Cambrionix
CHARGE • CONNECT • MANAGE

Cambrionix Connect

User Manual

Cambrionix Connect

EN

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2. Introduction

Cambrionix Connect is our browser based application designed to manage your Cambrionix hubs. It can be accessed across mobile devices, tablets, and computers running macOS, iOS, Windows, and some Linux distributions. To access the application's features, users must first sign in through any web browser at the address below.

https://connect.cambrionix.com

Once signed in, the platform allows you to manage hubs, view connected devices, and access both local and remote systems. With Cambrionix Connect, you can:

- Monitor hub temperatures, power usage, port status, and error flags
- Manage firmware updates and switch port modes
- Run Cambrionix CLI scripts, Python, or JSON commands
- View and manage all hubs and devices from anywhere with built-in remote access
- Instantly see the status of offline hubs and devices, including last known state
- View detailed device information including OS, model, serial, battery health, and usage history
- Track hub and device presence to monitor activity and detect unauthorised removal
- Group hubs and devices by use, team, rack, or location using custom hardware groups
- Add custom fields such as purchase date, lab name, or location for improved fleet organisation
- Invite multiple users to your organisation and assign roles

Cambrionix Connect is available for both new and existing devices with no additional setup or configuration required.

Cloud storage

All devices and hub information will be stored in the cloud, this means if you disconnect a hub or device you will still be able to access the information. If a device or hub is disconnected and you don't want the information to be stored anymore or see the hardware you can remove from the cloud storage. see the Hubs or Devices pages for more information.

2.1. Prerequisites

You must also have internet access for the browser to allow you to sign in and communicate with the Connect platform.

For Cambrionix Connect to connect to your hubs, the host system the hub is connected to must have the Cambrionix Hub API installed, with a minimum of V3.25.0. The Cambrionix Hub API is a service that runs on your host system, which is what enables communication with your Cambrionix hubs. This is installed as part of the on boarding flow when you first sign in to your account on a computer. Once the host system has the API installed, you need a browser to open the Cambrionix Connect website. Known compatible browsers, for example, will be:

- Google Chrome
- Safari*
- Microsoft Edge

*You cannot connect to local APIs on Safari due to security reasons. Once you have performed the initial setup using a different browser you will be able to access local hubs using Safari

Your hub will need to be connected to your host system and visible to the API. As long as the hub is visible in the device manager or system info, then Connect will be able to see the hub and interact with it. If you use any other 3rd party software that controls the port that the hub requires, Connect will not be able to connect to it, and as such, the hub will not be visible in the application.

You can find more information on the Cambrionix Hub API from the user manual. This can be downloaded from our website at the below link.

www.cambrionix.com/cambrionix-api

3. Using Cambrionix Connect

Cambrionix Connect has many great features that will improve our products use. This section is designed to explain the features in more detail.

3.1. Managing ports

You can manage the ports on your hub(s) easily using Cambrionix Connect. You can switch ports between the following modes*.

Charge	Turn specific ports or the whole hub to charge only mode (no data connection, hub emulates an OEM charger)
On	Turn specific ports on to charge the device and sync data
Detect	Detect the presence of a device but it will not sync or charge it
Off	Turn the selected ports on or off (no power and no data channels open, mimics unplugging the device)

*some products do not have all above modes, please see individual product manuals for more information

There is more detailed information on managing your ports in the Ports overview section.

3.2. Device Information

You can obtain information on connected devices by using Cambrionix Connect. To obtain the information you can either go through the hub to look at the Ports overview or go direct to the Devices viewer section.

From these pages you can obtain charging information of the device, the history of the devices location and additional information about the device.

3.3. Managing Hubs

You can manage the hub settings through Cambrionix Connect. This can be done by adjusting the settings in the Hub settings or by loading and editing templates from the Hub Templates page

Managing your hub(s) is useful as certain settings will need to be changed to alter the behaviour of the hub. For example, you can turn 'charging downstream ports' (CDP) off which will reduce the amount of charge being delivered to a device whilst syncing data. If you then save this setting change to a template, you could really easily apply the same set of settings across host systems, by applying that template.

3.4. Managing Firmware

Using Cambrionix Connect you can manage and change the firmware version currently running on your hub(s). All you need is for the hub(s) to be connected to a host. If doing this remotely, you'll need to ensure the API is running on those local host systems and you can then do all updates from the 'Master' host system. Once the hub is connected to Connect you can go to the firmware section and update multiple hubs at a time.

We release new firmware versions regularly, to ensure the hubs are kept up to date with new devices and functionality. Keeping your hubs firmware up to date will ensure that you have the latest features along with fixes to any known bugs.

For more information please see the Firmware section.

3.5. Using Your Account

To protect your data and settings, Cambrionix Connect requires authentication. When navigating to the URL you will be prompted to sign in or create an account. This ensures your configurations and API access remain secure across all devices. You can sign out the current account from the profile/login button along the top bar.

See the Accounts section for more information

3.6. Adding a Computer

When you open Cambrionix Connect for the first time on a computer, the onboarding flow will prompt you to add that computer to your organisation. If the computer is already assigned to a different organisation, it must be removed from that organisation before it can be added to yours.

If you skip this step during onboarding, you will not be able to view or manage any locally connected hubs. To add the computer later, go to the "Computers" section in the menu bar. There, you will see an option to add the computer you are currently using to your organisation.

Once added, all hubs connected to that computer will become visible and manageable within Cambrionix Connect.

3.7. Remote access

A great feature of using Cambrionix Connect is the ability to remotely access and manage your hubs. In order to remotely access a hub you will need to ensure the host API is at least on v3.25.0 and you did not deselect the API relay service during installation.

3.8. Help and Support

FAQs and help can be found in our Support Portal. You can raise a support ticket for more in depth support here

- https://support.cambrionix.com

You can also download any of our manuals for any hardware and software and get the most up to date versions at the link here

- www.cambrionix.com/product-user-manuals

When contacting support, please supply the product information for the hub in question. This can be found on the Device Information Plate which is either on the underside or back of the unit.

Providing serial and Purchase Order numbers will help us identify your specific product and speed up the process.

4. Organisations

Your Cambrionix Connect account is linked to an organisation, which acts as the central hub for managing users, host machines, and connected hubs.

Each organisation can have:

- Multiple users with assigned roles and access levels
- Multiple computers or host machines connected to it

However:

- Each host machine can only belong to one organisation at a time
- Each user can only be part of one unlicensed organisation
- Users may belong to multiple organisations only if those organisations are licensed

You can access your organisation settings by navigating to the Organisation section in the menu. From there, you can:

- View and switch between any organisations you are a member of
- Set your default organisation
- Rename organisations (if permitted)
- View and manage users within the organisation
- Invite new users to join your organisation

When a user has an organisation selected, any hosts or APIs they register will be visible to all other users within that same organisation. These can then be accessed and managed by all authorised members in real time.

4.1. Organisation name

When you first set up your Cambrionix Connect account, the on boarding flow will prompt you to name your organisation. You can change this to be any name including upper and lower case characters and symbols. We do not recommend a name longer than 64 characters.

4.2. Organisation Id

Each organisation will have a random, unique id, assigned to it as a unique Organisation name can't be guaranteed. This is the way to identify an organisation, which will be required for licensing and support purposes. The Id cannot be changed and can be viewed from the Organisation settings page. This will follow the format: xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx

4.3. Organisation selection

A Cambrionix Connect account can be linked to multiple licensed organisations. You can only access one organisation and the hubs associated with that organisation at a time. From the Organisations page you can select any Organisation you are a part of and make that your current one.

4.4. Organisation users

You can have multiple users associated with an organisation. From the Organisations Settings page you can view all user accounts currently in your organisation.

4.5. Organisation invites

In order to add more user accounts to your organisation, you can send them an invite with an email address from the Organisations Settings page.

Once you have invited a user to your organisation, they will need to navigate to the General Settings page and accept the invitation.

5. Pages

Cambrionix Connect has several pages that can be accessed via the Navigation Panel of the application. Each page will give you access to different information and functions using the API and your hub. A brief description of each section can be seen below.

Section	Description
Dashboard	An overview of connected hubs, API's and quick actions
Devices	An overview of connected devices
Hubs	An overview of connected hubs
Computers	A list of host computers associated with your organisation.
Settings	Settings for API, connected hubs and Accounts
About	Information on running versionsCambrionix Connect
Help	information on Cambrionix and a link to Cambrionix Support centre

These pages can be accessed by selecting the icon on the Navigation Panel.

5.1. Dashboard

From the dashboard section, you can view all hubs in your organisation and see the relevant status. This is the default page of Cambrionix Connect but can also be accessed by clicking on 'Dashboard' in the Navigation Panel.

Hubs

From a glance, you can see which hubs are connected in your organisation, what standard of USB cable is being used to connect the Hub to the Host, as well as a small icon of the hub itself.

You are able to click into any connected hubs to see further information about connected devices.

Computers

From the Dashboard section, you can see Computers connected to your Cambrionix Connect Organisation. You can select each Computer to navigate to the settings for that specific computer. The information available and settings are explained more in the Computers page.

Devices

You can see all devices linked to your active organisation from the Dashboard screen and the information relating to the device. More information on the devices can be found in the Devices page.

5.2. Devices

From this page, you can view and search for specific devices associated to your organisation. You can access this page by selecting 'Devices' on the menu.

You can see every device you have connected from the devices overview. This page can be viewed in list or tile view and can be filtered and viewed in different ways as seen in the Customisable Data Views and Advanced Filtering section. You can use filters to look at specific devices, so if you want only to view iPhones connected, you can filter for this.

From here, if you click into a connected device, you are then able to see a lot more detailed information about that device, you can also delete devices from cloud.

5.2.1 Device information

You can obtain information on a device and even more information if the host system has been has been trusted on initial connection. This can be done when you first connect the device to the host computer, a prompt will appear on the page, asking you to trust the device. Please see individual device documentation for information on trusting and pairing a device with a host system.

Without pairing, the following information will be supplied if available:

- VID/PID
- USB Serial (UDID)
- USB location
- Host computer

If you pair the device, this additional information will be supplied if available:

- Device internal name
- Device OS version
- USB serial number
- Devices Wifi Mac address
- Battery health information (this will require iTunes or ADB to obtain this information)
- Endpoints and endpoint memory used be the device

5.2.2 Charts

From the device information page, if you have the Cambrionix Recorder service installed, you will also be able to obtain information on the device charging levels over time, along with the

device presence history. Please see API User manual for more information on the Recorder service

Connection health

This diagram displays the USB Connection of this device, there will be circles representing each node. You can hover your mouse over each node to see information and some information is represented by the colour of the node

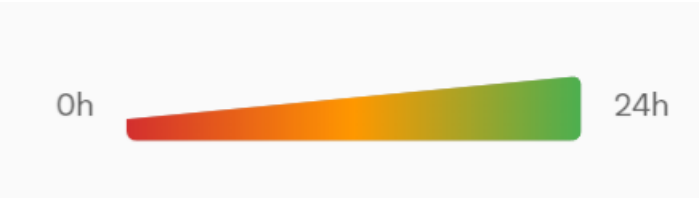
Node Colour	Description
	USB Node with no warnings
	USB Node below capability
	USB Node with error

Device Charging History

This is a chart will show the charging information over time for the specific device, if you were to move the device from one hub to another, the charging history will continue in this graph.

Device Presence History

This chart will show you how long the device is connected using a colour chart per day and month the colour guide on presence can be seen below



Under the chart there is a button you can press which will take you through to all the device presence information in a table format such as the below:

5/21/2024, 9:58:26 AM	Attached	15	0000004B6F54123E
1/30/2023, 10:10:11 AM	Detached	7	00000036C0C485BA
1/30/2023, 9:49:33 AM	Attached	7	00000036C0C485BA

From here you can see the date and time of the attach or detach event the port number and serial number of the hub the device was connected or disconnected from.

5.2.3 Icons

Icons may be visible against your device

if you have the neccesary battery service running and the information can be collected from your device, you can find more information on battery services in the API Settings section.

Battery Icon	Description
	Battery service is running and device is paired
	Battery service running but device is not paired
No Image	Battery service is not running

If you have API version 3.19.0 then devices will be stored in the cloud, you will still be able to see the device information but an icon will be displayed whether the device is connected or not

Connection Icon	Description
	Device is stored in the cloud and is connected
	Device is stored in the cloud and is not connected or visible to the API

5.2.4 Groups

You can view and assign groups to each device from the device page, more information on hardware groups on can be found in the manual section Hardware Groups (Licensed).

5.2.5 Device User Assignment

With Cambrionix Connect, you can assign a device to a specific user within your organization, making it easier to track who is using each device.

To assign a user to a device, navigate to the User Assignment section and select "Add User to Device." A window will appear displaying all users within your organization, allowing you to select the user(s) you wish to assign the device to.

If multiple users share a device, you can assign more than one user to it. All assignments can be reviewed in the Organisations Settings section or on the device page. From there, you can also remove users who no longer require access to the device.

5.3. Hubs

You can select a connected hub from the available list on the Dashboard page or by selecting 'Hubs' from the Navigation Panel.

This page can be viewed in list or tile view and can be filtered and viewed in different ways as seen in the Customisable Data Views and Advanced Filtering section.

To obtain more information on the hubs, select one from this page and you'll be taken to that hub page. Once you have navigated to a particular hubs page, at the top of the page you'll see some options for:

- Ports overview
- Charts
- Hub details and properties
- Hub settings

5.3.1 Ports overview

If you click on the Dashboard page on the Navigation Panel and select a hub, you will be taken to the Ports overview page.

When you first select a hub will default to the ports overview section. From this page you will have more detail on the hub and connected devices such as:

- Number of ports
- The name of the device
- The devices serial number or UDID
- Charging rates in mA
- USB information
- Battery Health information

From this page, you can change the port mode on all ports individually or multiple simultaneously.

Port Modes

The different port modes can be seen below. The port modes available vary between products. For more information, please see individual product user manuals at the below link.

www.cambrionix.com/product-user-manuals

Charge	Turn specific ports or the whole hub to charge only mode (no data connection, hub emulates an OEM charger)
On	Turn on specific ports or the whole hub to enable both data sync and charging
Detect	Detect the presence of a device but it will not sync or charge it
Off	Turn the selected ports on or off (no power and no data channels open, mimics unplugging the device)

If you click on a device/port from this section you can see more information which is detailed in the Devices page.

5.3.2 Charts

When you install the Connect setup, providing you do not deselect any options, you can access charts and information on the hub charging performance and health.

If you click on the Dashboard section on the menu and select a hub, you will be taken to the Ports overview page. Select the chart symbol from this page in the top right corner to enter this section.

You can adjust the time scale on each chart by using the drop-down on the top right-hand side. This can be changed from 30 minutes up to 1 year. You can use this to view historic charging information.

You can also zoom on the charts; this can be done by clicking on the Zoom button at the bottom of a chart and then dragging on the graph to select a specific period to zoom in to. Alternatively, you can use the scroll wheel on your mouse for fine-tuning. There is reset button for going back to the default view.

Hub charging performance

This chart will show the hubs charging information. On the chart, the Y axis will show the charging current in mA, and the X axis will show the time.

Using this chart, you can see the different devices that are connected and their charging rates over time. A different coloured line will represent each device.

Hub health history

This chart will display the hub health history. There are two different Y axis on this chart, the left side will show voltage in V, and the right-hand side will show the temperature in Celsius. The X-axis shows the time.

Using this chart, you can see the temperature of the hub, the 12V internal voltage and the 5V internal voltage. If the temperature or voltage goes above or below specific parameters a flag will be raised, and the hub may switch off. More information on exact values can be found in individual product user manuals, which can be found in the link below.

www.cambrionix.com/product-user-manuals

5.3.3 Hub details and properties

Once you've selected a hub, you can click on the following symbol to be taken to the Hub details and properties page.

From this page, you can view information on the hub. You can view the serial port connection the hub is currently using and the actual hardware information.

Serial port information

Variable	Description
Computer	The name of the computer as set by Cambrionix Connect
Port	The port the hub is connected to e.g. COM17
Status	Whether the hub is active
Uptime	Time since the hub was rebooted

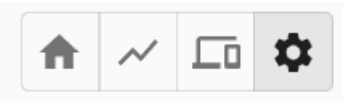
Hardware information

Variable	Description
Firmware type	The type of firmware used by the hub
Manufacturer name	The Manufacturer of the hub
Firmware version	The Version of firmware installed on the hub
Bootloader version	The Bootloader version installed on the hub
Group	The Group associated with the firmware

You can also see the Hub Sensors for 'Temperature', 'External Voltage' and 'Internal Voltage' from the Hub Details page.

5.3.4 Hub settings

If you click on the Dashboard section on the menu and select a hub, you will be taken to the Ports overview page. You can select the cog symbol at the top of this page to enter this section.



The hub's settings can be accessed and changed from this page. Available hub settings differ, per hub, so only the applicable settings for that type of hub will be visible. For a list of settings applicable to each product, please see individual product user manuals.

www.cambrionix.com/product-user-manuals

You can also delete hubs from cloud from this section. if the hub is removed it will be removed permantly, if the hub is there it will be added to cloud again when the hub API discovers all connected hardware.

5.3.5 Groups

You can view and assign groups to each hub from this page, more information on hardware groups on can be found in the manual section Hardware Groups (Licensed).

5.3.6 Internal hub settings

You can save settings templates locally and load them from the internal settings. You can also export the configuration string to the clipboard and import a configuration string from the clipboard as well if you wish to copy settings between different hubs and host machines. The Settings that can be adjusted can be seen in the table below.

Setting name	Description	Default value
Local Name	Optional, "Local Name", set by the user. Limit of 31 characters. This name will appear in the device's system information if set.	Empty

Table 5-1

Setting name	Description	Default value
Attach Threshold (mA)	The attach threshold refers to the current level (mA) at which the hub detects that a device, such as a phone, has been connected to a port. In some cases, the threshold may need to be increased—for example, when using a cable with LEDs or other electronics that draw additional power, or when the device is enclosed in a third-party sled, holder, or case (such as a battery pack) that contains electronics or supports charging pass-through. If the attach threshold is set too high, the hub may fail to detect that a device is connected. Conversely, if it is set too low, the hub might mistakenly detect a connection due to the power draw of the cable itself. Adjusting the threshold appropriately ensures accurate device detection while avoiding false positives or missed connections.	10
Charged Threshold (mA)	The charged threshold is used to determine if the device is probably charged. If the drawn power drops below this mark for 2 minutes, then we set a charged flag	100
Maximum Internal Hub Temperature (°C)	Sets Maximum temperature before the shut-down of ports	70
Port Mapping	Change the ordering of the ports from the default	Sequential order
Default Profiles	Change the default profile for specific ports. Use 0 for default operation	0
Ports AlwaysOn	Configure which ports to be always powered regardless of attach status. This must only be used in conjunction with a default profile	Off
Sync Charge	Enable CDP* on a per port basis	On
Alternative Charge Mode	Enable alternative method CDP* to support some hardware, and increase the device charging. This has no effect if Sync Charge for that port is disabled.	On

Table 5-1

Setting name	Description	Default value
Display Mode	Change display mode for hubs that have extended LEDs	Current (mA)
Flags	Change various flags	None selected
Stagger Delay (ms)	Introduce a delay between ports turning on when either host is detected or mode is switched to Sync. 0-9999 ms	3000
Stagger Offset (ms)	An additional delay to add before starting the staggered process. 0-9999 ms	0

Table 5-1

*Charging Downstream Port (CDP) Being enabled means that a port is capable of transferring data and charging the device at the same time with a higher current than just data syncing alone. With CDP enabled the hub can supply up to 1.5 A

If you disable CDP you will receive the notification “This Hub has the Charge Downstream Port UCS mode disabled. This could limit the maximum current seen on some ports.” This notification is there to ensure you haven’t turned this off by accident and can still have the highest charge available.

Danger Zone

There are two ways to remove a hub:

- Temporary removal from the cloud - The hub will automatically reconnect when discovered again
- Permanent removal from your organization - Available at the bottom of the page, this permanently removes the hub from your organisation until manually re-added

5.4. Computers

This section lets you view and manage the computers connected to your organisation. You can access this section by selecting the computers section in the Navigation Panel.

You will see a list of computers that can be managed along with the logo of the operating system of that computer. When you select a computer, you can see the details of that computer including:

- Status (connected /disconnected)
- Operating System
- CPU Brand
- CPU Architecture
- CPU Cores

You will can also see the different API services running on that computer the status of the Service and the version of that service. You can click on one of the services to be taken to the API Settings page of that service.

From here, you are also able to view all connected hubs and devices to that computer. By clicking on any connected Computer under this section, you will notice a settings bar with the following options:

- Computer details and configuration
- List of ports with attached devices connected to this computer
- List of hubs connected to this computer

The Computer Details section is the landing page and if you click over to either the Ports or Hubs section, you are able to manage your hubs and devices.

Cambrionix Recorder service

If you wish to use charts and log information on the Host API connection, you will require the Recorder API connection to be connected. To install the Recorder API onto your host computer, you must ensure this optional service is installed when installing the Cambrionix Hub API (This is selected by default).

Cambrionix Workflow API

If you wish to make use of Workflows (Licensed) within Cambrionix Connect you will need to configure and add the Workflow API to your computer in the same way you add the 'Cambrionix

Hub API' and 'Cambrionix Recorder Service'. You can download the 'Cambrionix Workflow API' by downloading the 'Cambrionix Host Manager' and the Workflow API will be bundled with the CHM.

5.4.1 API Settings

When you navigate to the Computers page, you will see a list of all available APIs. You will need to select an API from the list to manage an API. You can navigate to this page by selecting 'Computers' in the Navigation Panel and then clicking on your connected API.

Overview of API's

From the overview you can see the following information

- Status Colour
    - Green = The API is connected and you have an appropriate license.
    - Orange = The API is connected and you don't have an appropriate license.
    - Red = The API is not connected.
- Version
    - The version information of the API

Individual API settings

Once an API is selected, you can then click on the settings page for that API. You can alter the following information.

Name	Description
Computer Name	This is the name you will see as a description for the host computer on your Cambrionix Connect Account. Defaults to the hostname.
Address	This is the URL of the API; the URL will be read from the local computer when the API is added to your account. A custom URL can be entered if required.
Port	This is the port the API will connect through. As default this is 43427 it should not normally be changed. This is for advanced use and complex networks with restrictions on which ports can be used. The port number used must match that of the connected API.

Once you have changed the above values, you must press the save button for these changes to take effect. You can press the revert button to return to the previous settings. You can press

the remove API button to remove an API from your organisation. You can also deactivate the host computer associated with an API, meaning an API can only be connected to a local host machine.

Battery Services

If you have iTunes installed, Apple devices (macOS has the service pre installed for Apple devices) or an adb server running on your host, you will be able to obtain battery information on connected devices. You can adjust the settings of the battery update information by changing how often then battery information is obtained in intervals message in seconds. You can also alter the number of battery updates that can be run simultaneously.

API Logging

The API can generate logging information for all USB events and store information on what has happened, along with specific hardware information. This is useful for troubleshooting any issues encountered with the API and capturing any faults or issues. You should use full logging when obtaining logs for support unless otherwise instructed, once you have enabled logging and the event has taken place zip the logs to send through to Cambrionix for investigation. The zip logs button is currently only available in the desktop version.

Once you have obtained some logs you will need to send them to Cambrionix, ensure they are zipped so that if the files are large, they can still be sent over. If the files are still too large, then please use an online drive that Cambrionix support can have access to or send via a file transfer service.

5.5. Settings

Several different settings can be managed using Cambrionix Connect. You can access this page from the Navigation Panel. They are separated into other pages:

- General Settings
- Organisations Settings
- RFID Settings
- Hub Templates
- Developer Settings
- Dynamic Hub Settings
- Firmware
- Testing

5.5.1 General Settings

You can manage and view the general settings from this page, these settings will be saved to your account if signed in, if not signed in these settings will be saved locally. You can navigate to this page by selecting the settings in the menu and then selecting 'General'.

Updates

This is only applicable to the downloaded version of Cambrionix Connect. You can manage how Cambrionix Connect manages updates, you can select to check for updates on initial launch of Cambrionix Connect, at a scheduled time that suits you or manually when you want to check for yourself. You can also select a channel for which version of Cambrionix Connect you wish to download and install. You can select a legacy version of Cambrionix Connect the full release version or the Beta version.

Notifications

The notifications managed are:

- API Disconnection
- RFID events
- Available Software Updates
- Available Firmware Updates

In this section, you can also select 'View Organisation User Settings'. From here, you can enable or disable the notifications you wish to receive. Refer to the Email Notifications for more detailed information.

Theme selection

From this page, you can also select the theme of Cambrionix Connect, which will visually change how the application looks.

Theme	Description
Default	This will match the OS theme
Light	This is a white background for typical use
Dark	This is a black background for less eye strain in lower light

Join another organisation

If you are joining another organisation you will need a user from that organisation to invite you from the Organisations Settings page. Once invited you will find the invite at the bottom of the general settings page, once you have accepted the invitation you will then be able to select that organisation as your active one.

5.5.2 Organisations Settings

From the Cambrionix Connect Organisations settings page, you can view and manage your Organisation's information. For more information on organisations please see Organisations section. You can navigate to this page in the Navigation Panel.

Your organisation

If you have the appropriate permissions to do so, from this section you can;

- View the current organisation selected
- View your organisation Id
- Change the name of your current organisation
- Leave the organisation
- View your license status
- Manage organisation users

- Manage users and roles (see Roles (Licensed) section for more info)
- Manage and view user device assignments (see Devices section for information on assigning users to devices)
- Manage and view locations (see Locations (Licensed) section for more info)
- Manage and view metadata (see Metadata (Licensed)section for more info)
- Manage and view hardware groups (see Hardware Groups (Licensed) section for more info)
- Manage Email Notifications (see Email Notifications section for more info)
- View and Manage Audit Logs (see Audit Logs section for more info)

Manage users

From this section you can view organisation users information such as;

- Given name (first name)
- Surname (last name)
- User Id
- Email address

You can also remove users from your organisation or change their user role/permissions.

Invite users to your organisation

To be able to add users to join you organisation you will need to send them an invite. There is a section at the bottom of the page to send invites, once clicked you will then be given a prompt to input their email and assign them a role for the organisation. The invited user will need to accept the invite from the Organisations page.

5.5.3 RFID Settings

RFID (radio frequency identification) is a form of wireless communication. The Cambrionix API is capable of managing RFID detection events and can be used to store information about RFID cards. You can access the RFID settings by selecting settings and then selecting RFID (Settings / RFID)

Currently, the API only deals with the RFID reader in the ModIT Boss module. This is an RFIDeas model: RDR-80581AK0. This page in Cambrionix Connect manages information obtained from the RFID reader and the API.

The first time you use an RFID card, you must check the 'Enable RFID detection in the API' box so that Cambrionix Connect and the API can see the initial RFID event. When you scan an RFID card, it will appear in a list, and you can select a name for the card and the behaviour you wish to occur when the card is scanned going forward.

Once you have scanned the cards and set them up, you can export the settings so other versions of Cambrionix Connect can maintain the same settings.

5.5.4 Hub Templates

From this page, you can mange the templates for the Hub settings. The templates are saved locally. You can access this page by selecting settings in the Navigation Panel and then selecting 'Hub Setting Templates'.

Editing Templates

The first template you create will need to be done through the Hub settings. Once the template is created navigate to this page and you can edit the information. You can change the name of each template by selecting the name and typing in a new one. You can edit the settings by selecting the pencil icon next to the delete icon.

Once you have the editing window open you can view all the Internal hub settings and amend each settings, once you have finished making any changes you will need to press 'OK' which will close the editing window. Remember to click save after closing the editing window or the changes will be lost.

Copying Templates

From this page you can select a template and copy it. By selecting the tick box next to the name, the 'COPY' button below will become active. Click this to make a copy of the template appear underneath. Again, remember to click save once you have created copies or navigating away will delete the copy.

Deleting Templates

You can delete any stored templates by pressing the delete icon. Ensure you click save after deleting a template, or it won't actually be deleted.

5.5.5 Developer Settings

You can use these script pages to send commands through the Host or Recorder API to the selected hub(s) or computer(s). You can navigate to this page by selecting settings in the Navigation Panel and then 'Developer'.

From the Developer settings you will be able to access the scripting pages for the installed API's. The API scripting pages are listed below.

- Hub API
- Recorder API

Hub API

The two methods of communication supported from the script page are JSON and the Cambrionix CLI.

If you wish to have detailed information on scripting and the commands/ methods that can be sent with the API and the Cambrionix CLI, please see the specific software user manuals, which can be found through the below links.

www.cambrionix.com/cambrionix-cli

https://www.cambrionix.com/cambrionix-api

On the top right-hand side of the page, there are two drop-downs. One is to select which hub you wish to send commands to, and the other is to choose between JSON and the Cambrionix CLI.

Once you have chosen a hub and a method of communication, you can write your script or use one of the pre-made examples in the drop-down. Once you have written or selected a pre-made script, press the 'RUN' button. You will then receive the response to the script in the window below your initial script.

If you wish to send commands to a computer then you will need to select a hub that is connected to that computer. Any commands then sent will be sent to that computer, for example if you wish to find details on the USB tree for a specific computer.

Recorder API

If you selected to install the 'Recorder API' along with the 'Hub API' (this is selected by default) then you will be able to access more historical information such as battery health and device presence.

From this section you can send queries directly to obtain information. There is a drop down to select the 'Recorder API' you wish to communicate with, this list will be populated with all the

API's in your organisation. You can type your own script or there is also a drop-down to select some pre-made scripts with legacy queries. Once you have written or selected the script you can then run the query using the 'Run Query' Button.

5.6. Firmware

From this page, you can view and manage firmware versions and updates. You can access this page by going to Settings (in the navigation panel) and then 'Firmware'.

On this page you will see two sections. One for 'Cambrionix Hubs' and one for 'Preview Updates'. You can select the hubs you want to update in one section and select and update the firmware for the chosen hub(s) in the other. You can filter the hardware in the following ways.

Filter	Description
Type	Firmware type*
Endpoint	Computer name
Description	Hub Name

*products and their firmware type below

Firmware	Part Number	Product Name
Universal	PP15S	PowerPad15S
Universal	PP15C	PowerPad15C
Universal	PP8S	PowerPad8S
Universal	SS15	SuperSync15
Universal	TS3-16	ThunderSync3-16
SMART	TS3-C10	ThunderSync3-C10
Universal	U16S Spade	U16S Spade
Universal	U8S	U8S
PDSync	PDSync-C4	PDSync-C4
Universal	ModIT-Max	ModIT-Max
Motor Control	Motor control board	ModIT-Max

Selecting hubs

Any hubs that do not have the latest version of the firmware will have the firmware version number in red. The firmware version will be blue if the hub is up to date.

You can select and update multiple hubs at once; you can see if it is selected as the box will be highlighted, and under the 'Preview Updates' section, you will see which hub(s) you have selected to be updated.

Updating the Firmware

Cambrionix Connect will automatically choose the latest version of the firmware to update to; this can be changed by using the drop-down and selecting the firmware you wish to install on the hub. We recommend always using the latest firmware version unless there is a specific reason not to update.

Once you have selected the hubs you wish to update and the firmware version to update, press the update firmware button, which will then run the process. Once updated, a tick will appear in the Update Preview section to show the update has been successful.

Errors

It is important that once you have started a firmware update that you do not disconnect the hub from the host system. If you disconnect the hub while it's updating, then the hub will be in an unusable state. This state is called bootloader mode, which is a different piece of firmware used to launch the hub's firmware. If you get the hub stuck in bootloader mode then you will need to recover the hub using the Cambrionix Command line updater which can be downloaded from the below link along with the user manual.

https://www.cambrionix.com/cambrionix-clu

5.7. Testing

Cambrionix Connect has a built-in testing facility to test your hubs. You can access this page from Navigating to Settings and then 'Testing'.

This is designed to ensure your hubs perform correctly and have no issues. The tests that are run using this facility are listed below:

Test	Description
Test Hub's id response	Validate that the hub returns sensible information in response to its 'id' command. This includes checking that the firmware version is at least 1.79 and that it is in the correct mode.
ModIT Gate Configuration	If the connected hub is a ModIT Pro with lockable gates, this test will validate that the configuration is correct.
ModIT Gate Exerciser	If the connected hub is a ModIT Pro with lockable gates, this test will validate that they open and close within the expected time and that their current draw is within reasonable limits.
Validate Hub Health	Validate that there are no hub error flags set
Hub Settings	Validate the hub returns sensible information in response to it's 'settings_ display' command.
Validate Port Health	Validate that there are no port error flags set on individual ports
Validate USB	Validate the hub's USB functionality
API Validation	Validate that the API is functioning and is of a suitable version for other tests

There are three different pages to the Testing section:

- Test Selected Hubs
- Automatic Testing
- Configuration

Test Selected Hubs

Using this first page, you will be given a list of all connected hubs and can choose which hubs you wish to test. Once you have selected all the hubs you want to test, press the go button,

and they will begin.

Automatic Testing

Using the Automatic page will run all tests on all connected hubs as soon as you navigate to it. The view will be the same as selected but without the option to choose specific hubs to test with.

If you click on the down arrow on the menu, you will be shown each test that has been performed and the status of the test. A progress bar will run from left to right and turn green if all the tests are completed and passed. If any test fails, the bar will turn red.

Configuration

In the Configuration section, you can select which tests are to be run in Automatic and Selected mode and also configure the values in which a test will have deemed to pass. You can amend the values on three of the tests.

- Test Hub's id response
    - Minimum Firmware version
    - Minimum Bootloader version
- ModIT Gate Configuration
    - Stall setting
    - Minimum Motor Control Firmware Version
- ModIT Gate Exerciser
    - Fail Limit
    - Iterations
    - Maximum Current
    - Maximum Transition Time

5.7.1 Dynamic Hub Settings

From this page, you can create and manage 'Dynamic hubs'. A Dynamic hub is a collection of hubs that Cambrionix Connect will treat as a single hub. You can navigate to this page by selecting settings in the Navigation Panel and then 'Dynamic Hubs'.

Creating a Dynamic hub

To create a Dynamic hub, you can drag and drop your chosen hub(s) from the 'Physical Hubs' section over to the 'Dynamic Hubs' section. Once you have grouped up the hubs you want into a Dynamic hub, you have the option to rename it and then remember to press save to store this as a Dynamic hub.

5.8. About

From this page, you can see various pieces of information about the APIs and Cambrionix Connect. You can navigate to this page by selecting 'about' on the Navigation Panel.

You can see the version of the local API that is running alongside the version of Cambrionix Connect.

There is a link to be able to download and view the Cambrionix Hub API User manual.

https://downloads.cambrionix.com/documentation/en/Cambrionix-Hub-API-User-Manual.pdf

There is a link to be able to download and view the Cambrionix Connect User manual.

https://downloads.cambrionix.com/documentation/en/Cambrionix-Connect-User-Manual.pdf

Below the 'About' section on the Navigation Panel, there is also a 'Help' button to take you to our support centre should you ever need any assistance.

Cookies

Cambrionix uses cookies necessary for features including optimisation and performance. You can find information on the cookies included on this page, they are also listed below.

Cookie Name	Function	Duration	Description
msal	Authentication	Session	Used by the Single Sign-on service (SSO) to generate a user session cookie

From this page you can also view company information for Cambrionix;

- Contact information
- Social media links
- Company number
- VAT number

5.9. Help

By selecting the help page on the menu you will be taken to Cambrionix Support centre. From the support centre you can;

- Get technical support for Cambrionix hardware and software
- Suggest a new product
- Suggest a new feature for Cambrionix hardware and software
- Suggest an improvement to existing Cambrionix hardware and software

When contacting support, please supply the product information for the hub in question. This can be found on the Device Information Plate which is either on the underside or back of the unit. Providing serial and Purchase order numbers, can help identify your specific product and speed up the process.

With any hardware support we recommend first checking the troubleshooting section in the products user manual.

Cambrionix Product User Manuals: www.cambrionix.com/product-user-manuals

Cambrionix Support Portal: https://support.cambrionix.com/

6. Customisable Data Views and Advanced Filtering

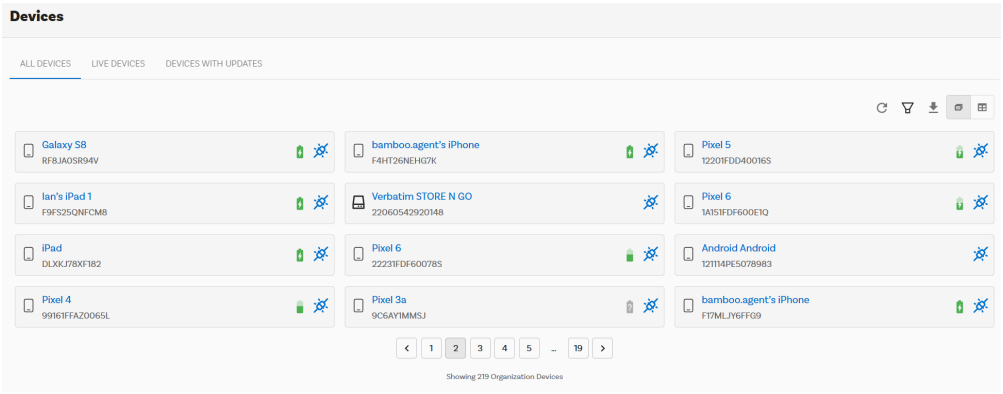
The Cambrionix Connect application provides a highly customisable and user-friendly experience for managing and viewing information. Each table of data can be displayed in various formats, allowing users to tailor the presentation to their specific needs. Columns can be selected to be visible or hidden, giving complete control over the information displayed at any given time. Users can also adjust the density of the data view, making it possible to choose between a more compact layout for a high-level overview or a more spacious format for detailed analysis.

To further enhance usability, powerful custom filtering options are available, enabling users to isolate and focus on specific subsets of data quickly and efficiently. Once tailored to their requirements, users can export all or filtered data as a CSV file, ensuring seamless integration with external tools and workflows outside the application.

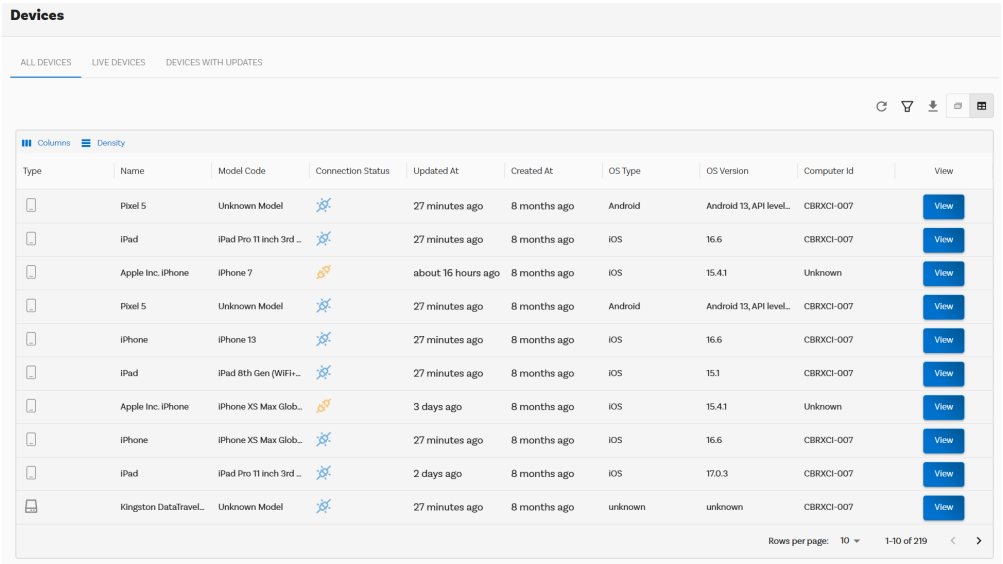
6.1. Different views

There are two different views that can be used within the Cambrionix Connect application:

'Card view'



'Table view'



6.2. Filtering

You can filter the information in a variety of ways, from 'Table view' you can select 'Columns' and select and de-select columns that you wish to have visible or not.

This advanced filtering interface is designed to allow users to create custom queries and refine datasets based on multiple conditions. It provides a flexible and user-friendly approach to narrow down large amounts of data to meet specific requirements.

Creating Filters

There are two different ways that you can create a filter, you can either just open up the filter menu and start adding in conditions to filter the view you currently have, or you can create a 'Saved Filter' which will save to your current organisation for any users to use going forward.

To start creating a filter you will need to select 'Add a new Condition' you will then have a new condition added to your filter. Each condition consists of three components:

Component	Description
Field	A dropdown menu where users select the data attribute or column they want to filter, such as "Id" or "Connection Status."
Operator	A dropdown menu defining the logic for filtering, such as "Equals," "Contains," or "Does Not Equal."
Value	A text box where users enter the specific value or criteria they are targeting, such as a specific ID number or status.

To create more complex queries, users can click the "Add new condition" button, which adds another row to the filter configuration. Each condition can also be individually deleted using the trash bin icon, ensuring users can easily modify or remove unwanted conditions.

At the bottom of the interface, there are two action buttons:

Action	Description
Apply	Executes the filter and refines the displayed dataset based on the conditions specified.
Close	Closes the filter interface without applying any changes, allowing users to exit without affecting the data view.

There is also the option of selecting the plus symbol next to the dropdown which will then add the filter as a 'Saved Filter' for use within your organisation.

7. Networking

If your network has restrictive firewall or proxy server settings, you or your network administrator will need to whitelist certain domains and IP address ranges to ensure that Cambrionix Connect and its related services work as expected.

7.1. Domain Names

Cambrionix Connect uses domains with differing levels of subdomains. For it to operate correctly, please allow these first-party Cambrionix domains and their levels of subdomains. These domains are directly operated and managed by Cambrionix.

Domain	Purpose
*.connect.cambrionix.com	Cambrionix Connect web application and required functional services
*.downloads.cambrionix.com	Cambrionix Connect retrieves firmware from this location.

When allowing a domain, make sure the action permits the top-level domain and multiple levels of subdomains, not just immediate subdomains.

For example, a permit entry for **.connect.cambrionix.com* should allow both *server1.connect.cambrionix.com* AND *server2.connect.cambrionix.com*.

Additionally, ensure that top-level domains themselves are also permitted, not just their subdomains. For example, **.connect.cambrionix.com* should permit both *server.connect.cambrionix.com* AND *connect.cambrionix.com*.

7.2. IP address ranges

Cambrionix Connect doesn't have a fixed IP address. Instead, it uses a defined range of IP addresses. You should allow-list the IP ranges described below to maintain access to Cambrionix Connect.

We currently use a mix of IP addresses provided by third parties (namely Microsoft Azure). You should review your network restrictions and update them to ensure Cambrionix Connect works as intended. The IP ranges are used for both receiving and responding to requests from clients (e.g. browsers) and for making connections to the internet on your behalf (e.g. webhooks and application functions).

The list of IP ranges to be allow-listed are the ranges with the tag 'AzureFrontDoor' from the Azure IP Ranges from Official Microsoft Download Center.

8. Roles (Licensed)

Roles allow you to define and assign specific sets of permissions and privileges within an organisation, enabling precise control over access to resources and functionalities. By creating custom roles, organisations can manage access levels for different groups, services, and system functions based on their specific operational needs.

A sufficient Cambrionix Connect License is required to use this feature. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license becomes available, please contact enquiries@cambrionix.com.

Custom roles provide several key benefits:

- Security: Assigning permissions based on roles ensures that only authorised individuals or services can access specific resources, reducing the risk of unauthorised access, data breaches, or accidental misuse.
- Control: Defining roles allows organisations to enforce separation of duties, ensuring that each entity can perform only the actions permitted within its assigned role, minimising errors and maintaining compliance.
- Scalability: As organisations grow and evolve, custom roles make it easier to manage permissions, allowing for seamless adjustments to accommodate new structures and operational changes without compromising security or functionality.

Roles

Within your organisation, each group or service can have multiple assigned roles, allowing for flexible and structured access management. By default, the following roles are available for assignment:

Role	Description
Member	Can read everything and view all information, but cannot make any changes.
Contributor	Can perform all actions except manage/ invite users to the organisation.
Owner	Can perform all actions in the organisation.

8.1. Creating custom roles

You can create custom roles for your organisation by navigating to "Manage Roles" and selecting the "Create Role" button.

Note: This option will only be available in Cambrionix Connect with the appropriate license.

Basics

When you initially create a new role you will need to input some basic information such as the name of the user role and a short (optional) description of the role to help identify the specific role and its permissions.

Permissions

A list of each permission that can be assigned can be seen below.

Permission Group	Permissions	Description
Hub API Permissions related to the Hub API Service	API.Read	Grants the ability to read data from the Hub API service.
	API.Write	Grants the ability to peform actions via the Hub API service
	API.Admin	Grants the ability to perform administrative actions via the Hub API service
	API.DFU	Grants the ability to perform DFU actions via the Hub API Service
Device API Permissions related to the Device API Service	DeviceAPI.Devices.Reboot	Grants the ability to reboot a device using the Device API
	DeviceAPI.Devices.PowerOff	Grants the ability to power off a device using the Device API
	DeviceAPI.Devices.Read	Grants the ability to read device information using the Device API

Permission Group	Permissions	Description
	DeviceAPI.Devices.RecoveryMode	Grants the ability to put a device into (and out of) recovery mode using the Device API
	DeviceAPI.Devices.Erase	Grants the ability to erase a device using the Device API
	DeviceAPI.Firmware.Download	Grants the ability to download firmware using the Device API
	DeviceAPI.Firmware.Write	Grants the ability to peform firmware actions using the Device API
	DeviceAPI.Devices.Backup.Write	Grants the ability to write device backups using the Device API
	DeviceAPI.Devices.Backup.Delete	Grants the ability to delete device backups using the Device API
	DeviceAPI.Devices.Backup.Read	Grants the ability to read device backups using the Device API
	DeviceAPI.Certificates.Read	Grants the ability to read certificates using the Device API
	DeviceAPI.Certificates.Delete	Grants the ability to delete certificates using the Device API
	DeviceAPI.Certificates.Write	Grants the ability to peform certificate actions using the Device API

Permission Group	Permissions	Description
	DeviceAPI.Auth.Read	Grants the ability to read authentication information using the Device API
	DeviceAPI.Auth.Write	Grants the ability to peform authentication information actions using the Device API
	DeviceAPI.Auth.Delete	Grants the ability to delete authentication information using the Device API
	DeviceAPI.Details.Read	Grants the ability to read api details using the Device API
Organisation Information Permissions related to viewing the organisation	Organization.Read	Grants the ability to read information about the organisation
	Organization.Write	Grants the ability to peform organisation actions
	Organization.License.Read	Grants the ability to read organisation licenses
Organisation Services Permissions related to organisation services	Organization.Service.Read	Grants the ability to read organisation services
	Organization.Service.Write	Grants the ability to create and update organisation services
	Organization.Service.Delete	Grants the ability to delete an

Permission Group	Permissions	Description
		organisation service
	Organization.Service.Secret.Read	Grants the ability to read organisation service secrets
	Organization.Service.Secret.Write	Grants the ability to change an organisation service secret
Organisation Computers Permissions related to organisation computers	Organization.Computer.Read	Grants the ability to read information about the organisation computers
	Organization.Computer.Write	Grants the ability to add / edit computers within an organisation
	Organization.Computer.Delete	Grants the ability to delete a computer from an organisation
Organisation Devices Permissions related to organisation devices	Organization.Device.Read	Grants the ability to read information about the organisation devices
	Organization.Device.Write	Grants the ability to add / edit devices within an organisation
	Organization.Device.Delete	Grants the ability to delete a device from an organisation
Organisation Hubs Permissions related to organisation hubs	Organization.Hub.Read	Grants the ability to read information about the hubs in an organisation

Permission Group	Permissions	Description
	Organization.Hub.Write	Grants the ability to peform hub actions within an organisation
	Organization.Hub.Delete	Grants the ability to delete hubs from an organisation
Organisation Audit Log Permissions related to organisation audit log	Organization.AuditLog.Read	Grants the ability to view the audit log
Organisation communications settings Permissions related to managing communications settings	Organization.Communications.Settings.Read	Grants the ability to view the communications settings
	Organization.Communications.Settings.Write	Grants the ability to change communications settings
Organisation Users Permissions related to orgaisation users	User.Read	Grants the ability to read organisation users
	User.Write	Grants the ability to update organisation users
	User.Delete	Grants the ability to emove organisation users
Organisation Role Assignment Permissions related to organisation role assignments	Organization.Role.Write	Grants the ability to assign or remove a role from a user
	Organization.Role.Read	Grants the ability to view a role from a

Permission Group	Permissions	Description
		user
Organisation Invitations Permissions related to organisation user invites	Invite.Write	Grants the ability to Invite users to the organisation
	Invite.Read	Grants the ability to read organisation user invites
	Invite.Delete	Grants the ability to delete user invitations
Organisation Device Assignment Permissions related to device assignment to users	Organization.Device.User.Write	Grants the ability to assign users to a device
	Organization.Device.User.Read	Grants the ability to read device assignment to users
	Organization.Device.User.Delete	Grants the ability to unassign devices from users
Organisation Custom Roles Permissions related to organisation custom roles	CustomRole.Write	Grants the ability to create/ update/ delete organisation custom roles
	CustomRole.Read	Grants the ability to read organisation custom roles
	CustomRole.Delete	Grants the ability to delete organisation custom roles
Workflows Permissions related to organization workflows	Workflow.Read	Grants the ability to read organisation workflows
	Workflow.Write	Grants the ability to

Permission Group	Permissions	Description
		create and update organisation workflows
	Workflow.Delete	Grants the ability to delete an organisation workflow
	Workflow.Publish	Grants the ability to publish an organisation workflow
	Workflow.Unpublish	Grants the ability to unpublish an organization workflow
	Workflow.Deploy	Grants the ability to publish an organization workflow
	Workflow.Service.Read	Grants the ability to read connections between a workflow and its associated services
	Workflow.Service.Write	Grants the ability to associate a service with a workflow
	Workflow.Service.Delete	Grants the ability to disassociate a service with a workflow
	Workflow.Execution.Write	Grants the ability create a new workflow execution
	Workflow.Execution.Read	Grants the ability to

Permission Group	Permissions	Description
		view organisation workflow executions
	Workflow.Execution.Delete	Grants the ability to delete workflow executions
Locations Permissions related to organisation locations	Organization.Locations.Read	Grants the ability to view organisation locations
	Organization.Locations.Write	Grants the ability to create / edit organisation locations
	Organization.Locations.Delete	Grants the ability to delete organisation locations

Review

Once you have completed the basic information and selected the permissions required you will then have the opportunity to review the information before creating the role.

9. Audit Logs

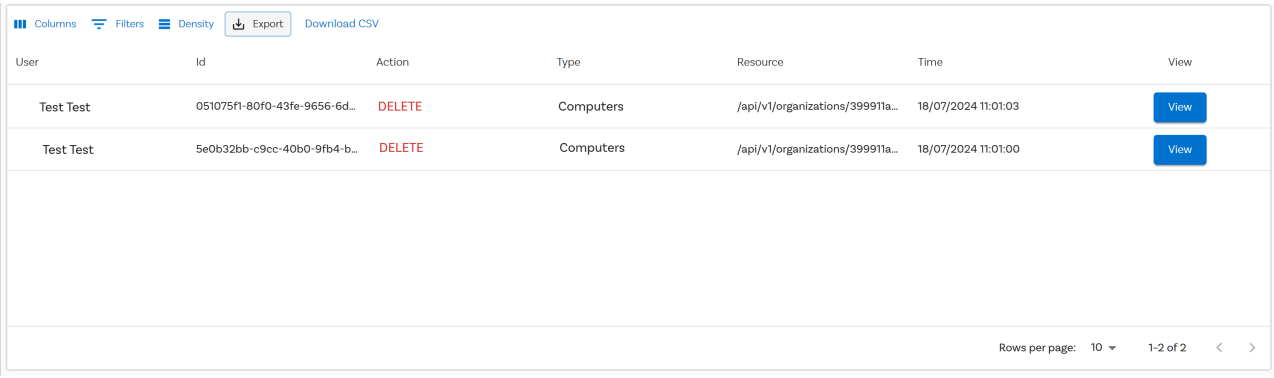
Audit logs are records that provide a detailed account of activities and events related to a any change made inside an organisation. They ensure accountability, maintaining security, and facilitating compliance within the organisation. These logs can include a variety of data points, such as user activities, system changes, access events, and security incidents. They serve as a historical record that can be reviewed to track the actions of users and systems over time. For more information on what events are recorded with the Audit logs inside Cambrionix Connect please see the individual API manuals for more details. Your audit logs are available for 7 days. Changes to your log duration only affect new logs.

Key Purposes of Audit Logs

Security Monitoring	Help detect unauthorised access or suspicious activities by recording login attempts, access to sensitive data, and changes made by users
Compliance	Many industries are subject to regulations that require organisations to maintain audit logs for accountability and regulatory compliance.
Analysis	Help investigations into security breaches or incidents by providing a detailed time-line of events leading up to an incident.
Operational Oversight	Help organisations monitor and optimise system performance, user activities, and workflows by analysing usage patterns.
Accountability	Ensure that users are held accountable for their actions within a system, promoting responsible behaviour

You can navigate to the audit logs by selecting the organisation for the information you want to view. Once in the organisation page you can select 'View audit logs' Once you have navigated into the audit logs you will see the logs and the following information

User Identifier	The user who performed the action (username and user ID).
Action	The nature of the action taken (e.g., login, logout, data modification).
Resource	The specific resource that was accessed or modified
Timestamp	The date and time when an event occurred.
View	Click View to see more information on the specific log



This view can be filtered and sorted dependant on the users preference.

Settings

If you want to amend the different events you wish to capture in the audit logs you can click through to the settings and use the check boxes to select/ deselect the different information you wish to log.

10. Email Notifications

Cambrionix Connect includes an email notification feature, allowing users to receive updates or changes within their organisation via email. Notifications can be configured by an administrator or a user with the appropriate permissions. To manage notifications for an organisation, navigate to the organisation's settings page and select 'Manage Notifications'.

Once you access the notification management page, you will see a list of all notifications that can be managed within your organisation. The page displays the following information:

Enabled	A status colour indicator: red indicates "disabled", and green indicates "enabled".
Title	The title of the notification
Description	A brief description of the notification.
Severity	The severity level of the notification.
Category	The category of the notification.
View	Click the 'Manage' button to edit the notification details.

When you select 'Manage' on a notification, you will be directed to the notification details management page. From here, you can:

- Enable or disable the notification.
- Specify who receives the notification based on roles.
- Explicitly select individual recipients for the notification.

Each user can customise the notifications they receive by navigating to their General Settings.

A list of available notifications can be see below:

Notification	Description
Organisation User Invite Accepted	A user has accepted an invite to the organisation
Organisation License Expired	A license has expired in the organisation
Organisation User Role Changed	A users role has been changed
Organisation License Expiring Soon	A license is expiring soon in the organisation

Notification	Description
Organisation Hub Firmware Updates Available	Firmware updates are available for hubs in your organisation
Organisation Device Firmware Updates Available	Firmware updates are available for devices in your organisation
Organisation User Invited	Email template for organisation user invites
Organisation Service Added	A service has been added to the organisation
Organisation User Invite Declined	A user has declined an invite to the organisation
Organisation Computer Removed	A computer has been removed from the organisation
Organisation User Removed	A user has been removed from the organisation
Organisation License Revoked	A license has been removed from the organisation
Organisation Hub Added	A hub has been added to the organisation
Organisation Service Removed	A service has been removed from the organisation
Organisation License Issued	A license has been issued to the organisation
Organisation Device Removed	A hub has been removed from the organisation
Organisation Device Added	A hub has been added to the organisation
Organisation Hub Removed	A hub has been removed from the organisation
Organisation Computer Added	A computer has been added to the organisation

11. DFU Mode Management (Licensed)

DFU (Device Firmware Update) mode is a specialised, low-level mode on Apple devices such as iPhones, iPads, and MacBooks. This mode enables the device to establish a direct connection with your host without booting into the operating system or activating the bootloader. By bypassing these systems, DFU mode provides greater control over the device's firmware and software, making it a critical tool for advanced troubleshooting, firmware restoration, and software modifications.

In order to enter DFU mode on devices, you are typically required to use specific button combinations and/or certain ports on a macOS device. However, with Cambrionix Connect, this manual process is no longer necessary. Using the Connect application, multiple devices can be placed into DFU mode with the simple push of a button or by sending an API command.

With Cambrionix Connect, this process can be performed both locally and remotely, providing total control over the devices in your fleet. This streamlined approach makes managing DFU mode efficient and scalable, especially in environments with large numbers of devices.

11.1. Key Features of DFU Mode

Bypasses the iOS Operating System

Unlike Recovery Mode, which loads a limited version of the iOS system, DFU mode bypasses both the iOS operating system and the bootloader entirely. This deeper level of access allows for more extensive operations, including complete firmware restoration or modification.

Enables Advanced Troubleshooting

DFU mode is a go-to solution for addressing complex issues that cannot be resolved through standard means:

- Fixing Unresponsive Devices: It can be used to restore devices stuck in a boot loop, frozen screens, or other unresponsive states.
- Factory Resetting Devices: DFU mode allows you to erase the device entirely and restore it to factory settings when Recovery Mode fails to work.

Facilitates Firmware Restoration

- Reinstallation of Firmware: DFU mode allows you to reinstall the firmware entirely, which is particularly useful when the existing firmware is corrupted or malfunctioning.
- Downgrading Firmware Versions: If Apple is still signing an older version of iOS, DFU mode can be used to downgrade to it, giving users more flexibility over their device's software.

Supports Custom Firmware Installation

DFU mode allows for the installation of modified or custom firmware, a feature often utilised by developers or advanced users seeking to customise their devices or explore additional functionality beyond standard settings.

11.2. DFU Mode Management in Cambrionix Connect

Prerequisites

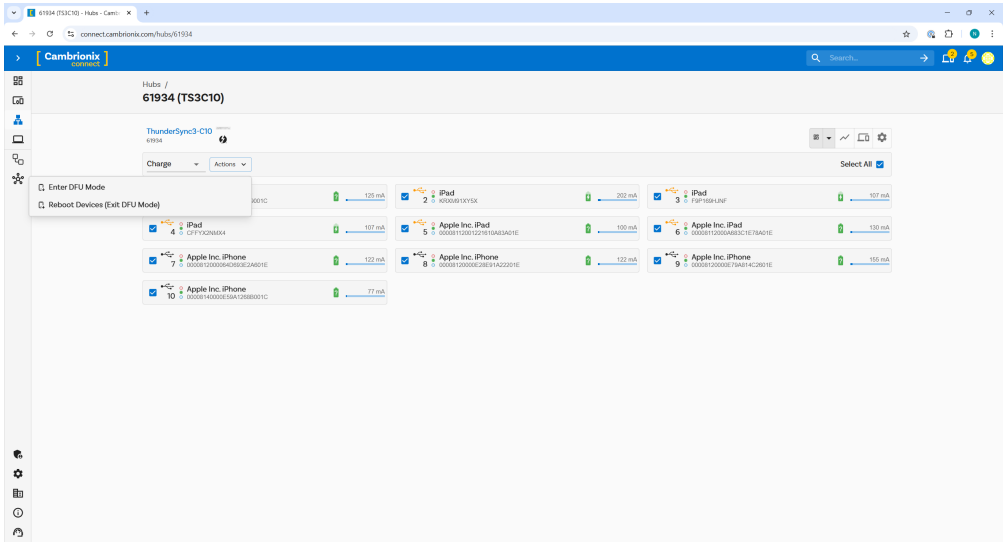
In order to use DFU mode control you will require the following:

- Cambrionix Hub API (at least V 3.24.0)
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)
- A Type-C Cambrionix Hub (such as the TS3-C10) with firmware of at least version 2.1.0

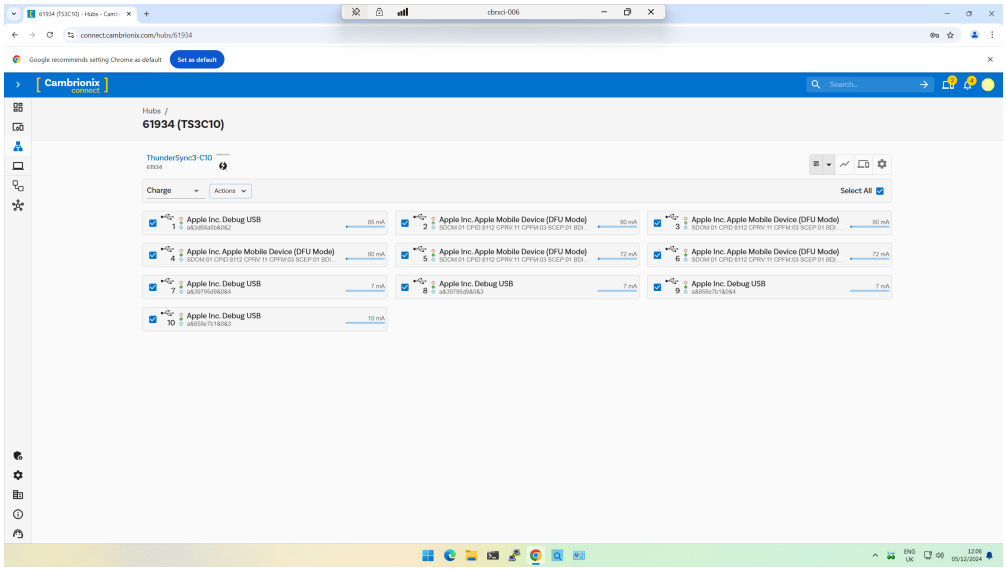
Putting devices into DFU mode

After meeting the necessary prerequisites, placing a device into DFU mode is a straightforward process. Begin by navigating to a compatible hub within the application and selecting the devices you wish to send the Enter DFU command to.

Once the devices are selected (and confirmed to be compatible), an Actions dropdown menu will appear next to the Port Mode dropdown. Opening this dropdown will reveal two options: Enter DFU Mode and Reboot Devices (Exit DFU Mode).



Simply select Enter DFU Mode and then type in the confirmation phrase, and the command will be sent to all connected devices, enabling DFU mode with ease and efficiency. The name of the devices will change to show that they are now in DFU Mode. This streamlined method ensures a smooth experience for managing multiple devices.



Exiting DFU mode

To exit DFU mode, the device needs to be rebooted. This can be achieved using the same method as entering DFU mode, but instead, select the Reboot Devices (Exit DFU Mode) option from the Actions dropdown menu.

Once this option is selected, a command will be sent to all chosen devices, prompting them to reboot. The devices will then exit DFU mode and return to their normal state seamlessly.

Device Compatibility

Apple devices with USB-C connections are expected to function seamlessly with this process. While other devices may also work, they have not been specifically tested by us, so compatibility cannot be guaranteed.

We have conducted thorough testing on the following devices and can confirm that the commands operate as intended. These verified devices provide a reliable foundation for implementing the process with confidence. For any untested devices, additional testing may be necessary to ensure functionality.

Device
iPhone 16
iPhone 16 Pro
iPhone 15
11-inch iPad Pro (M4) Wi-Fi
Apple iPad Air M2 11" (Wi-Fi Only)

*Further device testing will take place and this list will increase once validation has taken place

12. Hardware Groups (Licensed)

One of the great features within Cambrionix Connect is being able to group specific hardware into groups. This means if you want to group specific devices or hubs and view them all at once this can be done easily within your organisation.

Prerequisites

In order to use Hardware groups you will require the following

- Cambrionix Hub API (at least V 3.19.2)
- The Host computers with the connected hardware to be added to your organisation
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

12.1. Hardware groups overview

To view and create hardware groups, first navigate to the organisation you wish to access. Once you have selected the organisation and clicked on its tile, you will then be able to click on the 'Manage Hardware Groups' button at the top of the page.

Once through to the overview page you can view a list of current hardware groups, within this list you can see each groups Name, Description and ID. You can also create a new group from this page.

12.2. Creating Hardware Groups

Clicking on the 'Create Group' button on the hardware groups overview page will allow you to start the process of making a new group.

Firstly you will need to create a name and description for your group, we would recommend creating a unique recognisable name for your group as this will make it easier to assign hardware to the groups later.

Once you have added the name and description press the create button and you will navigate back to the group overview page and see the new group has been created.

12.3. Assigning hardware to groups

Once you have created a group you can then assign hardware to the group. To assign a hub to a group you will need to navigate to the Hub settings page. From here you can see a section called 'Groups' and there is a dropdown box, if you click the down arrow you will see a list of

available hardware groups and can select the groups you want to add the hub to. You can assign a hub to multiple groups.

You can also assign devices to groups, to do this you navigate to the device page and similar to the hub use the dropdown box to assign a device to one or more groups.

12.4. Hardware Group Details

From the hardware groups overview page you can select an exsiting group and view the details of the group such as:

- Details
- Creation and Updates
- Devices
- Hubs

The details section is where you can view the Id, Name and Description of the group and edit the Name or Description.

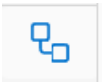
Creation and Updates you can view the name and email address of the account that created the hardware group, you can also see the information on when the latest update took place and who peformed the update.

The Devices and Hubs section of the page is where you can view Names, Types and Ids of devices and hubs and also remove them from the hardware groups.

13. Workflows (Licensed)

Workflows are a feature designed to run a series of tasks or actions based off of triggers within the Cambrionix Ecosystem. These can be set up to run on any host computer you have added to your organisation.

For example Workflows can be used to schedule turning off charging on ports where the connected device has reached a certain battery charging level to improve battery longevity. You can navigate to the workflow section by selecting the workflow icon in the side-menu bar which is indicated by the below symbol.



Prerequisites

In order to run workflows you will require the following

- Cambrionix Hub API (at least V 3.15.2)
- Cambrionix Workflow API (This is bundled with Cambrionix Host Manager)
- Cambrionix Host Manager
- The Host computer to be added to your organisation
- The Cambrionix Workflow API added to your computer via the settings menu in Computers.
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

13.1. Workflows overview

Once you have navigated to the Workflows section you will land on the overview page, from this page you can view, edit and delete all current available workflows and create new workflows. For each workflow in the overview you can see the following information:

- State
- Name
- Created
- Updated

- Computers
- Actions

All of the workflows can be filtered and sorted in this view to see specific workflows.

State

This is a colour symbol to indicate the current state of the workflow, each colour represents the state of the applicable workflow.

Colour	Description
Grey	The workflow is not enabled and will not be running on any computer
Green	The workflow is enabled and will be running on the computers it has been deployed to

Name

This is the name of the workflow, this can be edited from the Workflows setting section.

Created

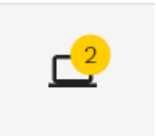
This is to show how long it has been since the workflow was created e.g. "3 days ago"

Updated

From this part you can see how long it has been since any updates have taken place to the workflow e.g. "22 hours ago"

Computers

This will show how many computers the workflow is deployed to for example if a workflow is deployed to two different computers it will show the below symbol



Actions

These are the actions possible to perform on each workflow:

Action	Description
View	View and edit the workflow settings
Edit	Edit the workflow and any of the actions within it
Delete	Delete the workflow, please not this cannot be undone

13.2. Workflow settings

If you select View in the Workflows overview this will take you to the settings of that particular workflow where you can view and edit the workflow details, manage the computers that a workflow is deployed to and view the details about each execution of the workflow.

This is also where you will 'Publish' your workflow, you can edit the actions or delete the workflow.

Details

From this section of the page you can view workflow ID, View and edit the Workflow name, Enable and disable a workflow, see when it was created and when the last time it was updated.

The name will default to your "*organisation name* workflow" but you can change this to be any name including upper and lower case characters and symbols. We do not recommend a name longer than 64 characters.

Once a workflow has been published you can stop it from running by disabling it, this can be done by deselecting the enable slider so that it is not coloured.

There is a Notes section which you can use to write a description as to what the workflow does ot whatever notes you may find useful. This can include upper and lower case characters and symbols, this is also limited to 500 characters

You can also view the applications that the workflow will use.

Computers

From this section you can View and manage the Computers that your Workflow will deploy to. Computers must have the Cambrionix Workflow API installed to be able to run your Workflow. If you click on the 'Add & Remove Computers' button this will bring up a list of all available computers in your organisation.

When looking at the list of computers you will be able to select which computers you wish to deploy the workflow to by clicking the check box, if there is a yellow warning symbol this means that the computer does not have an active connection to a workflow API which may mean it hasn't been installed on the computer or has not been added to the computer within the organisation. You can select the 'View Computer' button to see more information on the computer and configure the API's where required.

Executions

This is where you can details about each execution of your Workflow. You will be given an Execution ID, the start and End time of the execution (this will be displayed as "2 minutes ago", for more detail you can hover your mouse over the time to get exact date and time-stamp of the execution). You will also see the Computer this was run on, the status of the execution (which can be a tick for completed or a warning symbol if there was any issue) and a message to correspond to the symbol that is displayed for the Status.

All the executions can be filtered and sorted in this view to see specific events.

13.3. Creating and Editing Workflows

If you select 'Create Workflow' or select the edit workflow button you will be taken to the workflow editor. From this page you can view the actions on a workflow, add or remove actions and edit the function each action will perform.

Workflow Triggers

When creating a workflow you will automatically have a trigger action included. This is what will 'trigger' the start of the workflow, the trigger will be based off of an application, a list of the applications that can trigger a workflow can be seen below:

Application	Description
Schedule	Trigger the start of a workflow dependant on a time event

Once you have set the application you can define the event within the application which will start the workflow. For example using the 'Schedule' application for a trigger you can define when you want the workflow to run such as:

- Every Hour
- Every Day
- Every Week
- Interval

Once you have selected the event you can then configure the trigger to be an exact value. For example if you chose the event to be every week you can select what time you wish the workflow to start and which day of the week for it to be run on.

Workflow Events

To add an event following a trigger there is a plus symbol below the last event or trigger. Once you have added an event you can select the App you wish to use to run an event the applications available for events can be seen below:

Application	Description
Cambrionix Hub API	Events for interactions with the Cambrionix Hub API

Once you have selected an application for the event to use you can then define what the event you wish to take place will be. For example using the Cambrionix Hub API application you can select the following events:

- Switch all ports off
- Switch all ports On
- Switch all ports off when charged
- Switch all ports to Charge mode

Once you have selected an event you can then configure the event. For example using the 'Switch all ports off when charged' Event you can select the charge level you wish to be used to turn the ports off.

You can add as many events you would like following a trigger but can only have one trigger per workflow, you can use the workflow editor to delete any events you do not wish to have in the workflow.

13.4. Publishing Workflows

Once you have built your workflow you will need to press the publish button either in the workflow editor page or from the workflow settings page. Once published this will then be available for any of the host computers in your organisation to use it. You can assign the computers you wish to run the workflow from the workflow settings page. The workflows will not run until you have also Enabled the workflow from the settings page as well.

Once this is done the workflows will automatically run on the selected computers when the trigger events occur as you have specified.

14. Locations (Licensed)

A key feature of Cambrionix Connect is the ability to create and manage locations within your organisation. These locations can be assigned to specific computers, which in turn are linked to any connected hubs and the devices attached to those hubs. By setting up these locations, you can improve the organisation and oversight of your devices across multiple computers and hubs, making management more efficient.

When a location is assigned to a computer, any hub connected to that computer is automatically associated with the same location. This ensures that all devices connected to the hub are correctly categorised and managed within the defined location. This feature not only streamlines device tracking but also enhances control over asset allocation, making it easier to monitor devices within your organisation.

Prerequisites

In order to use locations you will require the following:

- Cambrionix Hub API (at least V 3.22.0)
- The Host computer to be added to your organisation
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

14.1. Creating locations

To create a location for your organisation, start by navigating to the organisation page within the application and selecting the specific organisation to which you want to add the location.

Once you've accessed the desired organisation, scroll down to the "Locations" section within the organisation overview. Here, you will see an overview of any locations that have been previously created. To add a new location, click on 'Manage Locations'. This will take you to a more detailed locations page where you can select 'Create Location' to begin the process.

After selecting 'Create Location', you will be taken to the location creation page. Here, you will find a text box where you can type in the name of your location. The system is designed to automatically suggest and fill in the location as you type. For instance, if you begin typing "Cambrionix," the address "The Maurice Wilkes Building, Cowley Rd, Milton, Cambridge CB4 0DS, United Kingdom" will appear, allowing for quick and accurate entry.

Once the location has been selected, proceed to the next page where you'll be presented with an overview of the address. This page includes a map with a pin showing the exact location, allowing you to visually verify the address. You will then need to give this location a unique

name so it can be easily referenced in the future. Additionally, you will be asked to provide a brief description, which can help other users within your organisation understand the purpose or significance of the location in more detail.

When you're satisfied with the information, click ‘Create Location’ to finalise the process and add the new location to your selected organisation. This location can then be used for any other computers or hubs within your organisation, improving the efficiency of hub and device management.

14.2. Assigning locations

Once you have successfully created a location, you can easily assign it to any computer that has been added to your organisation. To do this, navigate to the computer's settings page. Under the "General" tab, you will find a drop-down menu labelled 'Select Location'. From this menu, you can choose from any of the locations you’ve previously created.

Once a location is assigned to a computer, all hubs and devices connected to that computer will automatically be associated with the same location. This ensures that every device linked to the hubs reflects the correct location, streamlining device management and improving the organisation of your assets across your network. By maintaining accurate location data, you enhance visibility and simplify the tracking of your hardware across different parts of your organisation.

14.3. Managing locations

If you wish to manage your locations and edit details such as the location name or description, this can easily be done from the detailed locations page. When you navigate to the locations section, you’ll see a table displaying all the locations associated with your organisation. Each location is summarised with the following information:

Information	Description
Name	The designated name of the location.
ID	The Globally Unique Identifier (GUID) for the location. Which is a 128-bit number used to uniquely identify the information within the Cambrionix Connect application.
Description	The description assigned to the location.
Address	The complete address of the location.

To view more specific details, simply click the ‘View’ button next to the location you want to manage. This will take you to a more detailed overview, including a breakdown of the address and a map pinpointing the location.

If you need to make changes, select the ‘Edit’ button. This will open the same menu that was used when the location was originally created, allowing you to modify the name, description, address, or any other relevant details. Once you’ve made the necessary changes, save your updates to ensure the location information remains accurate and up to date. Any computers, hubs or devices assigned to this location will automatically be updated with the new information.

15. Groups (Licensed)

A key feature of Cambrionix Connect is the ability to create and manage custom groups within your organisation. These groups allow you to assign users, roles, and services, providing a structured and efficient way to manage permissions and access control across different teams or operational units. By setting up groups, you can streamline user management, ensure consistent access levels, and simplify administrative oversight.

When a user, role, or service is assigned to a group, they automatically inherit the associated permissions, ensuring that access rights are applied consistently. This approach reduces administrative effort, enhances security, and enables organisations to enforce role-based access control effectively. By leveraging custom groups, organisations can improve operational efficiency, maintain compliance, and optimise the management of users, roles, and services within their system.

Prerequisites

In order to use groups you will require the following:

- Cambrionix Hub API (at least V 3.22.0)
- Users and Services to be grouped created or added within your organisation
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

15.1. Creating Groups

To create a group within your organisation, start by navigating to the organisation page within the application and selecting the specific organisation where you want to add the group.

Once you've accessed the organisation, scroll down to the groups section in the organisation overview. Here, you'll see a list of any existing groups. To add a new group, click on manage groups, which will take you to a detailed groups page. From there, select create group to begin the process.

Creating a group is straightforward—simply enter a name and a description for the group. Unlike other sections, no additional details are required at this stage. Once the group is created, you can then assign users, roles, and services as needed to define access levels and permissions.

After finalising the details, click create group to complete the process. The new group will now be available within your organisation, allowing for easier management of permissions and access control.

15.2. Assigning Users and Services

Once you have successfully created a group, you can assign users to it by navigating to the users section within your organisation. Select the user you want to assign, and within their profile, you will find a groups section. Clicking on this section will open a dropdown menu where you can select one or more groups to assign the user to.

Each user can belong to multiple groups, allowing for flexible role management and access control. Assigning users to groups ensures they inherit the correct permissions and access levels, streamlining organisational management and improving efficiency. By maintaining well-structured group assignments, you can better control user access and optimise permission handling across your organisation.

15.3. Managing Roles within Groups

If you need to manage roles within a group, you can do so from the group management section. Start by navigating to the groups section within your organisation and selecting the specific group you want to manage. Within the group settings, click on manage roles, which will take you to a dedicated page for role assignments.

On this page, you will find a roles section where you can view and manage the roles assigned to the group. Clicking on this section will open a dropdown menu displaying all available roles within your organisation. From here, you can select or remove roles as needed to customise the group's access and permissions.

Once changes are made, they will automatically apply to all users and services assigned to the group, ensuring that permissions remain consistent and up to date. This approach allows for streamlined role management, making it easier to control access levels across different teams and services within your organisation.

You can create and manage roles within you organisation, for more information see the Roles (Licensed) page of this user manual.

16. Metadata (Licensed)

The Cambrionix Connect application includes a feature that allows users to create and manage metadata for both hubs and connected devices. This capability enhances the organisation and management of resources within the Cambrionix Connect environment.

By enabling the definition of custom metadata attributes, users can add descriptive information to their devices and hubs. This makes it easier to tag, categorise, and search for resources based on specific criteria such as device type, manufacturer, connection history, or custom tags.

This additional layer of information is particularly useful in environments where multiple hubs and devices are in use, as it helps users to organise and track these resources more effectively. The metadata can also support decision-making by providing detailed insights into device status, power usage, and other relevant factors. For instance, users can monitor the status of each port, track power consumption, and ensure that devices are used in line with organisational policies.

Overall, the metadata feature in Cambrionix Connect provides users with tools to better manage and monitor their USB hubs and connected devices, which can be beneficial for maintaining efficiency and control, particularly in more complex setups.

Prerequisites

In order to use locations you will require the following:

- Cambrionix Hub API (at least V 3.22.0)
- The Host computer to be added to your organisation
- A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

16.1. Metadata overview

Navigate to the hub or device for which you wish to add metadata. From this location, you will see a metadata overview that displays the property names and their corresponding values, such as "Shelf Location". Additionally, you have the option to edit or delete any previously created metadata entries.

16.2. Adding Metadata

Once you are at the metadata overview, you can click on 'Add Metadata' to open the metadata creation panel. From this panel, you can select a property name. We offer some predefined

property names, but you are also free to create any custom property name by typing it in.

Property	Description
Shelf location	This property is used to specify a shelf location, enabling you to quickly locate hardware when managing multiple hubs and devices.
Purchase Date	This property is useful for tracking your purchase date, aiding in warranty-related enquiries.
Device Role	This property allows you to add a short description, helping to clarify the role of the hub or device in your setup.
In Use	This is a straightforward true or false option that indicates whether a device is currently in use.

After choosing or creating the property name, the next step is to specify the type of data. You can choose from the following options:

Data Type	Description
Text	This is a text field where you can enter any text to define a custom property.
Number	This is a field where you can enter a number, which can be either an integer or a decimal.
True/False	This represents a simple value of either true or false.

Once the data type is set, you will then need to enter the value corresponding to that data type. After completing these steps, you can either press the '+' button to add another line of metadata or click the save icon to save the current metadata entry.

17. Virtual Hubs (Licensed)

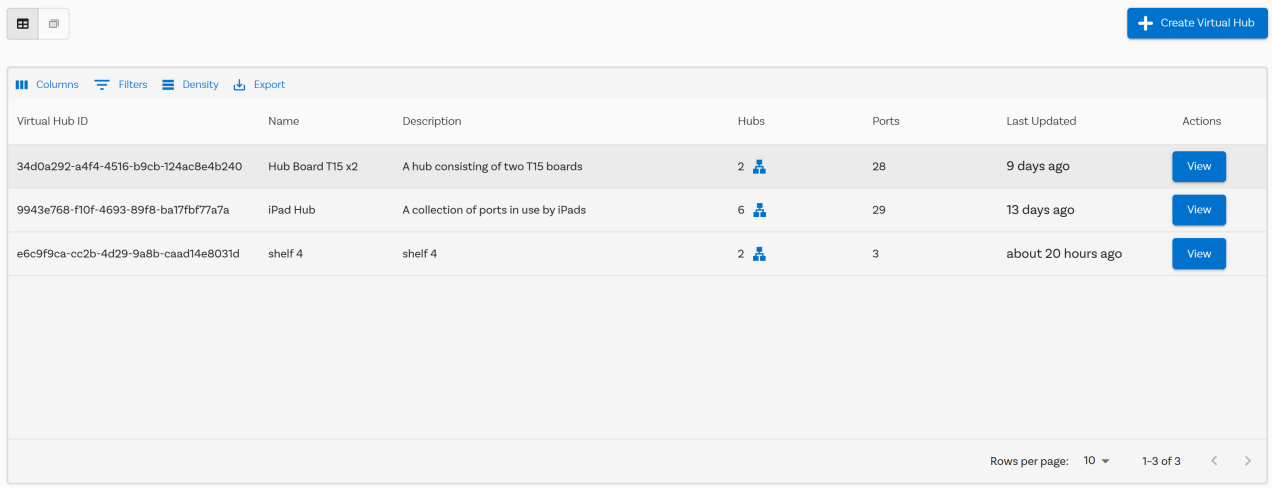
From this page, you can create and manage 'Virtual Hubs'. A Virtual Hubs is a collection of ports that Cambrionix Connect will treat as a single hub. You can navigate to this page by selecting it in the Navigation Panel. In Cambrionix Connect versions prior to 3.3.0 this feature was called 'Dynamic Hubs' and was located in the settings.

A sufficient Cambrionix Connect License is required. (To use this feature, you will need a license supplied by Cambrionix Ltd. Currently, the license is not available, but it will be coming soon. If you are interested in using this feature once the license is available, please contact enquiries@cambrionix.com.)

17.1. Virtual Hubs Overview

When you navigate to 'Virtual hubs' you can view all the current virtual hubs that have been created on your organisation from the list view you can see the following information:

- Virtual Hub ID - A unique ID for the virtual hub
- Name - A custom name decided by the user
- Description -A custom description decided by the user
- Hubs - The amount of hubs used in the virtual hub
- Ports - The amount of ports used in the virtual hub
- Last Updated - The last time the virtual hub was updated
- Actions - Click to view information on a specific virtual hub



You can switch between tile and list views from the page depending on personal preference. You can also filter and sort the virtual hubs and customise the columns that are visible on your overview.

17.2. Creating Virtual hubs

To create a virtual hub, click the 'Create Virtual Hub' button at the top of the page. Once selected, you will be prompted to create a name and description for the virtual hub. We recommend making the name unique and the description detailed enough so you know the purpose of the virtual hub. For example, "S4R2 - Shelf four in room two" could indicate a virtual hub for all hubs and ports on shelf number four in room two.

Once you have confirmed the name and description, you will be able to select the hubs you wish to include in the virtual hub. If you have the relevant licence, you will be able to select hubs from any of the remote computers in your organisation.

After selecting the hubs, you can then select the ports you wish to use. The hubs you have previously selected will be displayed, and you can use a drop-down menu to view and select all the ports you require.

Once all the hubs and ports have been selected, you will be given the option to assign a virtual hub number to each port. For example, if you have two hubs with sixteen ports in one location and device slots numbered one to thirty-two, you can match the virtual port numbers to your device slot numbers.

Finally, you will be shown all the previously entered information for review and confirmation before your virtual hub is created.

17.3. Viewing and Editing Virtual Hubs

Once a virtual hub has been created you can click on the tile or click the view button in list view. This will be open up the virtual hub where you can see all the previosuly selected ports in the same way you can view any hub in the Cambrionix Connect application. See the Ports overview section for more information on what can be seen and done.

If you click on the cog icon you will go to the virtual hub settings, this will then open up the hardware information on all the hubs included with the virtual hub. You will also see all the ports in the virtual hubs along with the virtual port number that has been assigned to it. You can delete and edit any virtual hubs from the settings section.

18. Features

Feature	Connect Standard	Connect Premium
Hub Control		
Connectivity and activation	✓	✓
Control ports on hubs	✓	✓
Manage hub settings	✓	✓
Access Anywhere		
Control hubs remotely	✓	✓
Manage hub firmware and software	✓	✓
Offline hub status monitoring	✓	✓
Mobile Device Control		
View local device information	✓	✓
Device Firmware Update (DFU) Mode		✓
Power Delivery		
Power delivery management profiles		✓ (Requires PD-enabled hardware)
Organisation, Management, and Search		
Cambrionix Service Status updates	✓	✓
Custom groups for hubs and devices	✓	✓
Add custom fields, attributes, and locations to hubs and devices	✓	✓
Create and save advanced search criteria	✓	✓
Virtualise multiple hubs to appear as larger hubs		✓
Scheduling, Automation, and Workflows		
Cambrionix control intents for Apple Configurator and Shortcuts	✓	✓
Notifications for available hub firmware updates	✓	✓
Notifications for available device firmware updates		✓
Schedule hub port mode changes		✓
Configure device target charge levels		✓
Security and Privacy		
Invite and manage other users	✓	✓
Setup and manage multiple organisations and user groups		✓

Feature	Connect Standard	Connect Premium
Create custom user access permissions		✓
Connect audit log		✓
Assign devices to specific Connect users		✓

19. Troubleshooting

If you experience any issues with Cambrionix Connect; please try the following troubleshooting steps. If your issue is not addressed in this section, please get in touch with your local vendor or Cambrionix. To contact Cambrionix Support please see Help and Support. For more information on troubleshooting with your hardware please see the troubleshooting section in your products user manual. www.cambrionix.com/product-user-manuals

19.1. Logging through Cambrionix Connect

If you are experiencing a bug or an issue, we may ask you to obtain some logs of the behaviour, to see in more detail what is happening. To get logs of the behaviour use the following steps to get a zip file of them to send to us.

1. Open up the Cambrionix Connect application.
2. Once inside, select the Computers tab.
3. Then, select the button ' Go to settings'.
4. Then, under the 'Host API' section, select 'Configure'.
5. From here, you should see a section titled 'API Logging Sections'. Expand the 'Advanced logging settings' downwards.
6. Click the “select all” tick box and then the save button.
7. After this is enabled, use the hub in a way that causes the issue you are seeing.
8. Wait for the issue to occur
9. Make a note of the time and date that the issue occurs then go back to the API page in Cambrionix connect, and press the zip logs.
10. Once you have the logs un-tick the “select all” box and save your settings.
11. Send the logs to us for us to take a look at.

The API keeps a maximum of 20 logs at 256Mb each, so the latest one is usually smaller. If a crash occurs, you would see a smaller log file and the next instance of API shuffles the existing ones

Default locations

Log messages generated by the CambrionixApiService go to syslog.

Using Windows the logs will default to the below location

```
C:\ProgramData\Cambrionix
```

Using macOS the logs will default to the below location

```
Library>Logs>Cambrionix
```

Using Linux the logs will default to the below location

```
/var/log/cambrionix
```

Using with a headless system

If you are using a headless system with no GUI, then and you require to enable logging for support issues, you can use the following command to create the logging cfg file manually:

```
echo
        *=DEBUG>/etc/opt/cambrionix/cambrionix.log.cfg
```

Then after re-producing the problem, you can zip the logs from the folder

```
/var/log/cambrionix
```

You may delete the file below when you are finished with it.

```
/etc/opt/cambrionix/cambrionix.log.cfg
```

Using Cambrionix Connect with Safari

When using Cambrionix Connect with a local connection to the Hub API, Safari may block the connection because it requires HTTPS (a secure connection). To fix this, you need to use a certificate to tell Safari that the connection is safe.

Here's how you can make Safari accept the connection:

Create a Self-Signed Certificate A self-signed certificate is a way to secure localhost yourself. You can use tools like OpenSSL to create one. Once you have the certificate, you need to tell Safari to trust it:

1. Open Keychain Access on your Mac (under Applications > Utilities).
2. Drag and drop your certificate into the System keychain.
3. Find the certificate, double-click it, and set Always Trust in the Trust section.
4. Save and enter your Mac password if needed.

You can also use mkcert for an Easier Option

If you want a simpler solution, use mkcert, a tool that automatically creates and installs trusted certificates for localhost. Just install it, run a few commands, and it will handle the rest for you. For more information on this please see the following link.

19.2. Removing Software

If you wish to uninstall the software (Cambrionix Hub API and the Cambrionix Recorder Service) from your host system, the following steps can do this.

Windows™

To remove the software from a Windows™ system, you can do so by going into "Add or remove programs" finding the software you wish to remove, selecting it and pressing "uninstall"

macOS®

To remove the software from a macOS® system, locate the application in the Finder, drag the application to the Trash, or select the application and choose File > Move to Trash. You may be asked to enter the name and password of an administrator account on your Mac®. Then to completely delete the application, choose Finder > Empty Trash.

Alternatively, use the below instructions.

```
sudo /Library/Cambrionix/ApiService/bin/CambrionixApiService --remove
sudo /Library/Cambrionix/ApiService/bin/CambrionixRecorderService --remove
```

Linux®

To remove software on Linux® there are two options.

The first is to use the Software centre, then either the list of installed applications or the search bar to find the software you wish to remove. Once you have selected the application, click on the remove button and you will be prompted for a password, enter the password and the software will be removed.

The second way you can remove software is by using the command line. All you need to do is to use the command in the following fashion:

```
sudo apt remove program_name
```

Variable	Description
program_name	The file name of the program including any version numbers

You'll be asked to enter your account password. When you enter it, nothing is visible on the screen. You will need to confirm removal, it will ask for your confirmation, press the enter key or Y key: Keep in mind that you'll have to use the exact package name in the apt remove command otherwise, it will show 'unable to locate package error'. You can type the first few letters of the program you want to uninstall, and then hit the tab key. It will show all the installed packages that match those letters at the beginning of their names.

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Cambrionix Patents

Title	Link	Application Number	Grant Number
Syncing and Charging Port	GB2489429	1105081.2	2489429
CAMBRIONIX	UK00002646615	2646615	00002646615
CAMBRIONIX VERY INTELLIGENT...	UK00002646617	2646617	00002646617

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