture, user name).
-  **Maintain access to data you have given ACE Cloud access to**
Allows ACE Cloud to see and update the data you gave it access to, even when you are not currently using the app. This does not give ACE Cloud any additional permissions.

Accepting these permissions means that you allow this app to use your data as specified in their terms of service and privacy statement. **The publisher has not provided links to their terms for you to review.** You can change these permissions at <https://microsoft.com/consent>. [Show details](#)

 Sign in with Google

Confirm that you want to sign in to **acande.com** as  @

To create your account, Google will share your name, email address and profile picture with acande.com. See acande.com's [privacy policy](#) and [Terms of Service](#).

English ▾ [Help](#) [Privacy Policy](#) [Terms of Service](#)

4. Product Usage

4.1 Header Panel



🏠 AC&E Demo Tenant

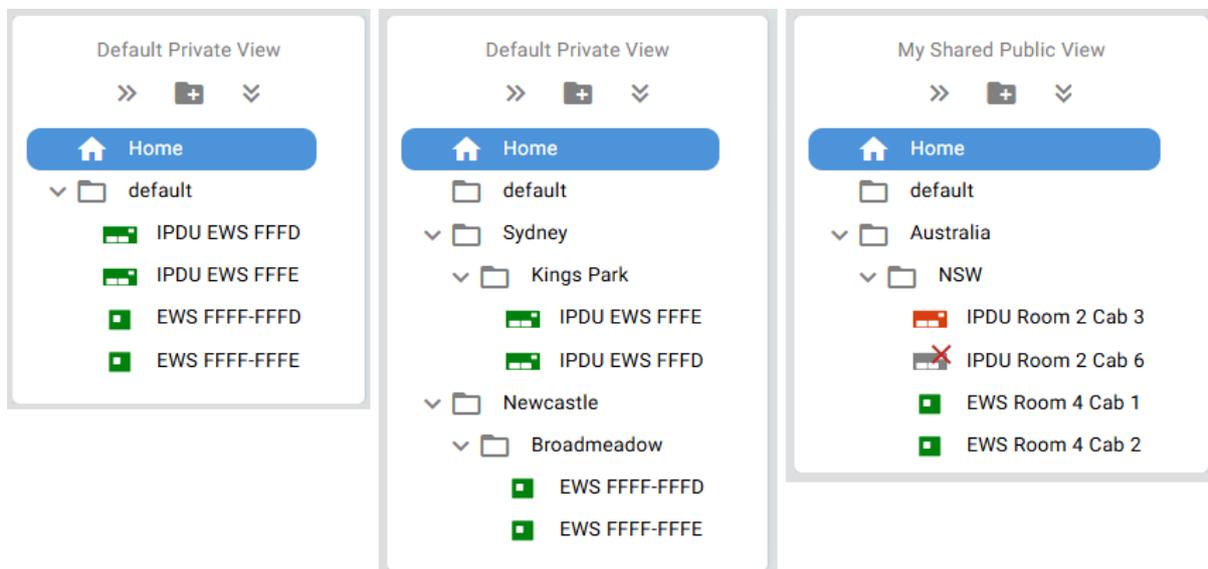


The header panel provides high level navigation. The heading in the middle of the panel indicates which page you are on. The icons in the top right-hand corner provides a way to navigate between home, settings and log out.

The home icon is displayed when in settings, and the settings icon is displayed when home. Each icon is labelled when moused over:

Icon	Description
	Return home from settings pages
	Settings
	Telemetry downloading
	Log out

4.2 Navigation Panel



The navigation panel is a customisable panel, allowing you to organise and arrange your products in a familiar folder structure.

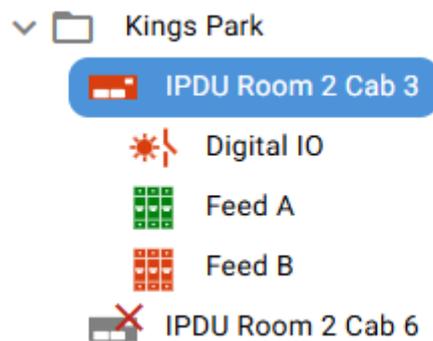
Clicking on the View at the top of this panel takes you to the Settings > Views page. Views allow you to create different folder structures, allowing you to have your own private, or shared folder structures.

Each of the below icon's is labelled when moused over:

Icon	Description
	Collapse All Folders
	Add New Folder
	Expand All Folders

The home folder shows a summary of all PDU's in the system. New EWS appear in the default folder. The home and default folders are unable to be renamed, deleted, or contain sub-folders.

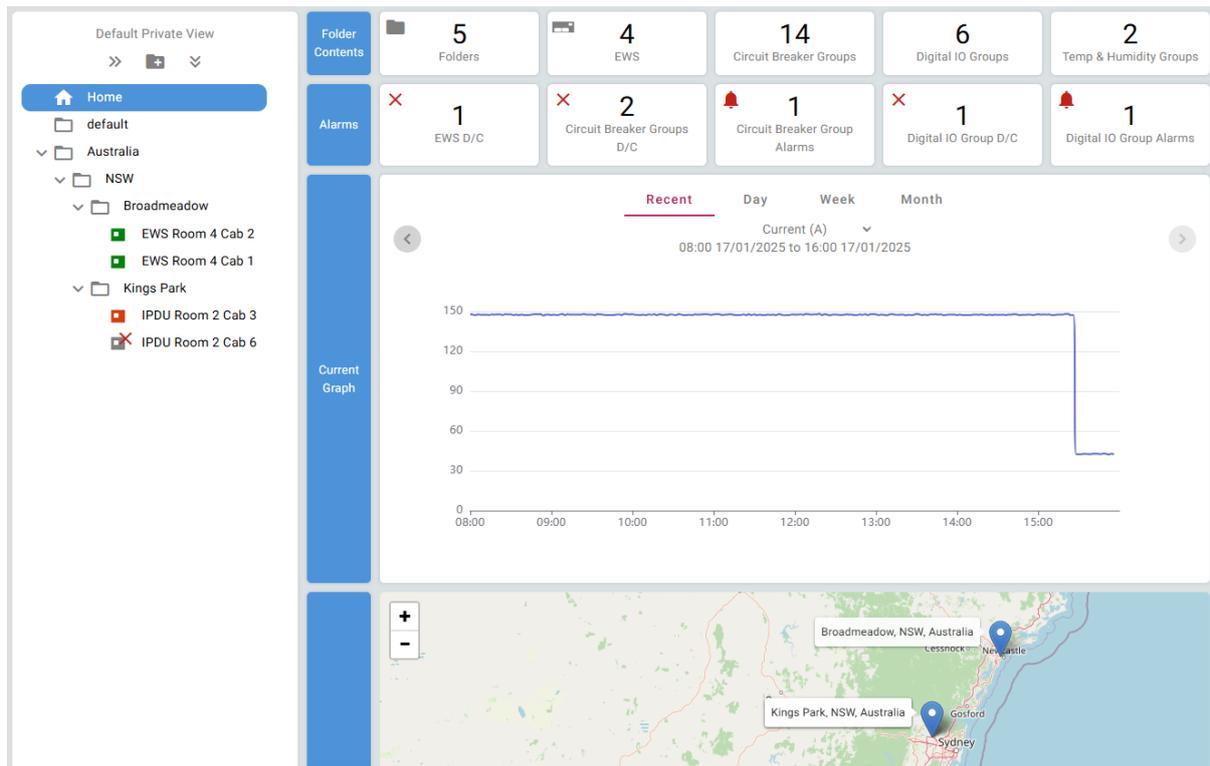
Once new folders have been created, both folders and EWS can be drag and dropped.



When an active alarm is set on a sensor, the icon's turn red. The above example has active alarms on both the Digital IO and Feed B for IPDU Room 2 Cab 3.

When an EWS has no connectivity to the cloud, it displays as a red cross. If no alarm is active, the icon will be grey with the red cross, if an alarm is active the icon will be red.

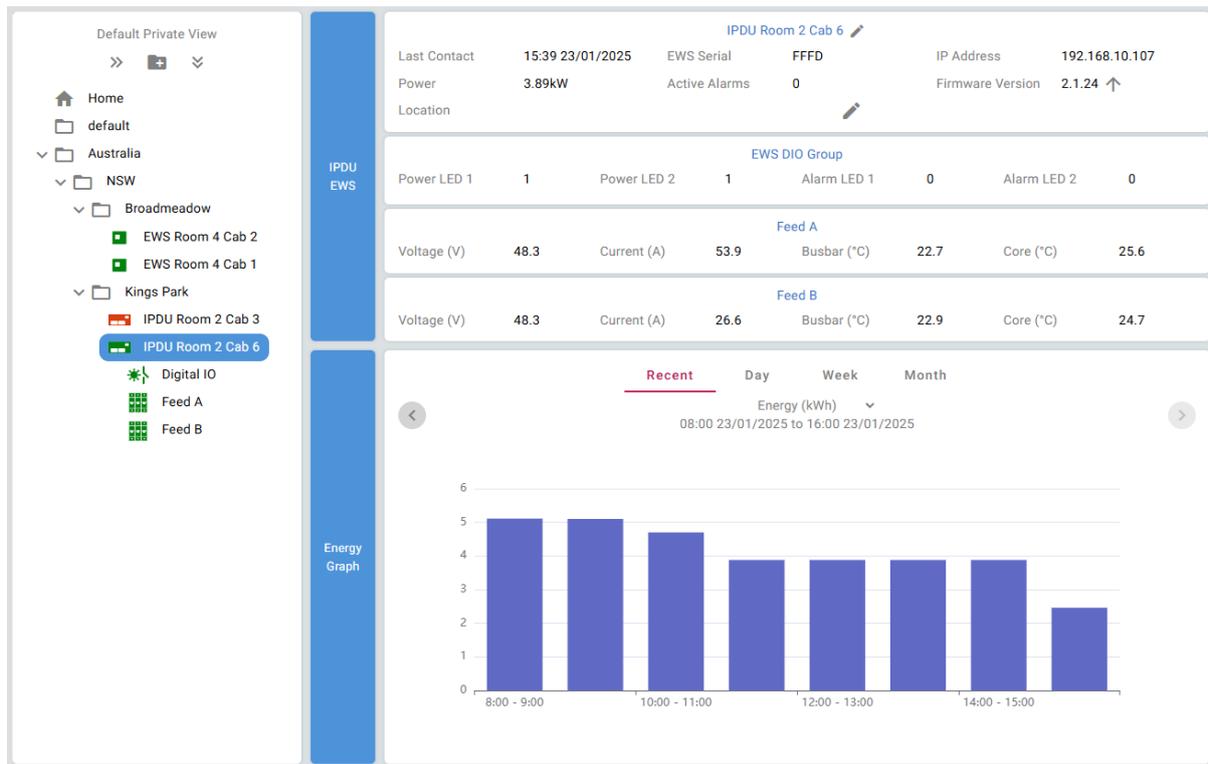
4.3 Main Panel – Folder Selected



The home folder displays summary information about all connected devices and folders. Selecting a folder displays the details of what is contained in the folder. This includes counts of sub-folders, EWS, sensor groups, alarms, a graph, and a map if the locations have been added.

The graph has a configurable time scale – defaulting to recent which covers the last 8 hours. The graphs on folders can be configured to show current or energy. The current is the sum of the currents of all power distributed in the folder. Energy shows the energy usage of sensors contained within the folder in KWh.

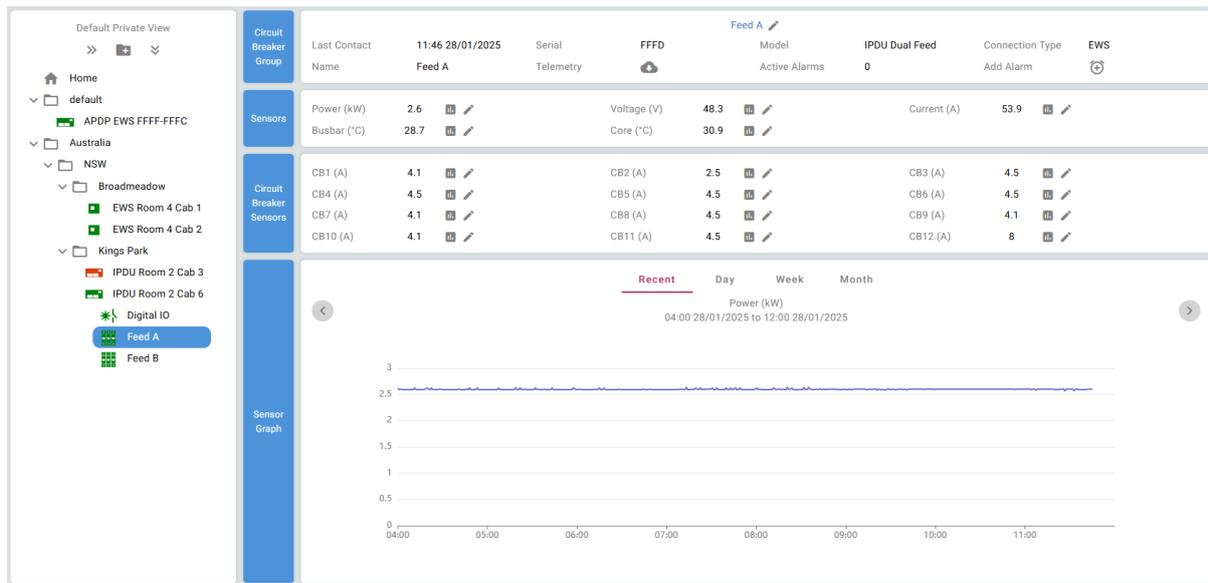
4.4 Main Panel – EWS Selected



Selecting an EWS displays a summary of the sensors, some configuration options and a graph showing either the total energy consumption of the device or current usage.

Control	Description
IPDU Room 2 Cab 6 	Set / Edit the device name
Location 	Set / Edit the device location
Firmware Version 2.1.24 	Navigates to the firmware upgrade page, also found under settings -> firmware

4.5 Main Panel – Sensor Group Selected



Once an EWS is selected in the navigation, all connected sensor groups appear in the drop down below it. These sensor groups can be directly connected to the EWS, or on the Expansion bus. Once the sensor group is selected, many configuration options are available:

Control	Description
Feed A	Set / Edit the sensor group name
Telemetry	Download all sensor data on selected sensor group
Add Alarm	Add an alarm against this sensor group
Voltage (V) 48.3	Graph the sensor Edit the sensor label

4.6 Main Panel – Sensor Group Selected - Alarms

Circuit Breaker Group

Feed A

Last Contact	12:08 28/01/2025	Serial	FFFD	Model	IPDU Dual Feed
Connection Type	EWS	Name	Feed A	Telemetry	
Active Alarms	0	Add Alarm			

Add Alarm

Apply alarm to sensor(s)

<input type="checkbox"/> Power	<input type="checkbox"/> Voltage	<input type="checkbox"/> Current	<input checked="" type="checkbox"/> Core Temp
<input checked="" type="checkbox"/> Busbar Temp	<input type="checkbox"/> Any CB	<input type="checkbox"/> CB1	<input type="checkbox"/> CB2
<input type="checkbox"/> CB3	<input type="checkbox"/> CB4	<input type="checkbox"/> CB5	<input type="checkbox"/> CB6
<input type="checkbox"/> CB7	<input type="checkbox"/> CB8	<input type="checkbox"/> CB9	<input type="checkbox"/> CB10
<input type="checkbox"/> CB11	<input type="checkbox"/> CB12		

Alert when (°C)

Below Low Threshold Above High Threshold

Tripped

Send email to

demo@azton.com

Save or Cancel

Alarms

Alert when CB1, CB3 or CB5 is tripped or is below 0.5A or above 10A. Email demo@azton.com.

Alarms may be set on a sensor group. Adding alarms allow for multiple sensors to be covered by one alarm. Tick the sensors which you want to apply the threshold for, then set the threshold. If you have selected circuit breakers and you want an alarm to be triggered when it has tripped, tick the tripped check box. Finally select who you want the email to be sent to and save the alarm. The email address list is populated by accounts that have been created under settings -> accounts.

Alarms

Alert when Alarm LED 1 or Alarm LED 2 is above 0.5.

Outputs	Power LED 1	1		Power LED 2	1	
	Alarm LED 1	1		Alarm LED 2	0	
	Relay 1	1		Relay 2	0	

Inputs	Input 1	0		Input 2	0	
	Input 3	0		Input 4	0	

For inputs and output sensors, thresholds can be set as above to trigger alarms when the state matches 1.

Alarms may be deleted by mousing over the alarm description and clicking the  icon.

Digital IO Group	Digital IO 					
	Last Contact	12:36 28/01/2025	Serial	FFFE		
	Connection Type	EWS	Telemetry			
Active Alarms		1	Add Alarm			
Alarms	 Alert when Alarm LED 1 or Alarm LED 2 is above 0.5. 					
Delete Alarm						
Outputs	Power LED 1	1	 	Power LED 2	1	 
	Alarm LED 1	1	  	Alarm LED 2	0	 
	Relay 1	1	 	Relay 2	0	 

Emails are sent when a threshold is exceeded, or the device is disconnected. They are not resent until the device returns to a normal threshold.

Alert for with serial E0C2-0039 from ACE Cloud

 ACE Cloud
To demo

  Reply  Reply All  Forward  

Sun 26/01/2025 2:14 PM

 **Alert for E0C2-0039**

Alarm Core Temp is measuring 36°C which is above the configured high threshold of 35°C

Device Type EOS LCS

Raised Sun, 26 Jan 2025, 3:14:00 UTC
Sun, 26 Jan 2025, 14:14:00 AEDT

Customer Alias demo1

Recommended Action

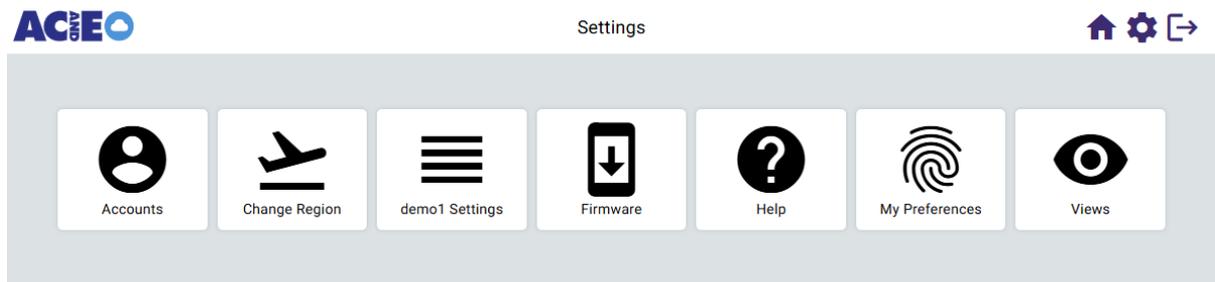
To view the current state of the alert, or disable the alarms, log in to [ACE Cloud](#).

This alarm will only be resent once all alarm conditions are cleared.

For support, email cloudsupport@acande.com



4.7 Settings



All the settings pages have the home icon in the top right corner to navigate back to the main section of the AC&E Cloud.

Depending on your permission level, you will have some or all of these icons allowing you to configure accounts, preferences, views and update firmware.

4.8 Settings - Accounts

Settings > Accounts

Add Account

Email:

Account Type: **Microsoft Work or School** (selected), Microsoft Personal, Google Account

Permissions: Admin

Actions:

Name	Permissions	Actions
demo	admin	

Accounts may be added or edited by existing admin accounts. Creating a new account requires entering a valid Microsoft or Google account, and choosing an appropriate permission:

Permission	Description
Admin	Administrator account, full access to everything.
Power User	Read/Write access most areas. No write access to account management or tenant wide settings.
Read Only User	Access to read all information, no write access. No access to set permissions including labels, locations, firmware updates, account management.
None	No permissions. Effectively disables an account.

4.9 Settings - Firmware

Settings > Firmware

Update Firmware

Select File ews2_firmware_1.0.47.bin
EWS2 firmware version 1.0.47 detected

Select EWS **3 EWS Selected**

Apply Firmware

Select	Name	Last Contact	Serial	IP Address	EWS Version	Firmware Version	Last Update Start	State
<input checked="" type="checkbox"/>	EWS Room 4 Cab 1	14:21 28/01/2025	FFFF-FFFE	192.168.10.100	2	1.0.47	10:04 11/12/2024	Success
<input type="checkbox"/>	IPDU Room 2 Cab 3	14:21 28/01/2025	FFFE	192.168.10.104	1	2.1.24	10:05 11/12/2024	Success
<input type="checkbox"/>	IPDU Room 2 Cab 6	14:21 28/01/2025	FFFD	192.168.10.107	1	2.1.24	10:05 11/12/2024	Success
<input checked="" type="checkbox"/>	EWS Room 4 Cab 2	14:21 28/01/2025	FFFF-FFFD	192.168.10.101	2	1.0.48	10:04 11/12/2024	Success
<input checked="" type="checkbox"/>	IPDU Room 2 Cab 4	14:21 28/01/2025	FFFF-FFFC	192.168.10.113	2	1.0.47	08:51 28/01/2025	Success

Select EWS

Firmware updates can be reached from settings – firmware, or clicking the next to the firmware version of each EWS.

After selecting a valid firmware file, all EWS the firmware is applicable to will be available to select via the checkboxes. After one or more EWS have been selected, the apply firmware button will become available. Once clicked, the firmware will start to be applied. The ‘State’ column tracks the update through process:

State	Description
Initializing	AC&E Cloud communicates for the EWS to prepare for the update
Transferring XX%	AC&E Cloud transfers the file to the EWS
Applying	EWS validates the firmware and applies it
Success	EWS successfully applied the firmware
Error	EWS failed to apply the firmware. Mousing over the icon will display the source of the error

4.10 Settings – Views

Views	Active View	Default		Add View	+
	Name	Default	Public	false	Actions
	Name	Demo #1	Public	true	Actions 
	Name	Demo #2	Public	false	Actions 

Views allow a custom set of folders to be created, in a private or public manner. Note the properties of the EWS or nodes do not change, just the folders in the navigation pane. This can be useful when you want to calculate energy across a subsection of power distribution units.

Views	Name	<input type="text" value="Demo #1"/>	Public	<input type="text" value="True"/>	Actions  
	Name	Default	Public	false	Actions

To add a new view, give the view a name and set the permissions to public or private. A public view can be used between multiple accounts.

Changing the 'Active View' to a newly created view, will display all EWS in the default folder, so you can create your folders again as you would like.

4.11 Settings - Tenant Settings

Customer Settings		
Tenant Name	demo	Name used to connect EWS to this tenant
Tenant Alias	AC&E Demo Tenant 	Replaces the Tenant Name in the UI.
EWS Licenses	10	Purchased License Count for EWS on ACE Cloud
EWS Licenses Used	5	Used License Count for EWS on ACE Cloud
Node Licenses	100	Purchased License Count for Nodes on ACE Cloud
Node Licenses Used	28	Used License Count for Nodes on ACE Cloud

History				
Last Updated	Updated by	Customer Alias	EWS Licenses	Node Licenses
14:28 08/04/2024	demo@acande.com	AC&E Demo Tenant	10	100
12:33 25/03/2024	demo@acande.com	AC&E Demo Tenant	3	25

Tenant settings can be found under settings – *company name* settings. It stores all company wide settings, including the tenant name and license information.

This history section of tenant settings keeps a log of changes.

4.12 Settings - My Preferences

AC&E Settings > My Preferences   

My Preferences		
Show Full Descriptions	false 	Show customer descriptions of devices on EWS summary page rather than tooltip.
Default Graph	Current 	Set default graph on folder and EWS pages.

My preferences contains individual user based customisations for the AC&E cloud product.