Eaton Charging Network Manager Software

Powering Business Worldwide

Simplify, optimize and monetize EV charging everywhere.

Charging should be fast, convenient and affordable. Count on Eaton innovations to deliver. Our Charging Network Manager (CNM) software makes it easy to deploy, manage and monetize your electric vehicle (EV) infrastructure investments for fleet, residential and commercial facilities.

Get the most from your EV charging infrastructure.

Our software gets you the information you need, so you can closely monitor and enhance your entire EV charging infrastructure – all from one intuitive dashboard:

- Oversee charging locations and stations
- Enable driver access and control
- Monetize charging infrastructure
- Reduce costs with load management

Dependable
Plug-and-play software and hardware integration.

Interoperable
Mix and match hardware with virtually any OCPP-compliant technology

Secure
Enhanced cybersecurity integration and testing

Simplify management with a dashboard view

Simplify deployment

- Out-of-the-box commissioning
- Seamless, secure software and hardware integration
- Connect automatically with Eaton Green Motion EV chargers
- Integrate any Open Charge Point Protocol (OCPP) compliant hardware
- Add or modify charging stations easily

Optimize EV charging infrastructure

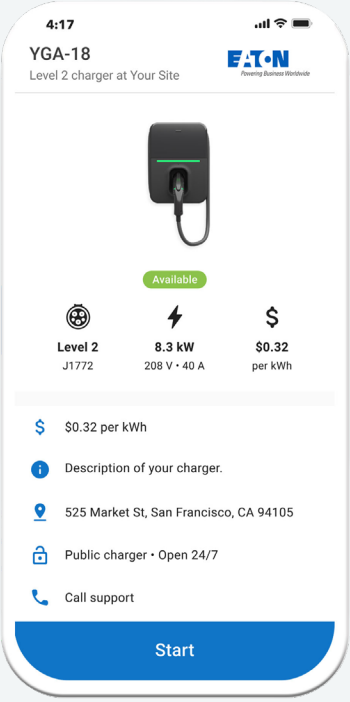
- Easily organize, navigate and troubleshoot charging infrastructure
- Support drivers with ready access via mobile phone or RFID card
- Minimize infrastructure investments with load management
- Enable participation in utility demand response programs
- Customize reporting and get the information you need to meet utility subsidy programs

Monetize infrastructure

- Establish pricing policies based on flat rate, time, energy or other common policies
- Collect payments from drivers without personal or site-specific accounts
- Differentiate pricing between driver groups
- Avoid peak loads with pricing mechanisms

Support drivers with mobile access

- Scannable QR code access
- Supports credit card payment (if required)



- Browser compatible with no app download required
- Fully PCI-DSS compliant, managed by Stripe

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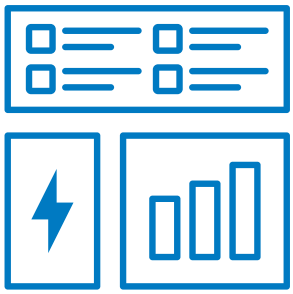
Eaton Charging Network Manager Software
Power management

More savings, less headache with power management

Powering Business Worldwide

Electric vehicles are efficient, but they still take massive amounts of energy. A typical Level 2 EV charger draws power equivalent to several houses at any time. This simple fact presents a complex problem: Most existing spaces were not designed to support EV charging.

For older construction, it's easy to drain six figures on infrastructure upgrades before installing a single station—and that's not to mention the headache of hiring a contractor or waiting weeks to see progress. Even then, new construction still has a finite electrical capacity. That's why **power management** is the EV charging industry's most crucial innovation.



$55k+

In potential savings per site
Compared to the cost of infrastructure upgrades, according to data from our commercial partners.*

What is power management?

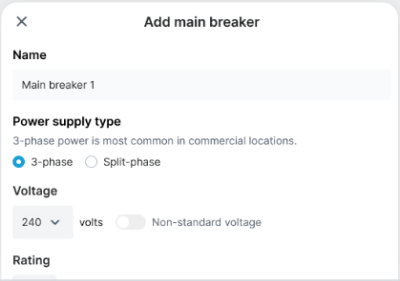
Power management is the practice of balancing energy across EV chargers so that the total output stays within an infrastructure's capacity. You can also limit peak power to avoid costly demand fees.

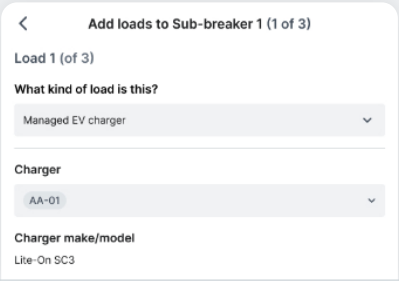
Eaton's Charging Network Manager (CNM) power management makes it possible to install more chargers, **often upwards of 4X** on a limited electrical service. This intelligent, software-driven process translates capex into opex while delivering substantial savings.

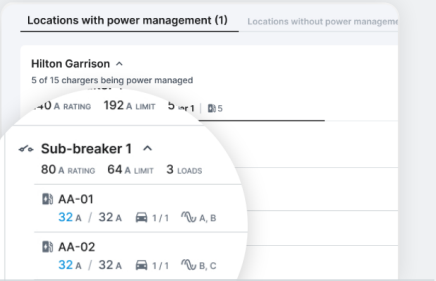
* This calculation assumes an upgrade of a commercial building pulling 200 amps of electrical current. The estimated cost to upgrade service by 800 amps to support an installation of ten Level 2 chargers in a commercial building is approximately $55K USD. Circuit breakers should not accept loads in excess of 80% of their rating. All estimates inclusive of labor.

Set up in three steps

Getting set up is simple. Just navigate to the Power page in the CNM dashboard. Click "Locations without power management" and select the "Set up" option.







1. Add a main breaker and sub-breakers. Indicate voltage and amperage ratings.
2. Add loads to the sub-breakers. Indicate the chargers affected in the modal.
3. Monitor power allocation and breaker load directly in the dashboard.

How does Charging Network Manager software compare?

CNM software operates a charging station management system (CSMS) that communicates with any OCPP-compatible networked charger. The OCPP standard provides a mechanism for a CSMS to specify and communicate a charger's maximum allowable current.

	CNM	OTHER SOFTWARE	DEVICE-LEVEL SETTINGS
Load balancing Load balancing software makes it possible to connect more chargers on a limited electrical infrastructure.	✓	✓	X
Hardware-agnostic CNM software supports energy management across heterogeneous charger models.	✓	✓	X
Intuitive hierarchy It's easy to set up multiple power management groups at each location, indicate tiers, and even nest groups as needed.	✓	X	X
3-phase power settings We account for 3-phase power wiring, which significantly boosts energy efficiency for commercial installations.	✓	X	X
Automatic reallocation of power between vehicles Eaton's CNM solution automatically detects when a vehicle's power is full and reallocates power on the fly.	✓	X	X
Self-service UI The CNM dashboard lets you manage setup safely and quickly and monitor live kWh usage.	✓	X	X
Sophisticated safeguards Power-managed chargers are deterministically monitored to amperage never exceeds limits.	✓	X	X
Smart integrations CNM software can support integrations with smart building systems, utilities, and more.	✓	X	X
Rigorous hardware testing We test scenarios like software reset, firmware upgrades, and loss of connection to ensure total reliability.	✓	X	X

Technical specifications

Eaton's CNM power management interface uses the following:

Locations	Locations are the physical places where chargers are installed.
Breakers	Breakers are the points of power constraint in a site's electrical infrastructure. A breaker always has a rating for maximum continuous load.
Main breakers	Main breakers are the connection points to the main power grid. They determine the type of power (like 3-phase or split-phase) and the voltage for devices downstream.
Sub-breakers	Sub-breakers are like mini-breakers located below the main breaker.
Loads	A load is any device that uses power.
Managed chargers	Managed chargers are connected to and controlled by Eaton's CNM CSMS.
Unmanaged loads	Unmanaged loads are devices that use power on the same circuits as managed EV chargers.
Group	A group is a collection of loads or sub-groups that use power from a breaker. For example, if two chargers are on a breaker, they form a group.
Limits	This is the maximum load a breaker can handle for a group.
Maximum charge setpoints	The maximum charge setpoints are an amperage value below a charger's factory maximum capable current. These setpoints safeguard chargers from exceeding capacity when loads are balanced.
Allowable maximum power	The system calculates the allowable maximum power for each load or group to ensure that the current at any breaker is kept at a safe limit. The allowable maximum power constrains maximum charge setpoints.

Hierarchical model

CNM models a site's infrastructure hierarchically so that power constraints can apply at any level (e.g., main breakers, sub-breakers, or chargers). The system can also model three-phase and split-phase power so that phase amperage limits may be applied.

CNM's power management also relies on the concept of "groups," so power may be allocated dynamically. Parent-child relationships are used to illustrate the nesting of groups. For example, each constraining breaker will have a power management group with an allowable maximum power. Groups may then be nested hierarchically, with unlimited parent-child relationships.

System safeguards

CNM's system is designed with safeguards that ensure chargers do not violate power rules in the event of a fault. Loss of connection or uncertainty of state is not a concern, provided there is high confidence that chargers retain settings in such events. CNM maintains this confidence through rigorous testing of EV charging hardware and firmware. The system also has multiple built-in safeguards:

- When chargers disconnect from our system, they reserve the last allocated power. This means that additional power can be made available for connected chargers, reducing disruptions caused by connectivity issues.
- When another CNM-approved unit replaces a power-managed charger, the load balancing will continue to function as intended, provided that the charger is correctly configured and provisioned in Eaton's CNM CSMS.

Chargers whose models are not approved by Eaton for power management purposes cannot be guaranteed for reliable, safe use. Power management depends on approved chargers that are powered, configured, and connected to Eaton's CNM CSMS.

Testing & approval process

When testing an EV charger model, our engineers validate that maximum charge setpoints are stored in non-volatile memory. This precaution allows the charger to maintain the maximum set point even after a power interruption. They test these common scenarios for assurance:

- Issuing a software reset of a charger does not modify the Max Charge Setpoints.
- Upgrading the firmware of a charger does not modify the Max Charge Setpoints.
- Charger disconnects from the CSMS does not modify the Max Charge Setpoints.

These criteria are required for a charger model to be approved for use with power management. Additionally, during the hardware testing and validation process, CNM documents and stores various charger and firmware information in our system that act as inputs to the power management algorithm, including:

- Model maximum capable amperage
- Model minimum capable amperage
- Whether or not the model supports a zero-amperage charging setpoint

When a charger model has been tested and verified to meet the requirements above, CNM software adds the model and firmware version to our list of approved hardware for use with power management.

For more information please visit

Eaton.com/CNM

Powering Business Worldwide

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Eaton Charging Network Manager

Site host guide

Powering Business Worldwide

Eaton Charging Network Manager's (CNM) EV charging platform is designed to be easy to use, so your EV drivers can get the services they need and you can focus on your core business.

A note on support

If an EV driver using your chargers has a problem, they can contact Eaton CNM's 24/7 support service at **1 (800) 796-0478** or by clicking the **Get Help** link in the Eaton web app.

Our 1 (800) number is designed to immediately help EV drivers with urgent issues. If you need support as a site host, please email support@chargelab.co.

Deploying EV chargers

Installing and activating new EV chargers requires the help of a certified electrician, and/or Eaton's partner (ChargeLab) Deployments Team.

If you have already purchased EV chargers and an Eaton CNM Service Plan, you can contact deployments@chargelab.co for updates.

EV drivers

Whether the drivers you serve are residents, tenants, employees, or the general public, we've got an easy way for them to charge. Below is a summary of the four main ways EV drivers can interact with Eaton's CNM system. For more details on the EV driver experience, see our **Quick Start Guide** at www.chrg.li/quick-start-guide.

Web app

Every charger deployed at your site should have a sticker with a QR code attached to it. Any driver can scan the QR code using their smartphone's camera to immediately access the Eaton CNM charging experience.

RFID card

EV drivers can order a free Eaton CNM RFID card from www.chargelab.co/eaton-rfid or the Eaton CNM app. Not every EV charger has an RFID reader, so ensure that yours does before recommending this authentication method.

iOS/Android app

EV drivers can also download the Eaton CNM app from the App Store or Google Play. Native app users can find your chargers using the map, search, or QR code scanning function.

Auto-start

Chargers without any pay-per-use fee can be left open for any EV driver to charge without authentication. Paid chargers in private settings like condo buildings can also be linked to a specific EV driver and set to "auto-start".

contents

Tips for site hosts

Hosting EV chargers at your building or site comes with many benefits:

- Reduces cost to residents, employees, or your own fleet
- Increases property visibility and value
- Helps enable a cleaner, carbon-neutral future

Below are Eaton CNM's top tips for deploying and operating a successful EV charging site.

Site design

Businesses and multi-family buildings install EV chargers everywhere drivers park: in visitor parking lots and dedicated parking spaces; in above ground lots and underground garages; in densely populated locations and wide open areas.

When deciding where to install EV chargers and how many chargers to install, keep in mind:

- EV chargers should only be installed by certified electricians or turnkey providers that work with certified subcontractors. In addition to electrical work, many EV charger installations include general construction work, such as pouring concrete for pedestals, coring through walls, installing signage, and painting. Consult professionals early and often while planning your EV charger deployment.
- The most cost-effective place to install EV chargers is close to an existing electrical room within your building. The further from the source of electricity, the more expensive it will be to install EV chargers.
- EV chargers are a significant electrical load, especially for older electrical infrastructure. Do not assume that your building can support many EV chargers without infrastructure upgrades or power management. Always have a certified electrician inspect your infrastructure before planning an EV charger installation. Ask about Eaton CNM's power management software when relevant.
- Whatever number of EVs you expect to service now, expect many more in the future. EV adoption is growing rapidly. Over the long-run, it may be more cost-effective to install more EV chargers now, rather than incur the project overhead costs of a second or third major infrastructure upgrade. Alternatively, ask your installer about laying the infrastructure for future EV chargers (panels, conduit, etc.), but waiting until demand increases to install the additional charging units.
- Solutions that embrace open standards like OCPP will help future-proof your site. Open standards ensure compatibility as technology and service providers change. Eaton CNM is a fully OCPP-compliant service provider.
- Be cautious of low-cost service providers. EV charger installations are still a new industry. The difference in safety and quality between service providers is significant.

In addition to the tips above, we suggest all site hosts pay special attention to three areas: connectivity, painting/signage, and accessibility. The following pages provide a more detailed breakdown of each of these site design considerations.

Connectivity

As the back-end software provider for thousands of EV charger deployments, Eaton CNM can confidently report that the #1 cause of issues for EV charger deployments is connectivity.

In order to track charger usage, enable power management, and collect pay-per-use fees from EV drivers, your EV chargers must have a reliable connection to the internet. There are three common ways to connect EV chargers to the internet and in turn Eaton CNM's cloud management software: **Wi-Fi**, **Ethernet**, and **cellular data** (currently 4G networks).

Sometimes site hosts overlook the importance of connectivity. This can lead to unexpected issues down the road: from EV drivers not charging, to crucial data for utility programs not being reported. Here are our top tips for EV charger connectivity:

- Installing Wi-Fi mesh networks or testing 4G connectivity is not the speciality of most certified electricians. Communicate transparently with your installer about connectivity. If they are not an expert, ask them to recommend a local service provider that specializes in commercial building connectivity. There are many installers of lobby Wi-Fi, security cameras, and other smart building technologies that are well-equipped to help connect your EV chargers.
- Test connectivity before installing your EV chargers. Everywhere you plan to install an EV charger, you should aim for:
  - **4G signal strength of −80 dBM or greater** if you are using 4G connectivity.
  - **Wi-Fi signal strength of −67 dBM or greater** if you are using Wi-Fi connectivity.
- Signal strength varies throughout a site and even from one parking space to the next. Check connectivity at the exact location every EV charger will be installed.
- Most EV chargers support multiple connectivity modes and can be installed with one as a primary and another as a backup. For example, a 4G primary connection with Wi-Fi as a backup, or Wi-Fi primary connection with Ethernet as a backup. Running two types of connectivity to every EV charger adds costs, but can be worth the investment. Especially if your EV chargers are critical fleet or public infrastructure.

- Make an action plan for what happens if there are connectivity issues. Eaton CNM's platform will automatically notify you when chargers go offline. Identify in advance who will address these issues: your own facilities management specialist, your electrician/installer, or your smart building connectivity expert.
- Many EV chargers can be configured to offer free charging even when they become disconnected from the network, or to allow offline charging for authorized RFID card users who will be billed when the charger comes back online. Make sure to speak to your installer or the Eaton CNM Deployments Team about setting up these offline redundancies. Communicate with your users about **ordering RFID cards** if relevant.

Signage and painting

Installing signs and painting EV charging areas is common for both functional and promotional purposes.

At many sites, there are relatively few EV chargers compared to the total number of parking spaces. At sites like this, consider installing wayfinding signs throughout the parking lot that direct EV drivers toward your EV chargers.

Painting parking spaces and walls bright green can also help EV drivers more quickly locate your EV chargers. In the same way that blue has become a universal indication of accessible parking, green has become a universal sign of an EV charging spot.

Parking spaces in front of EV chargers are almost always restricted for electric vehicles that are actively charging. If you adopt this common policy, you should install signs that communicate this restriction and any penalties for drivers who violate the policy.

While signage and paint are best practices for workplace, public, and semi-public EV charging deployments, there are cases where you may want to avoid signage/paint. Dedicated parking spaces with EV chargers in multi-family buildings do not need to be painted. This may attract unwanted attention of other EV drivers who do not have permission to use that EV charger. Likewise, many fleet depots can do without decorating their EV charging spaces.

You can find examples of both wayfinding and parking space signage for EV chargers at **www.afdc.energy.gov/fuels/electricity_charging_station_signage.html**, or by consulting your local parking guidelines authority.

Accessibility

Eaton CNM strongly recommends designing your EV charging site in accordance with American Disabilities Act (ADA) guidelines or other regional accessibility standards.

The U.S. Access Board has published a detailed guide to accessible EV charging site design. This includes guidelines for placement of EV chargers, parking space size, and the height where charging connectors and screens rest above the ground. Read the guide here: **www.access-board.gov/files/usab-evse-guide.pdf**.

Canadian businesses generally use the ADA guidelines above when designing their sites, because no federal Canadian agency has published its own guide for accessible EV charging yet.

EV charging policies

Before installing EV chargers, you should think about what EV charging policies you will implement at your site. Will the EV chargers be open to the public or restricted to a certain user group? Are the chargers going to be monetized or free for EV drivers to use? Will the same policy apply to every charger at your site, or will you mix and match permissions and pricing?

Below we explore the most common EV charging policies based on use-case. Whatever policy you choose, ensure that the signage posted at your site and notices circulated to employees/residents mirror the policies you set in the Eaton CNM administrator portal.

Fleet

Private depots

At private depots, you install chargers exclusively for your fleet to use. Pricing does not usually apply, because you own the vehicles, the chargers, and pay all the electricity bills. You can still track charger usage and estimate your costs through Eaton CNM's platform, but there is no need to bill yourself usage fees.

If your private fleet chargers are installed "behind the fence," you may want to remove all access control and allow drivers to start charging as soon as they plug—no RFID tap or app-based activation. Alternatively, you may still want to track which vehicles are charging and when by linking vehicles to a specific RFID card or EV driver account. All of this is possible from within the Eaton CNM platform.

If your private fleet chargers are in a parking lot that can be easily accessed by others, consider adding access control to ensure only your drivers and vehicles can use the chargers. Setting these chargers to "private" will also hide them from Eaton CNM's platform and third-party maps, minimizing the unwanted traffic you attract.

Mixed depots

Mixed-use depots combine fleet charging with another use case (such as workplace or multi-family), or allow multiple fleets to charge.

Access and pricing policies are very important at mixed depots. If you operate your own fleet, you may want to allow your vehicles to charge for free, but bill usage fees to third-party fleets, employees, or residents who share your charging infrastructure.

Using Eaton CNM's platform, it's also possible to configure a certain set of chargers for shared use, while reserving another set exclusively for your fleet.

Public charging

Public charging includes a diverse set of use cases: convenience stores, petrol stations, malls, storefronts, restaurants, community centers, schools, university campuses, and highway rest stops.

Discoverability is key for most public charging sites: You want your chargers to be found and used as often as possible. In addition to displaying public chargers on the Eaton CNM app, Eaton CNM also manages the submission of your public charging sites on third-party apps like **PlugShare**, **ChargeHub**, and **Google Maps**.

Think carefully about your pricing policy for your public chargers. Are you trying to attract more foot traffic to your store, restaurant, or community center? Consider offering low-cost or free charging. An EV driver will only use a few dollars of electricity at a Level 2 charger, while they may spend hundreds at your store or restaurant.

At the same time, paid public charging has become the overwhelming norm in recent years. Tesla's Supercharger network famously offered free charging when it launched in 2012, but Tesla stopped this policy in 2017. For the past 5+ years, every Tesla Supercharger has billed a premium rate for the energy it dispenses.

The vast majority of public DC fast chargers bill usage fees, and increasingly the same applies to Level 2 chargers. DC fast chargers bill significantly higher usage fees. This is obvious in regions where charging is billed hourly, because a DC fast charger can dispense much more energy in an hour than a Level 2 charger. However, even when billed by kWh, DC fast chargers tend to be more expensive for the convenience of filling up faster (and to recoup the much higher infrastructure costs).

Depending on your region, Level 2 chargers most often bill between $0.15 and $0.35 per kWh. DC fast chargers most often bill between $0.25 and $0.60 per kWh. Charging speeds >150 kW bill at the highest rates.

To see what comparable public charging sites in your area bill, we recommend searching **PlugShare**, **ChargeHub**, and **Google Maps**. All of these apps list the charging speeds and usage fees of public chargers.

Eaton CNM's platform allows you to easily set and change pricing policies. Don't be afraid to start with a certain pricing policy and adjust it over time as you seek to increase or decrease the demand for your chargers.

Through the Eaton CNM administrator portal, you can set per kWh pricing, hourly pricing, and detailed time-of-use schedules that change prices based on the time of day. Just be cautious of changing pricing policies too frequently. Whenever possible, communicate new pricing policies on signage near your EV chargers.

Workplace

"Workplace charging" is Eaton CNM's term for any charging that occurs in or around an office building. This includes private offices serving a single company, as well as high-rise buildings with semi-public underground parking lots.

Just like with mixed fleet depots, some workplace charging sites may serve multiple use cases. For example, chargers in a high-rise building may serve the employees that work in the building in addition to the general public who parks in your lot while attending events downtown.

If your workplace chargers are intended exclusively for employees of your company, Eaton CNM's platform allows you to set these chargers to "private" and restrict access. Alternatively, if your office parking lot doubles as a public parking lot, set your chargers to "public." You can also mix and match access settings at any site, reserving certain chargers for a specific group while opening up the rest to the public.

Like with public chargers, you should also think about why you are installing workplace chargers. Is this 100% for employee satisfaction? Free workplace charging is a great perk for employees and may even encourage some employees to switch from a gas vehicle to an EV. Or are you looking to recoup your energy costs? Workplaces chargers can bill usage fees just like any public charger.

When setting fees for workplace chargers, look at your historic electricity bills to understand your cost. Based on this cost, you could break-even on your chargers (only bill employees what you pay), make a profit (possibly to recoup charger install cost), or even subsidize charging (only recoup part of your electricity cost with low usage fees).

Depending on how many of your employees drive EVs, your chargers may quickly become fully occupied. It is popular to post signs limiting charging to four hours or less; however, in practice this is difficult to enforce. Instead, Eaton CNM recommends either (a) installing more chargers, or (b) setting usage fees that continue after charging has completed to encourage drivers to move once their battery is full.

Multi-family

Multi-family charging may be the most important commercial EV charging use case. Because over 80% of all EV charging sessions occur at home, it's crucial for apartments and condo buildings to offer EV charging.

In recent years, many apartments and condos have found that offering EV charging is not optional. Whether you are mandated by local laws, or simply overwhelmed by requests from residents, most multi-family buildings will find themselves installing EV infrastructure sooner rather than later.

There are two main modes of multi-family charging: we call them "dedicated charging" and "community charging." Both can exist within the same building.

Dedicated charging

With dedicated charging, each resident gets their own EV charger in their private parking space. This most simulates the single-family home charging experience: your own parking space, your own EV charger. Dedicated chargers make up the overwhelming majority of EV chargers in condo buildings. Because residents have already paid to own their own parking space, they are willing to pay to have a dedicated EV charger installed in it. While less common, dedicated chargers can also be popular in rental apartments.

With dedicated EV chargers, we recommend letting the end owner of the dedicated charger set access control settings. Dedicated chargers can act just like a public charger, where the driver must authenticate using an RFID card or app before charging. Alternatively, you can enable "auto-start" from the Eaton CNM dashboard. This will start charging as soon as an EV plugs in, no authentication needed. With auto-start enabled, all usage fees will be automatically billed to the EV driver account linked to the specific dedicated charger.

While owners of dedicated chargers can select their own access settings, the condo board or building management almost always sets usage fees, because EV chargers run off the building's shared electric panel.

Community charging

Community chargers are installed in common parking spaces for multiple residents or visitors to share. Visitor parking spaces within multi-family buildings are a great place to install community chargers.

Because multiple different users can use community chargers, Eaton CNM's authentication and billing system is essential to ensure users are billed accurately. With Eaton CNM's platform, you can even set separate fees for residents vs. visitors if you wish.

Community charging is most popular in rental apartments, especially buildings with no dedicated parking spaces. If you have visitor parking spaces in your condo building, we also recommend you install a few community chargers.

Even if you offer dedicated chargers at your building, community chargers bring a number of benefits:

- A back-up if a resident's dedicated charger breaks or needs maintenance.
- A place for residents who just purchased an EV to charge while they are waiting for their dedicated charger to be installed.
- A charging spot for residents who do not want to pay for a dedicated charger.
- A place for authorized visitors to charge their EVs.
- Can double as workplace changing for employees of the building (property managers, front desk, maintenance staff).

Tips for site hosts

A note on kWh vs. hourly pricing

As of 2022, about half of states and provinces in North America allow billing by the kWh for EV charging services. In the remaining jurisdictions, you must bill EV drivers hourly for use of your EV chargers.

This stems from the fact that, historically, the sale of electricity by the kWh has been restricted to licensed utilities and energy retailers.

In the future, we expect all jurisdictions will allow site hosts to bill EV drivers by the kWh, even if you are not a utility or energy retailer. Some may even mandate kWh billing for transparency and fairness. Until laws have been updated, make sure to check your local rules and regulations before setting kWh pricing.

Administrator portal

Eaton CNM's administrator portal is your central hub for managing EV chargers, revenue, users, and more. The remainder of this guide is a detailed walk-through of the administrator portal.

Setup

Creating a new organization

Once the license key is purchased and received, then the next step is to register a new customer site host organization. This will be the "container" in which the site host's charge stations reside in one or more locations.

To create an organization, the site host or their surrogate needs to fill in an online form available at https://chargelab.co/eaton/site-reg.

During initial setup when an organization does not exist, the site host or surrogate should select **No** to the question of whether or not there is an existing Eaton Portal account. If additional charge stations are to be added at a later date, then the **Yes** option would be selected.

Initially, each organization will have a single named site administrator. The name, email and phone number for this individual are required in the form.

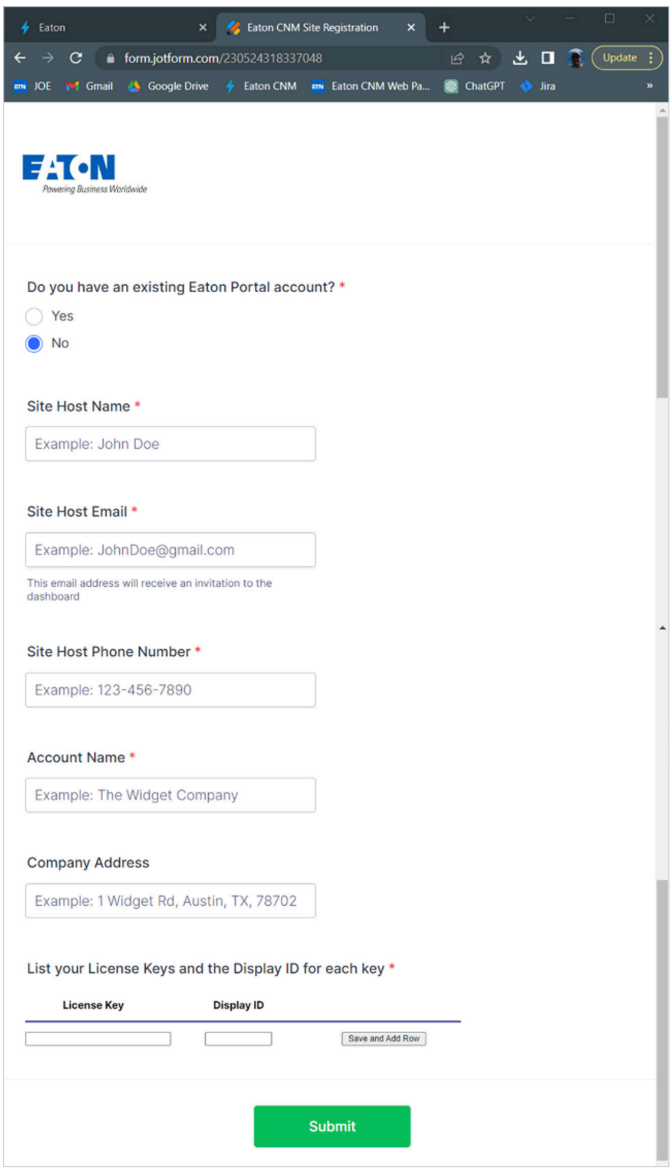
Each organization has an account name that is usually the name of the stations owner or the building name. The address of the company is recommended but not required.

Finally, the license key provided by the distributor or installation contractor is required to set up the organization. Without this license key, an organization cannot be created.

If stations have already been installed and display IDs (the number under the QR code on most stations) are available, then they may be entered at this time.

Within one business day, the identified site administrator will receive an email inviting them to log in to their new organization.

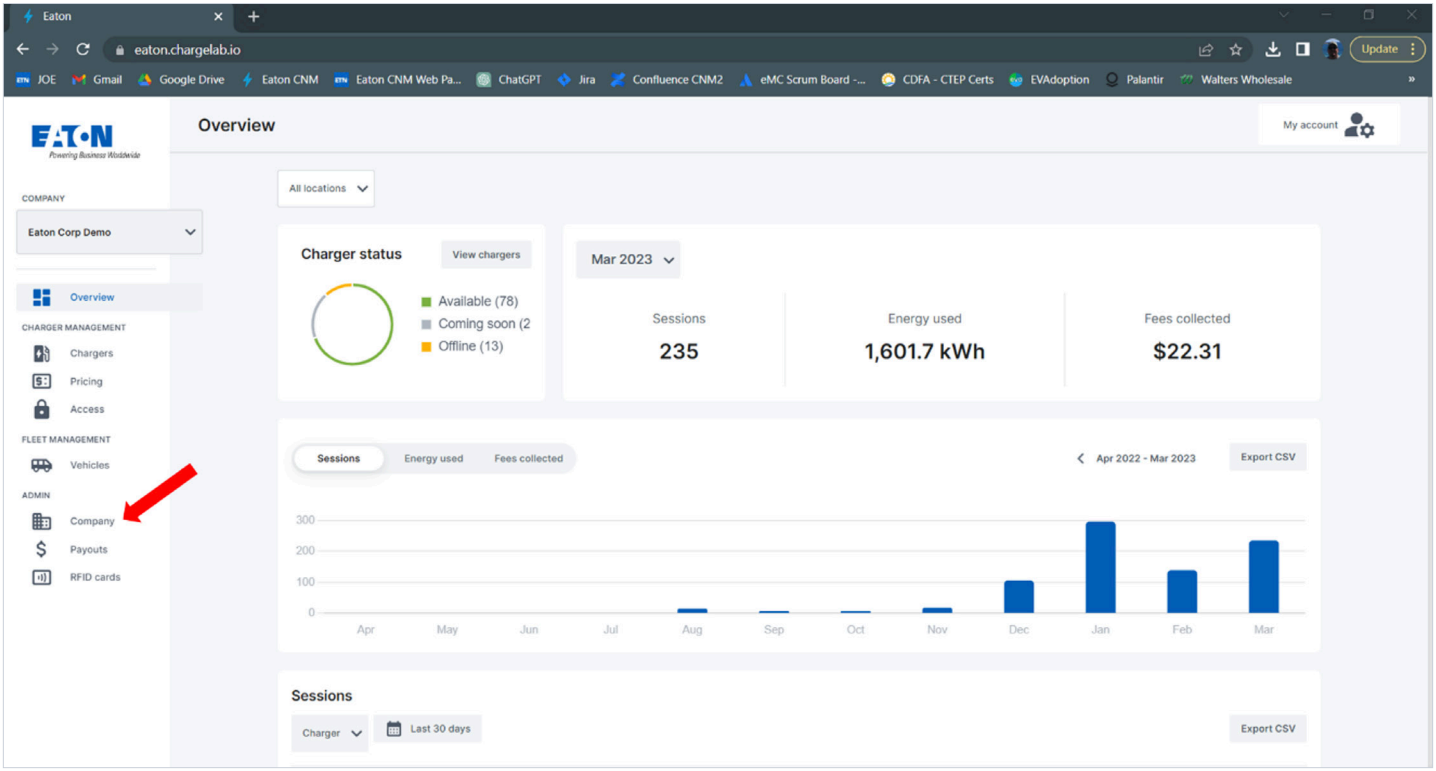
The organization will come with a single location defined and one admin user. The administrator can add other locations and other administrators at their discretion as described below.



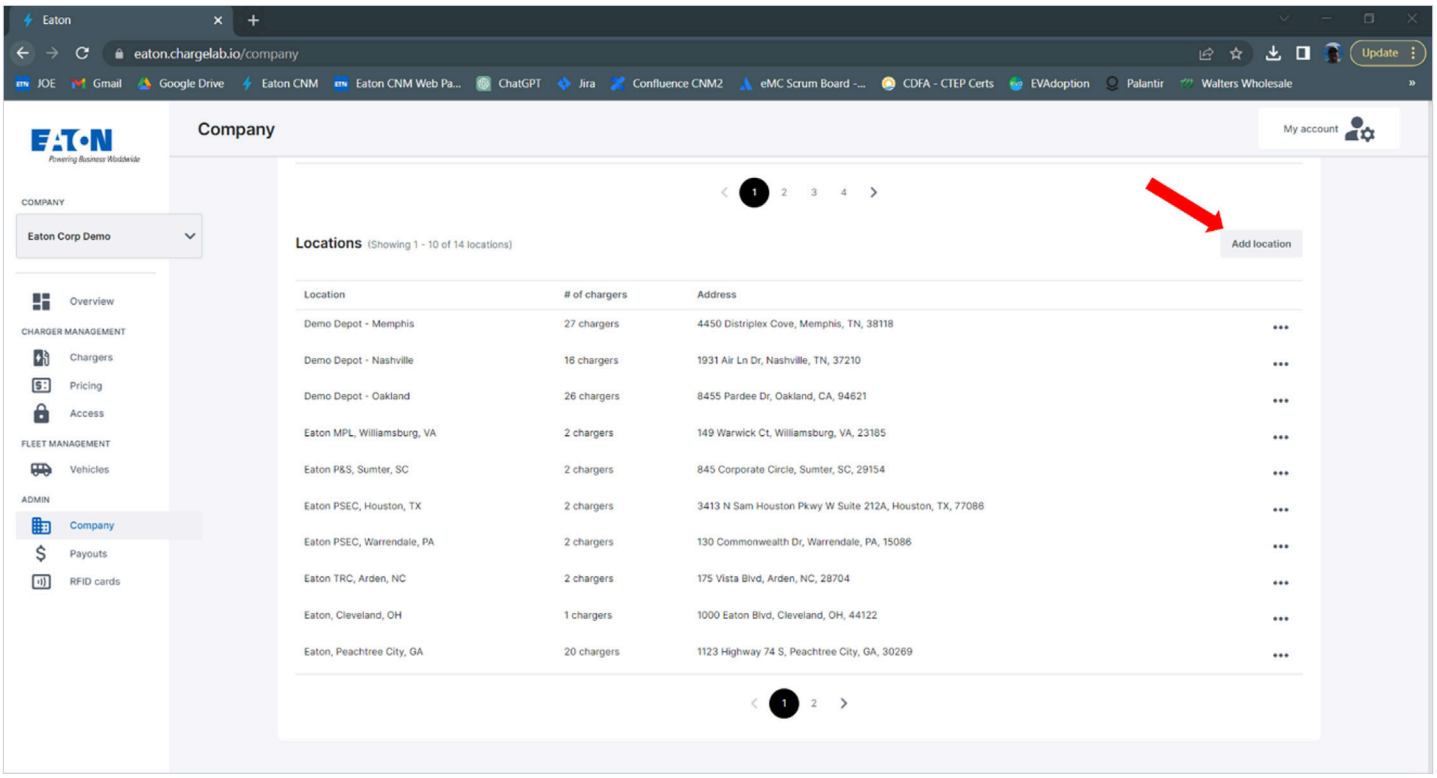
Administrator portal

Adding locations to an organization

An organization comes with its first location preconfigured, but an organization can have an unlimited number of locations depending on the needs of the site host.



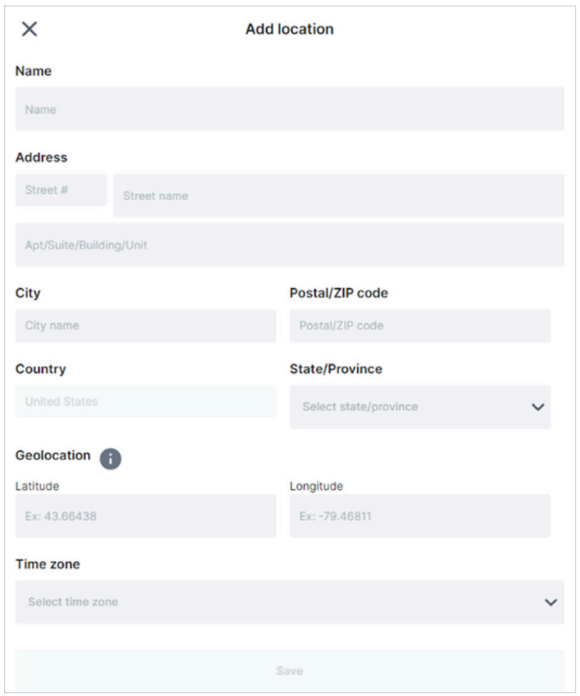
To add a new location to an existing organization, log in to the admin portal and proceed to the *Company* tab.



On the *Company* tab, scroll to the bottom of the screen where **Locations** are listed. Select **Add location**.

A new dialog box will appear which requests:

- Location name
- Location address
- City
- State/province
- Postal code
- Country
- Latitude and longitude
- Time zone



If latitude and longitude are not known, the easiest way to find them is to use free tools on the internet.

1. On any network connected computer, open Google Maps from within the web browser.
2. Right-click the location on the map where the charge station will be located. This will open a pop-up window. The latitude and longitude of the location can be found at the top of the window in decimal format.
3. To copy the coordinates automatically, left-click on the latitude and longitude.
4. Paste these values into the appropriate boxes in the form.

When the location box is completed, the **Save** button at the bottom of the form will activate. Save the location and it will appear under **Locations** in the *Company* tab.

Claiming a station for an organization

Once the organization is created, the location(s) have been established, and the stations commissioned, the next step in setup is “claiming” stations and placing them under the desired locations.

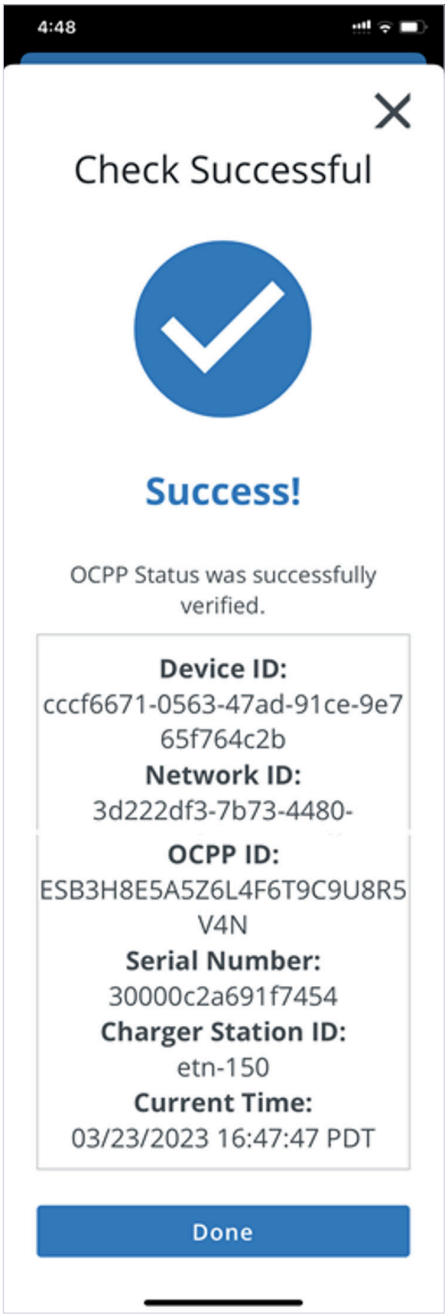
In order to complete the claiming process, the administrator or their surrogate will require the following:

- The serial number for each station
- The OCPP ID that corresponds to the serial number
- The Display ID that corresponds to the serial number and OCPP ID

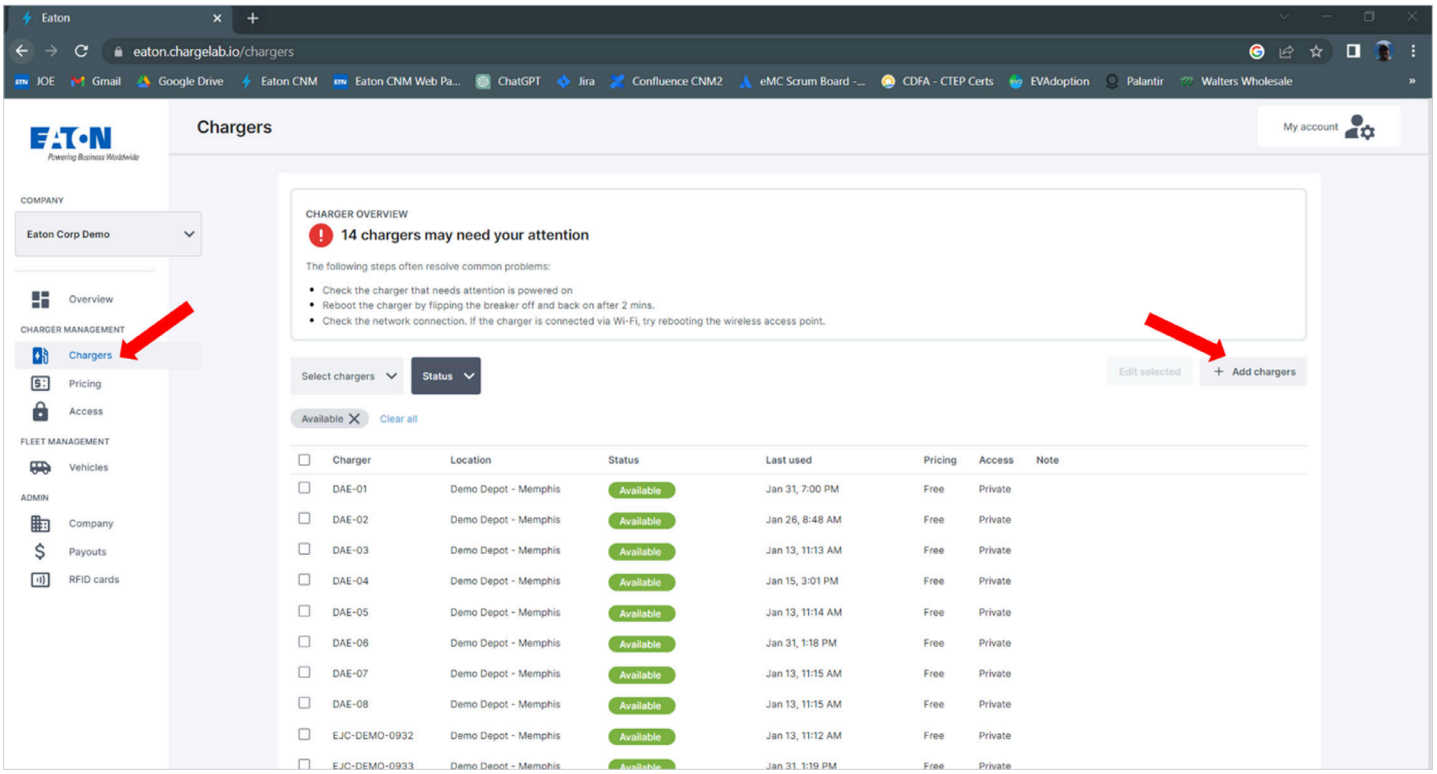
These numbers should have been delivered as part of the completion package by the installation contractor.

If the EVSE are Eaton Smart Breaker chargers, then the information should have been captured by the contractor from the EM Install app at the time of network commissioning. The receipt should look like the image [at right] that was screen captured from the mobile app.

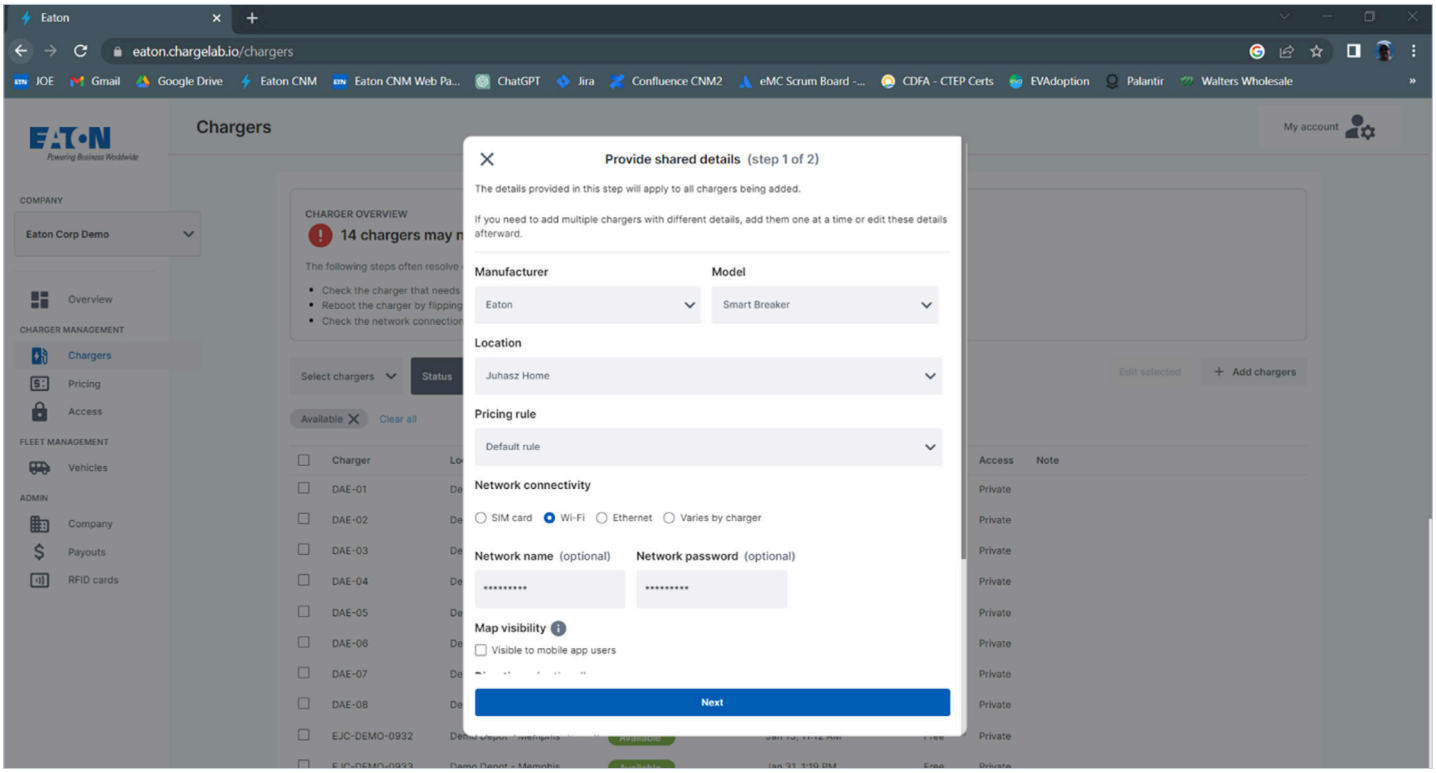
If the EVSE was an Eaton Green Motion or Green Motion Pro EVSE, then the information can be gathered from the serial number on the EVSE’s screen or Human Machine Interface (HMI) and the Display ID number can be found next to the QR code on the station (see image below).



With the information in hand, the process of claiming stations begins by selecting the *Chargers* tab from the menu at left side of the admin portal interface. Then select **Add chargers** in the top right of the screen.



Administrator portal



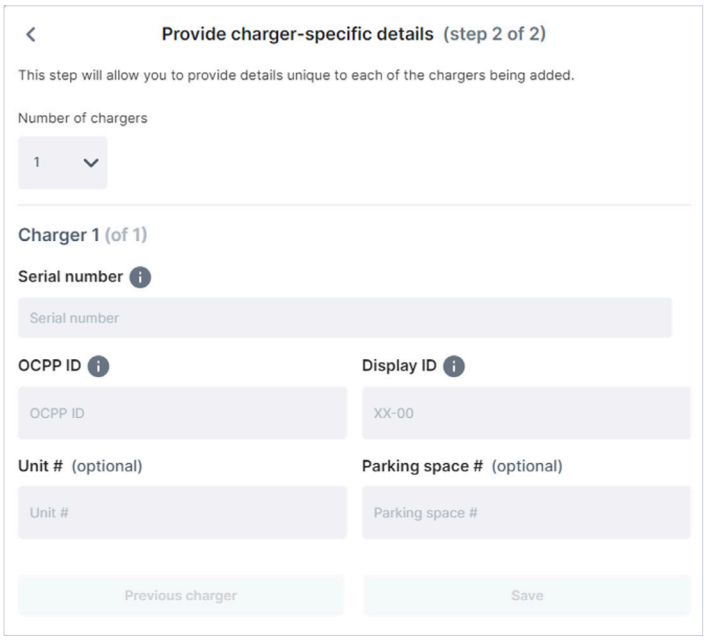
A new pop up window will appear.

- Select the manufacturer of the commissioned EVSE (Eaton) along with the model of EVSE.
- Select a location where the charge station will be placed within the Organization hierarchy.
- Additional information can be inserted at this point or left blank and added later.

Select **Next** to proceed to claiming of the new station.

- Enter the serial number
- Enter the OCPP ID
- Enter the Display ID
- Optionally, enter the apartment or parking space number
- Select **Save**

When successful , the station will appear in the charge station list and will be associated with the designated location.



Overview

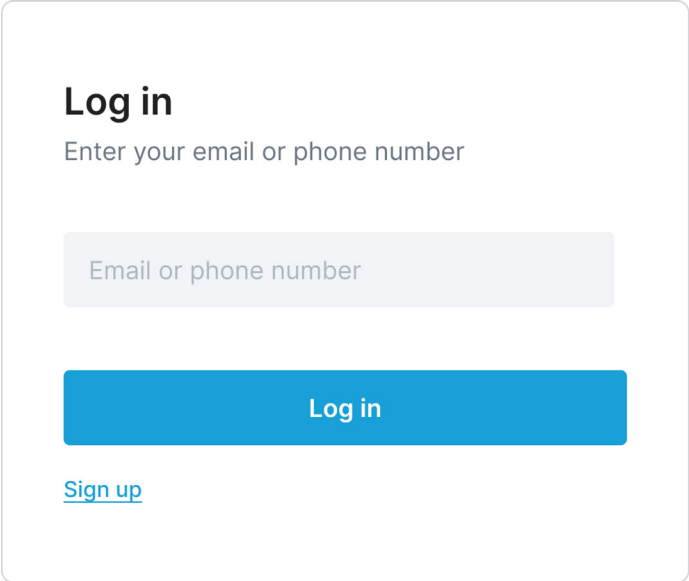
Your dashboard can be accessed from any modern web browser. When in doubt, we recommend **Google Chrome**.

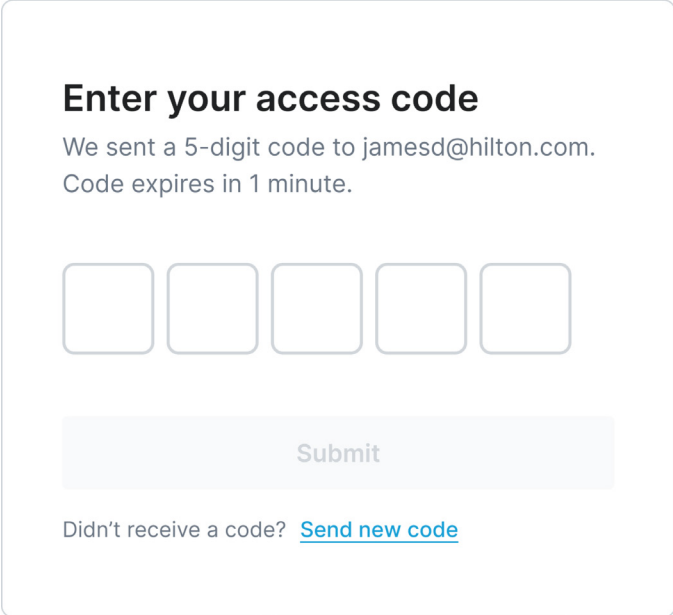
The administrator portal is currently optimized for desktop, laptop, and tablet computers. It is not compatible with mobile phone browsers.

Login

To access your administrator portal, use your web browser to navigate to www.chargelab.co/eaton/site-reg.

No passwords are required to log in, simply enter your **email address** or **mobile phone number**. You will be emailed or texted an **access code** to access your account:

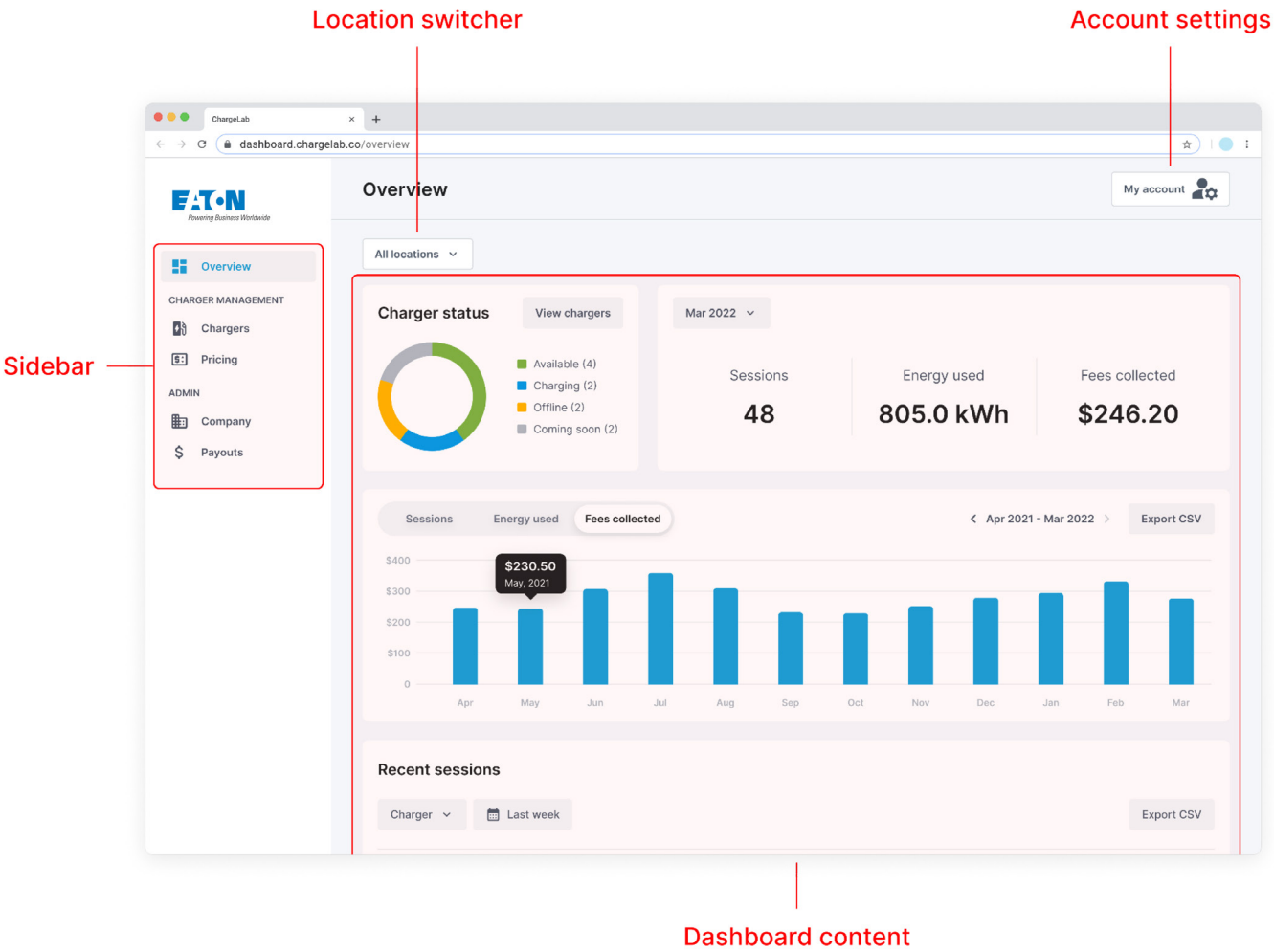




Administrator portal

Dashboard layout

Once logged into your account, you will see the *Overview* page. The screenshot below is marked up to highlight key areas of your administrator portal.



The **sidebar** on the left-hand side of the dashboard is your main navigation to switch between different pages.

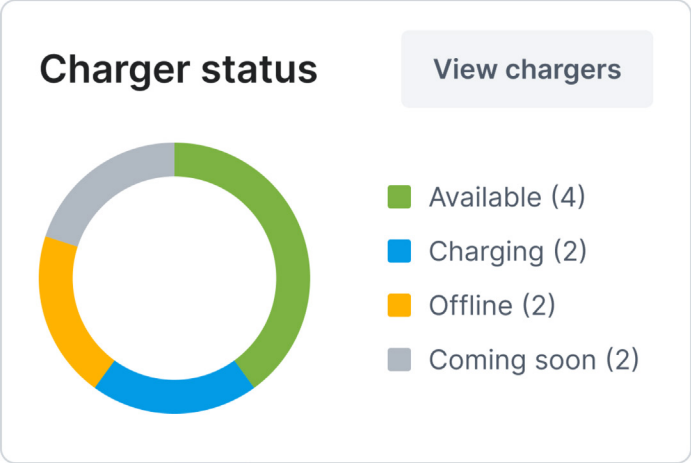
If you manage multiple sites, use the **location switcher** to display data for a specific location. Or select **All locations** to show data for all the sites you manage.

Use the **account settings (My account)** button to **change language** or **log out** of your account. Eaton CNM's administrator portal currently offers full functionality in English, French, and Spanish.

The **dashboard content** area is where the information and controls for each page of the dashboard will be displayed.

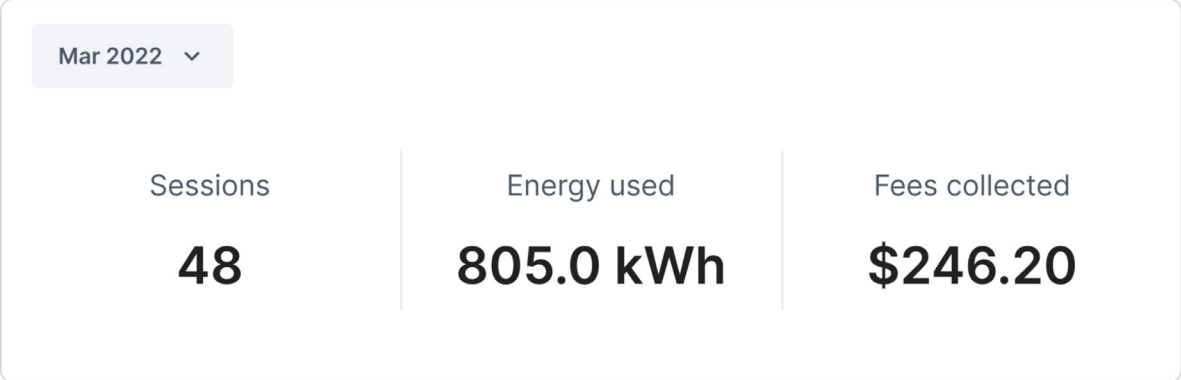
Overview page

Overview is the first page displayed when you log into your dashboard. You can return to the *Overview* page any time by clicking **Overview** from the sidebar. The *Overview* page contains:



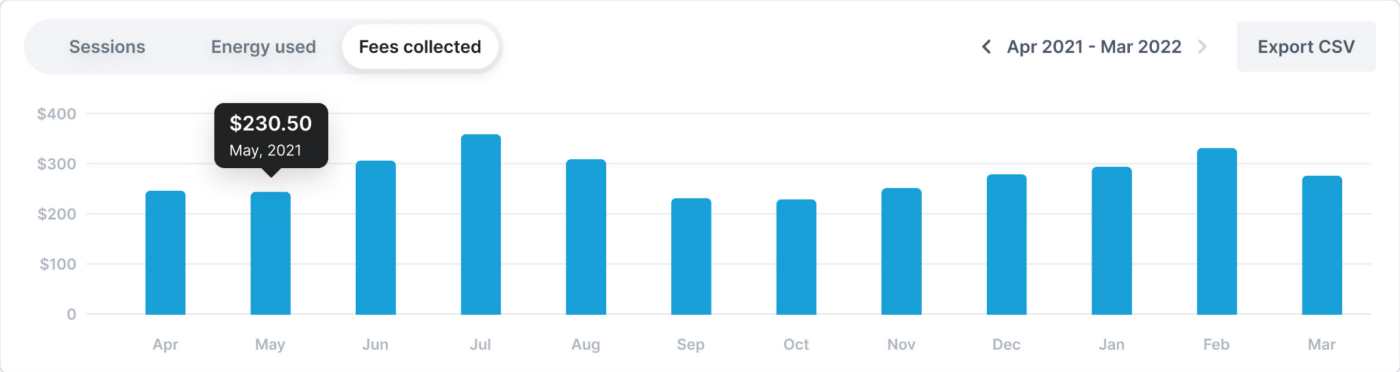
Charger status

Real-time status of all the chargers at the selected location. Click **View chargers** to be taken to the *Chargers* page for detailed management of individual EV chargers.



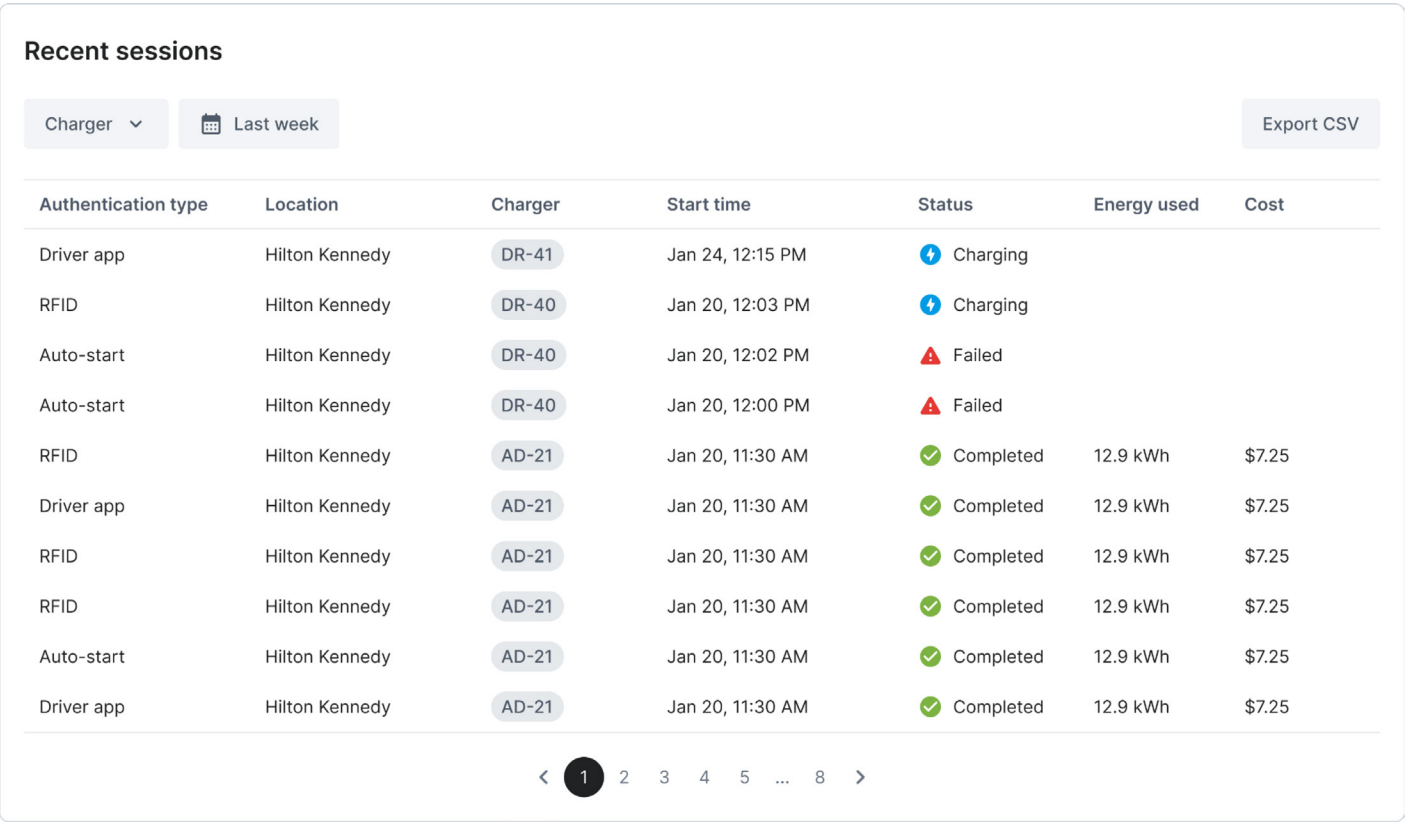
Monthly heads-up

A summary of key metrics for the selected month. By default, the monthly heads-up will show metrics for the current month. To view metrics for a previous month, click the **month name dropdown**.



Main chart

A visualization of key metrics for the selected time period. Click **Sessions**, **Energy used**, or **Fees collected** to change which key metrics are shown on the chart. Click the **back and forward arrows** to change the date range. To download the displayed data, click **Export CSV**. Note that if data for multiple locations is being displayed, each location will have its own line item in the downloaded .csv file.



Authentication type	Location	Charger	Start time	Status	Energy used	Cost
Driver app	Hilton Kennedy	DR-41	Jan 24, 12:15 PM	Charging		
RFID	Hilton Kennedy	DR-40	Jan 20, 12:03 PM	Charging		
Auto-start	Hilton Kennedy	DR-40	Jan 20, 12:02 PM	Failed		
Auto-start	Hilton Kennedy	DR-40	Jan 20, 12:00 PM	Failed		
RFID	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25
Driver app	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25
RFID	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25
RFID	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25
Auto-start	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25
Driver app	Hilton Kennedy	AD-21	Jan 20, 11:30 AM	Completed	12.9 kWh	$7.25

Recent sessions

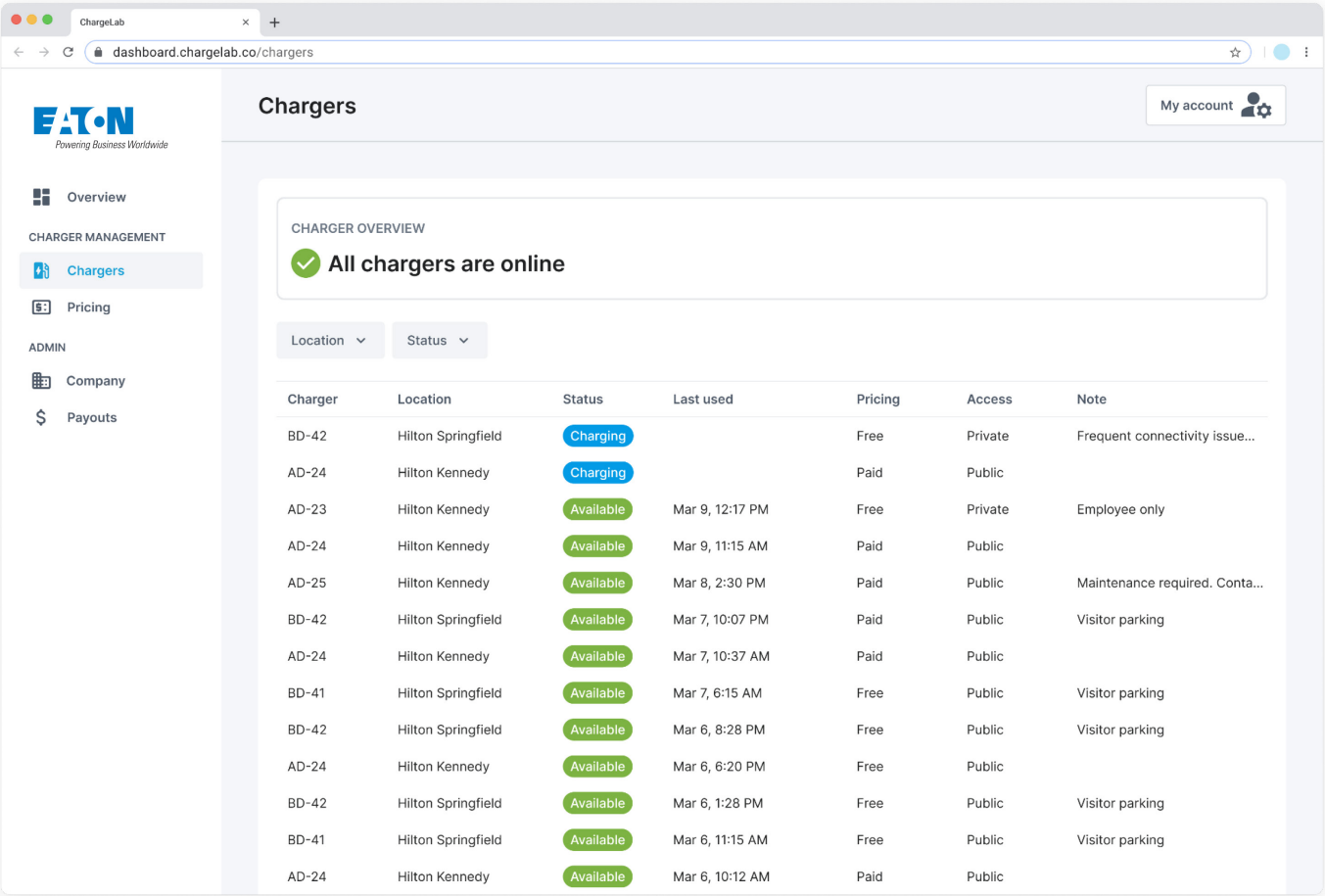
A report on the most recent individual charging sessions completed at the selected location. Click the **Charger dropdown** to filter sessions by specific chargers. Click **Last week** to change the time period. To download the displayed data, click **Export CSV**.

Charger management

The **CHARGER MANAGEMENT** section of your dashboard contains all the pages used to manage your EV chargers. This section is located immediately below the *Overview* tab in your dashboard's sidebar.

Chargers page

To access the *Chargers* page, click **Chargers** in the sidebar. By default, the *Chargers* page will show a list of all your chargers and their current status:



You can filter the charger list by clicking the **Location** and **Status** dropdowns above the list of chargers.

CHARGER OVERVIEW

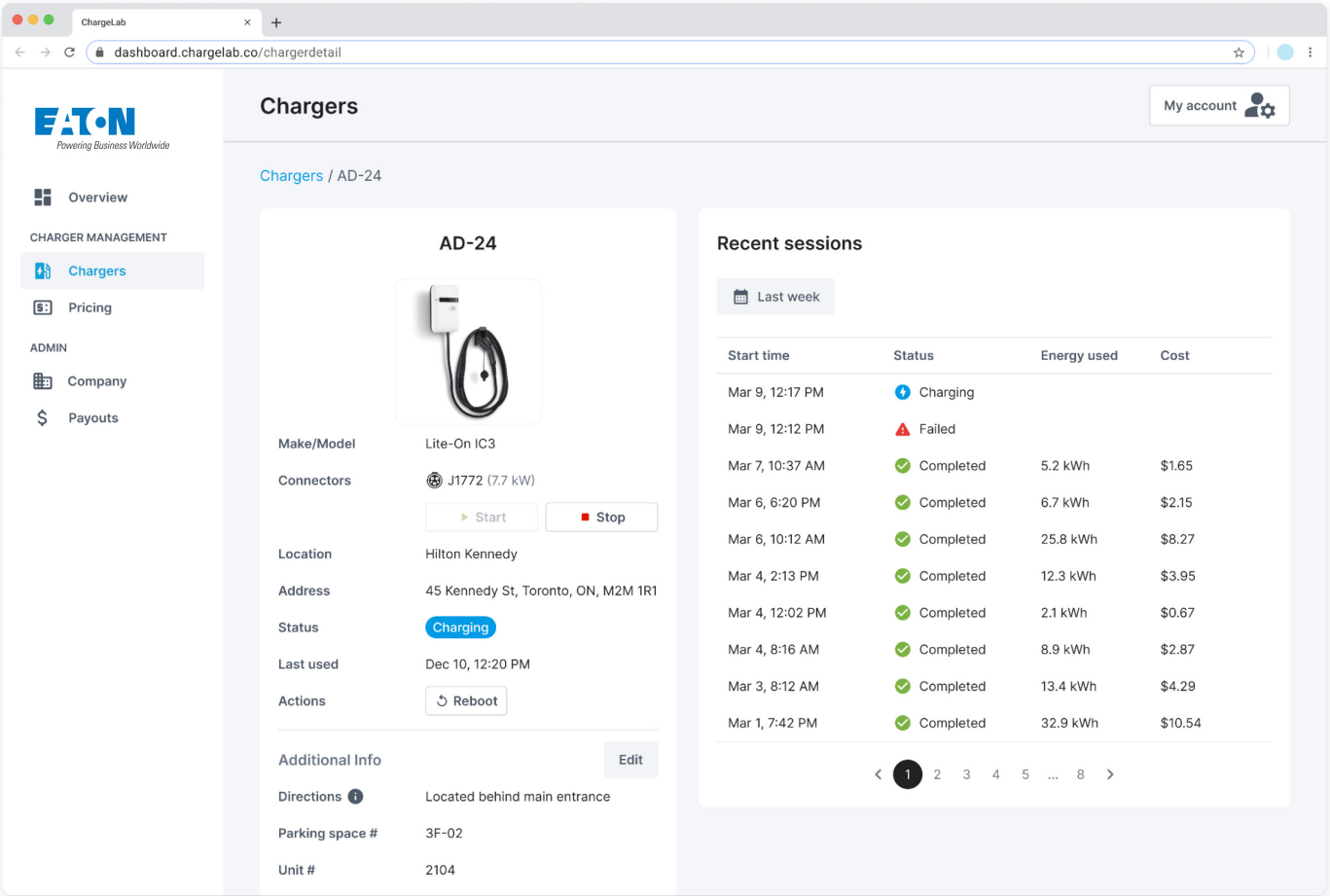
4 chargers may need your attention

The following steps often resolve common problems:

- Check the charger that needs attention is powered on
- Reboot the charger by flipping the breaker off and back on after 2 mins.
- Check the network connection. If the charger is connect via Wi-Fi, try rebooting the wireless access point.

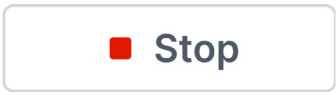
If there are issues with any of your chargers, they will be highlighted in the **CHARGER OVERVIEW** box at the top of the *Chargers* page. This includes malfunctioning chargers, offline chargers, and user-reported issues.

To see details for a specific charger, click on any row in the charger list to access the *Charger Detail* page. The *Charger Detail* page shows live and historical data for a single charger:



From the *Charger Detail* page, there are three actions you can take related to live operation of the EV charger:

The **Start button** immediately starts a charging session on the EV charger. Using the Start button in the administrator portal overrides any access control or pricing settings and provides a free charging session to any vehicle that is plugged in.



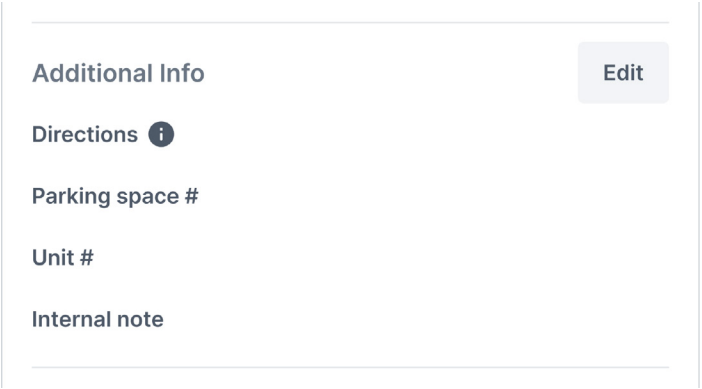
The **Stop button** overrides any ongoing session started by EV drivers or dashboard users to stop charging. It is only clickable when there is an ongoing charging session.

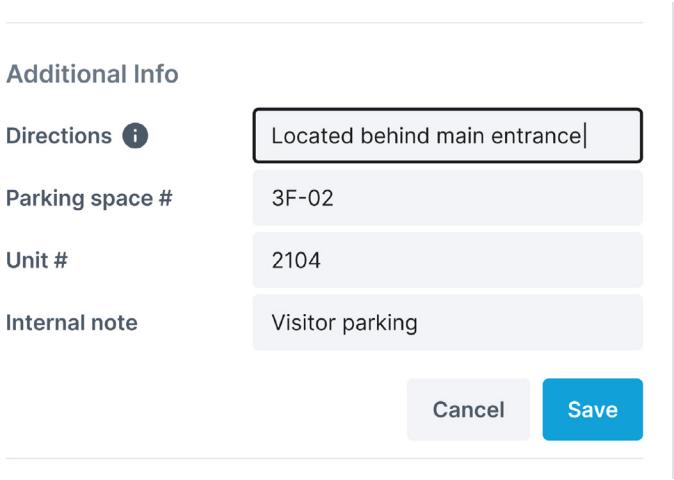
The **Reboot button** tells the EV charger to restart itself using a "soft reboot." Depending on the EV charger and firmware version, it will take between 30 seconds and several minutes to complete the soft reboot. Soft reboots do not resolve all issues. In some cases you may still need to perform a "hard reboot" by physically turning the charger off and back on at the breaker level.

In addition to Start/Stop/Reboot actions, the *Charger Detail* page is also the view to edit charger info, settings, and session history.

Charger info

To edit charger info, click **Edit** in the **Additional Info** section:



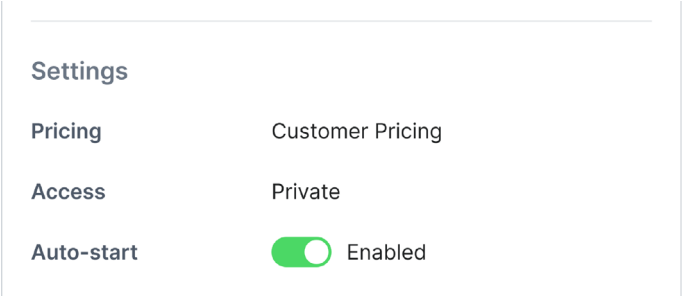


The **Directions** field should provide instructions to EV drivers for finding this specific EV charger. For public chargers, anything saved to the **Directions** field will be viewable on the Eaton CNM app and partner apps.

The **Parking space #**, **Unit #**, and **Internal note** fields are private. They will only be visible to other dashboard users and select EV drivers (e.g., the owner of a dedicated EV charger in a multi-family building).

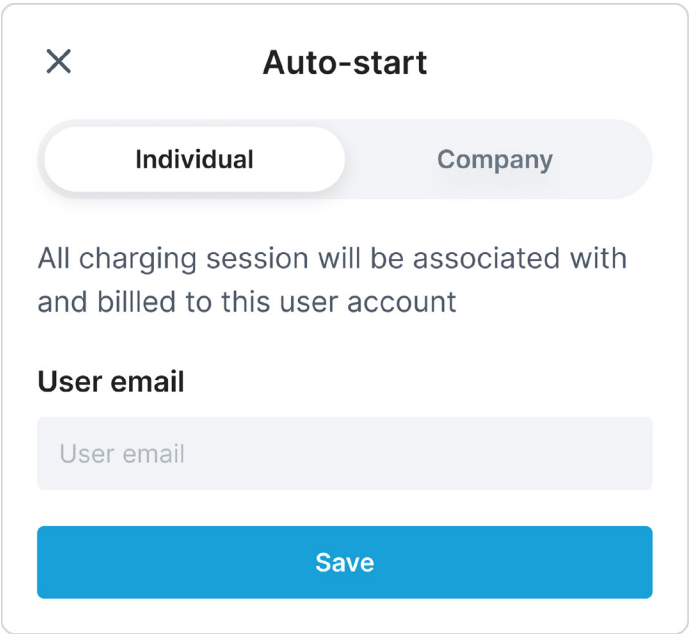
Charger settings (auto-start)

The **Settings** section shows current pricing and access settings for the EV charger you are viewing. These settings are only editable from the *Pricing* page of the dashboard. The *Charger Detail* page only provides information. However, you can enable **auto-start** from the *Charger Detail* page using the switch in the Settings section.



Auto-start removes the need to authenticate before using an EV charger. When auto-start is enabled, charging will start as soon as a vehicle plugs in. If a charger is monetized and auto-start is enabled, all transactions will either be billed to an individual user or a company account.

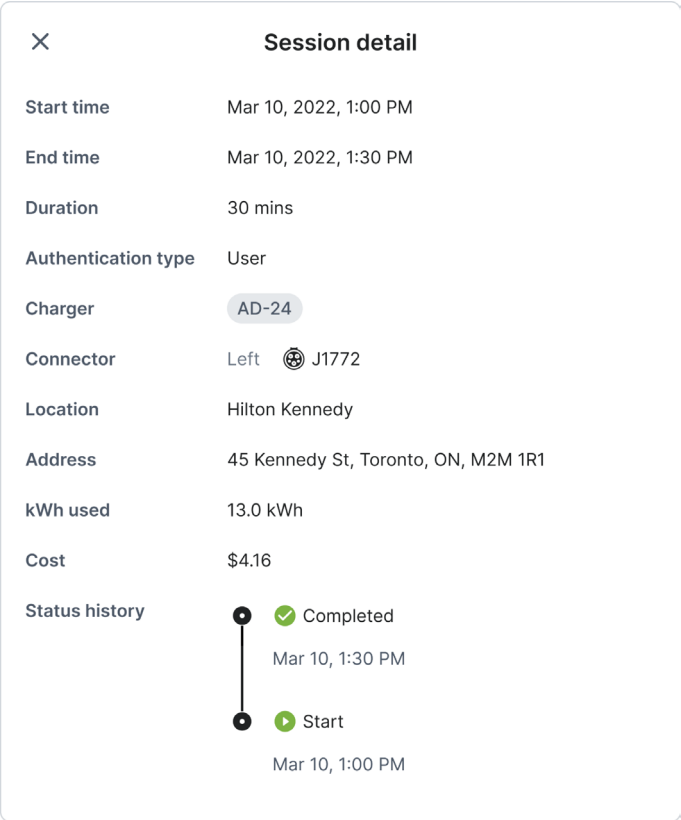
Auto-start is ideal for dedicated chargers in multi-family buildings. Residents with their own private charger can plug in without authentication just like they would with a single-family home charger, but all fees will still be billed to their account.



Recent sessions

The right-hand side of the *Charger Detail* page displays a summary of recent sessions for the specific charger. By default, the *Charger Detail* page loads sessions that occurred in the past week. To select a different time period, click the button that says **Last week**.

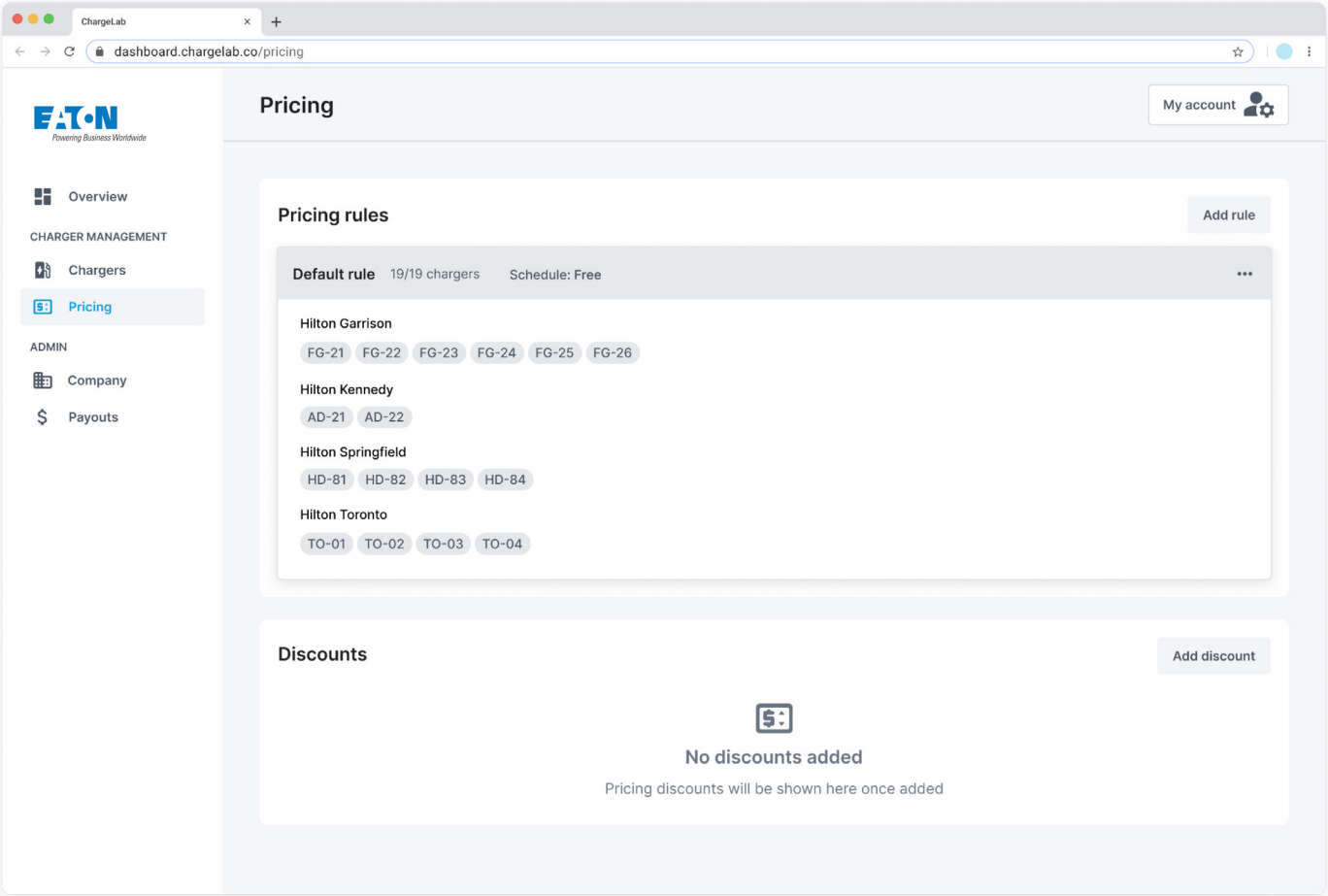
To see details about a single session, click the row containing the specific session in the **Recent sessions** box:



This same **Session detail** pop-up can be accessed from other parts of the dashboard, including the **Recent sessions** section of the *Overview* page.

Pricing page

To access the *Pricing* page, click **Pricing** in the sidebar. There are two main sections in the *Pricing* page: **Pricing rules** and **Discounts**.



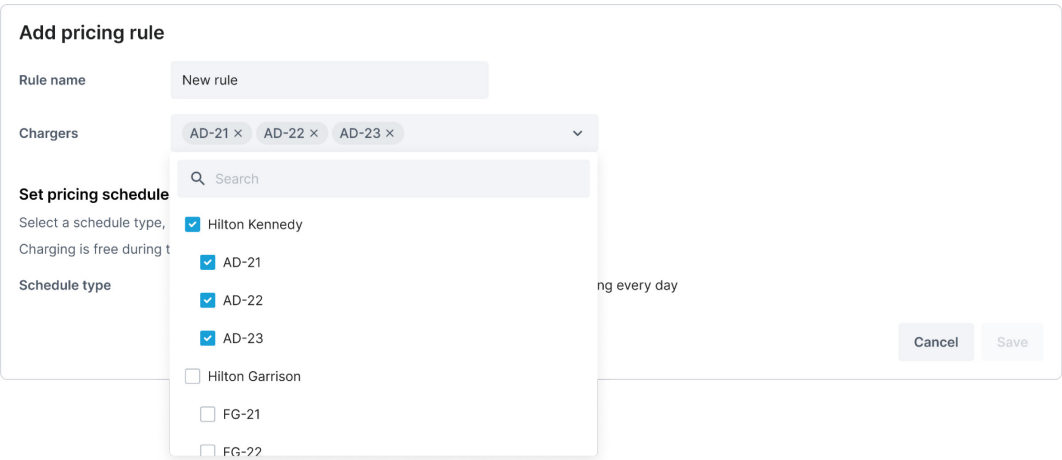
Pricing rules

Pricing rules determine the cost of EV charging sessions for the EV drivers who use your chargers. Every pricing rule in Eaton CNM's system has the following attributes:

- A **rule name** set by dashboard users to identify the pricing rule.
- A list of **chargers** that the pricing rule will apply to. When setting up your pricing rules, you can select individual chargers or entire sites.
- A **pricing schedule**. Eaton CNM supports billing different prices at different times during the day or week. You can set **per-day pricing**, **weekdays/weekend pricing**, or the **same pricing every day**. Within each of these options, you can also customize pricing down to each minute.
- A **rate**, which is the dollar amount that will be billed **per hour spent charging**, **per hour plugged in**, or **per kWh**. A kilowatt-hour (kWh) is the unit of energy used to measure EV battery capacity.

To create a new pricing rule, click **Add rule** in the top-right corner of the *Pricing* page.

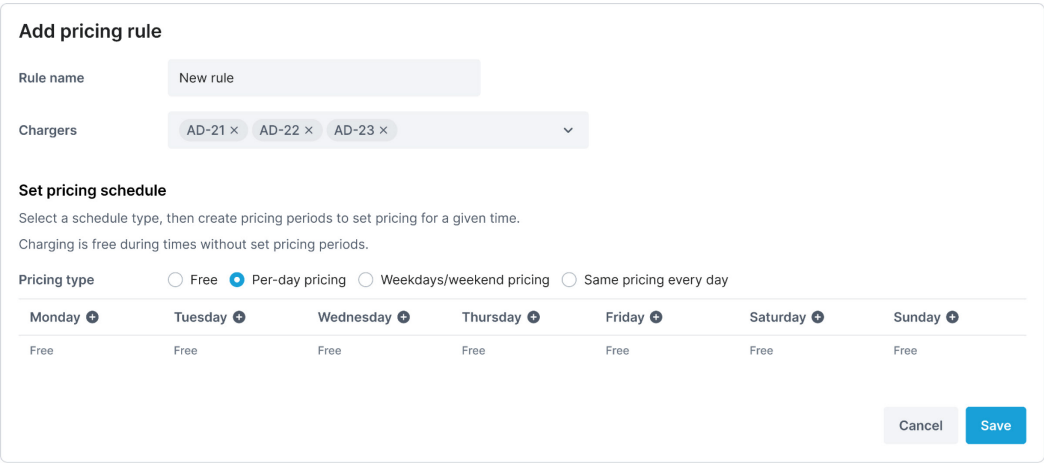
Choose a name for your new rule and type it into the **Rule name** field. The rule name should help you or other dashboard users in the future remember why this rule was created or which group of chargers it controls.



Click the dropdown that says **Select chargers** to choose which EV chargers this new pricing rule should apply to. Use the tick boxes to select entire sites or individual chargers, or search for a specific charger using the search field. There is no limit to the number of chargers you can include in a pricing rule.

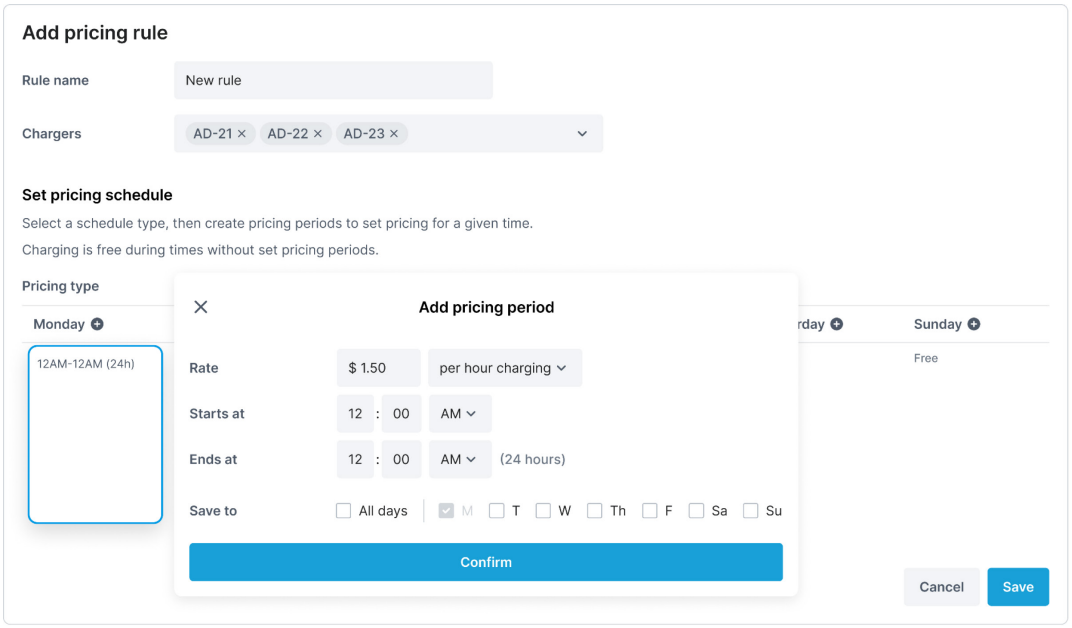
Next, select the pricing schedule type. If you want the chargers in this pricing rule to be free for all users, select **Free**. To set a unique schedule every day of the week, select **Per-day pricing**. For pricing that is only differentiated between weekdays (Monday to Friday) and weekends (Saturday and Sunday), select **Weekdays/weekend pricing**. For pricing that is the same every day, select **Same pricing every day**.

Once you've selected the pricing schedule type, the appropriate number of pricing period columns will appear. For example, with per-day pricing, a separate column will appear for each day of the week:



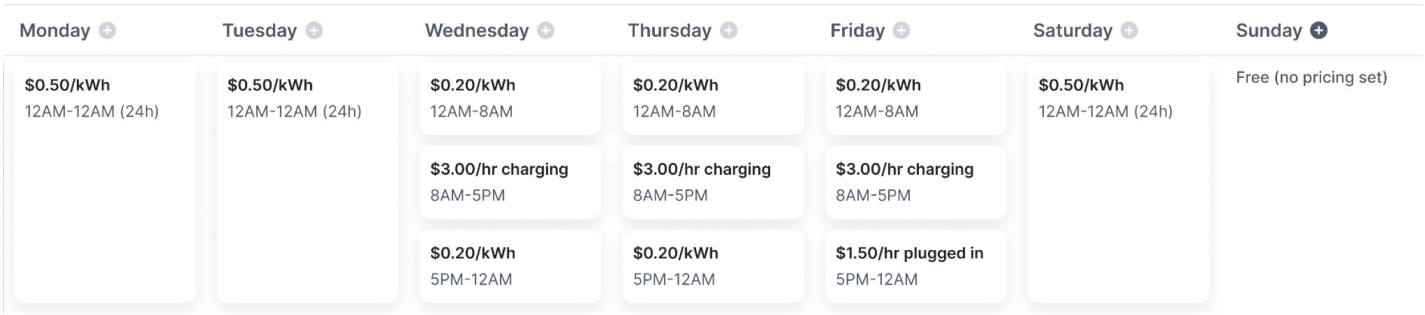
Finally, click **+** to add a **pricing period** for a specific day of the week or group of days.

Eaton CNM supports as many pricing periods as you need to set detailed time-of-use pricing schedules. For each pricing period, choose a **rate**, **start time**, and **end time**. Using the **Add pricing period** pop-up, you can also duplicate a pricing period across multiple days or group of days by clicking the tick boxes in the **Save to** row:

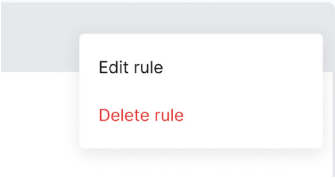


A finished pricing rule can be as simple as a single price all day, every day. Or it can be as complicated as the schedule below, mixing kWh pricing and per hour pricing across a dozen pricing periods.

Once you are finished creating your new pricing rule, remember to click **Save** before exiting the window.



In addition to creating as many pricing rules as you need, you can edit existing pricing rules. To edit a pricing rule, navigate to the main *Pricing* page and click the **...** button in the top-right corner of the pricing rule's box.



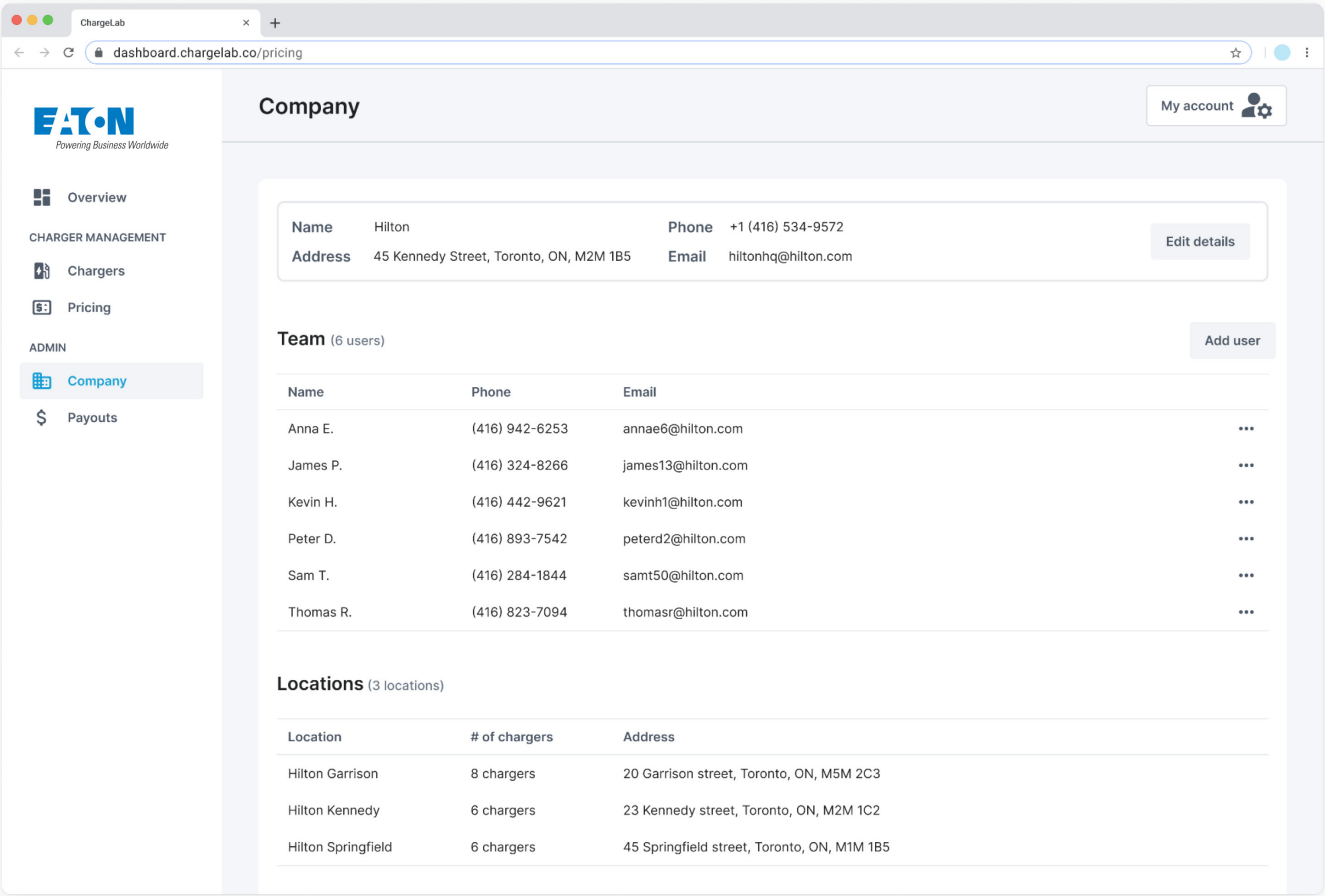
While Eaton CNM's pricing engine is very powerful, we recommend simple pricing rules if you are new to the EV charging site host. Too many pricing periods can confuse drivers and create frustration. Time-of-use pricing is ideal for controlled environments like multi-family buildings and fleet depots, where you can clearly communicate with end users about your pricing policy.

If you have questions about best practices for pricing rules, please email support@chargelab.co.

Admin

The **ADMIN** section of your dashboard contains all the pages used to manage your company's account, who has dashboard access, and payouts for monetized chargers.

Company page



To access your company management page, click **Company** in the sidebar.

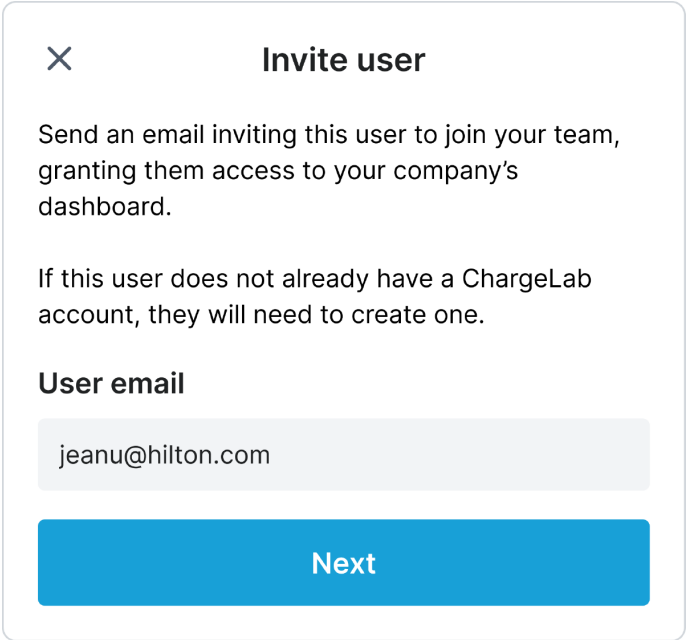
The *Company* page shows your company's profile, a list of authorized users for your administrator portal, and a summary of the locations (sites) linked to your company's profile:

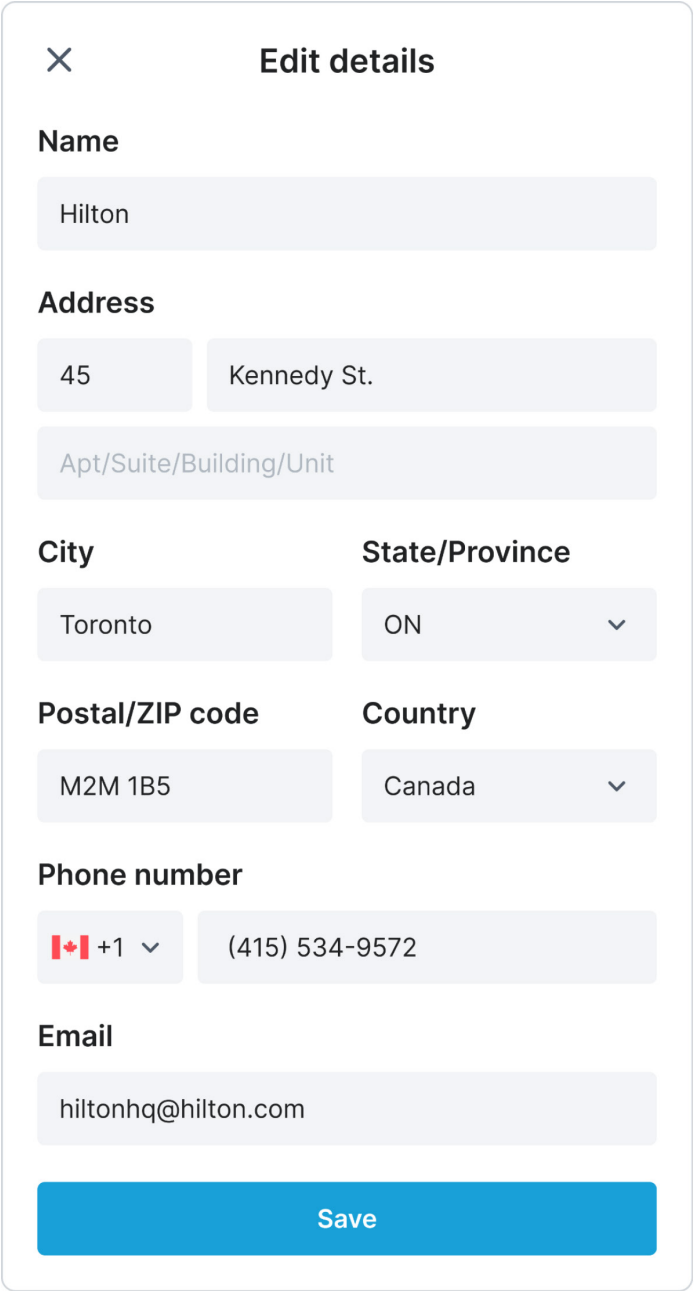
Edit company profile

To edit your company's profile, click **Edit details** in the top-right corner of the *Company* page.

This profile is your top-level account with Eaton CNM. It should not be the name or address of a specific site within your portfolio, but rather your top-level corporate billing address and contact details.

Add an admin user

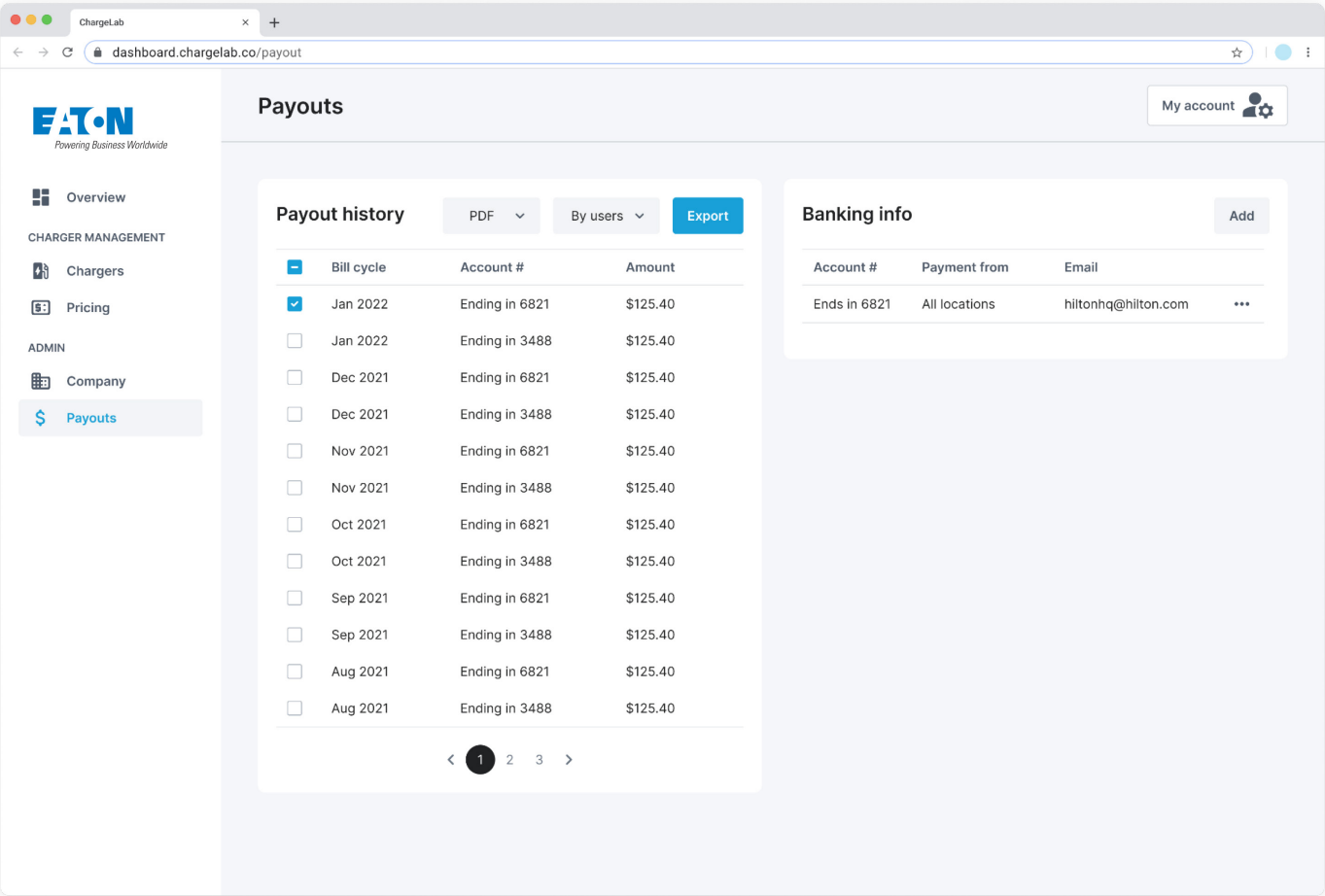




To invite a new admin to your administrator portal, click **Add user** from the *Company* page.

Enter the new user's email address, click **Next** and then **Done**. The new users will receive an email invite that they must accept in order to get access to your dashboard.

Payouts page



When pricing is enabled on your EV chargers, Eaton CNM collects fees from EV drivers through credit card payments on your behalf. We remit any fees owed to your company once per month to the bank account you provided during your onboarding.

The *Payouts* page summarizes the monthly remittances that Eaton CNM makes to your company. To access the *Payouts* page, click **Payouts** in the sidebar:

To download a payout report:

- Select a month from the **Payout history** list.
- Choose **PDF** or **CSV** for report format.
- Select the report type. **By users** provides a report where revenue collected is summarized by EV driver user account. **By chargers** summarizes revenue collected by charger ID.

Dashboard cheat sheet

There are many functionalities throughout Eaton CNM's administrator portal. The following index is a cheat sheet for quickly finding where to perform actions within the dashboard. It also provides page numbers for where you can find detailed instructions within this Site Host Guide.

Action (I want to...)	Dashboard page(s)	Guide reference
Log into my account	dashboard.chargelab.co	Page 15
Change the language of my dashboard	Any	Page 16
Add co-workers to your administrator portal	Overview and Chargers	Page 28
View live charger status	Overview	Pages 17 and 19
Visualize historic charging data	Overview	Page 17
Download CSV session history reports	Overview	Page 18
View a list of charging sessions	Overview and Chargers	Pages 18 and 23
See a list of my company's EV chargers	Chargers	Page 19
Troubleshoot chargers	Chargers	Page 20
Start charging/stop charging/reboot an EV charger	Chargers	Page 21
Edit an EV charger's description/details	Chargers	Page 21
Enable auto-start on a specific EV charger	Chargers	Page 22
View and edit charger pricing rules	Pricing	Pages 24 and 25
Create new charger pricing rules	Pricing	Page 24
Manage payouts of charger usage fees	Payouts	Page 29

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