



EVMC

EV-Master Controller 7700 Series User Manual

Model Numbers:

CS-EVMC-7700-4, CS-EVMC-7700-4-E

CS-EVMC-7700-4D, CS-EVMC-7700-4D-E

December 19, 2017

Contents

PROPRIETARY NOTICE 3

PRODUCT SAFETY..... 4

SYSTEM OVERVIEW 5

EVMC SYSTEM HARDWARE INSTALLATION: 7

VIEWING YOUR SYSTEM..... 11

 LOCATING YOUR UNIT ON YOUR COMPUTER SYSTEM 11

 VIEWING THE SYSTEM DASHBOARD..... 12

CONFIGURING YOUR SYSTEM..... 14

 CONFIGURING (EDITING) THE OUTLETS 14

 SETTINGS PAGE..... 15

 SCHEDULE PAGE 18

 ACCOUNTS PAGE 19

 ALL ON MODE..... 20

SYSTEM PAGE 22

EVMC RAW LOGS..... 23

Proprietary Notice

The material contained herein consists of information that is the property of Cyber Switching and intended solely for customer use in operating the EV-Master Controller product described in this guide. All specifications are subject to change without notice. Changes are made periodically to the information in this publication, and these changes will be incorporated in new editions.

Cyber Switching prohibits the duplication of any portion of this guide or the use thereof for any purpose other than the operation of the EV-Master Controller product described in this guide, without the express written permission of Cyber Switching.

Cyber Switching retains the patent rights to any and all processes and inventions developed during the course of performing work for the customer, unless specifically identified to the contrary in advance by the customer. The fact that this document may include a copyright notice does not in any way affect the proprietary status of this guide.

Copyright

Copyright © 2016 by Cyber Switching. All Rights Reserved.

Trademarks

Cyber Switching®, the Cyber Switching logo, ePower® and Cyber Breaker® are registered trademarks, and ePower® Manager™ and Virtual Circuit Breaker™ are trademarks, of Cyber Switching.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

All other brand or product names referenced in this guide are trademarks, registered trademarks, or service marks of their respective holders.

Cyber Switching
1921 Ringwood Avenue
San Jose, CA 95131 USA

Telephone: 1 (888) 311-6277

1 (408) 436-9830

Fax: 1 (408) 436-9828

Email: support@cyberswitching.com

Web site: <http://www.cyberswitching.com>

Visit the Cyber Switching Web site at http://www.cyberswitching.com/warranty_registration.aspx to register your product and activate your warranty.

PRODUCT SAFETY

Electrical Ratings:

The EVMC Control Unit is sold pre-mounted onto a back panel with wiring installed to simplify electrical connection to input and EV-charge station. The EVMC control unit itself (#2010202) is rated to the following electrical specifications:

Switched Input Power Supply Rating:
277 Vac, 60 Hz, 30A
240 Vac, 60 Hz, 40A

Switched Output: Four switched outputs, SPST, 5V NO contact.
Rating per contact:
277 Vac, 30 A, General Purpose
250 Vac, 2 hp, motor load
240 Vac, 40A, resistive

UL File & standards: PAZX/7.E206903UL916, standard for Energy Management Equipment CAN/CSA-C22.2 No. 205-12, standard for Signal Equipment

Rating for 5V-DC Power Supply: Input: 100-240Vac 50-60Hz / Output: 5Vdc, 2A

Fuse: 5A/240V (Input power to DC power supply)

Caution:

This device has not been evaluated by Underwriters Laboratories, UL LLC for branch circuit protection, over-current protection, or performing any other kind of limiting or safety function. The EVMC Control Unit (#2010202) has been evaluated as a load control switching device only.

Warnings:

1. The EVMC Control Unit is supplied pre-installed into a back panel assembly. Confirm all applicable NEC and local electrical codes regarding back panel assembly and compliance.
2. The EV-Master Controller is to be installed by a licensed electrician.
3. The EV-Master Controller only switches one pole of a 2 pole input. The second pole is shared directly to all charge stations across a common bus bar and is always energized. To avoid risk to electrical shock, disconnect both output lines prior to servicing an EV charge station connected to the EVMC.
4. Read all warnings and review in construction prior to initiating installation.
5. If equipment is used in a manner not specified by Cyber Switching, the protection provided by the equipment may be impaired.
6. The EVMC Master Controller is an open type construction and must be installed inside a UL rated electrical box prior to use by a qualified electrician following all applicable NEC and local electrical code.
7. Always ensure primary circuit protection is used for any supply input line.
8. Installation requires working with potentially hazardous voltage – ensure all hazardous voltages are off prior to installation or performance service.



Indicates the presence of potentially harmful electrical shock hazards.
De-energize circuit and consult instruction prior to operation

SYSTEM OVERVIEW

The Electric Vehicle Master Controller (EVMC) is offered pre-mounted onto a back-panel assembly and is supplied as is or installed into a NEMA-3R electrical enclosure. The two electrical configurations available for back-panel connection to input powers are (1) Single Input or (2) Direct Input. System overview and installation instructions are detailed separately below. Both products utilize the same Control Unit and software.

EV-MASTER CONTROLLER, SINGLE INPUT PRODUCT CONFIGURATION:

Model Numbers:

CS-EVMC-7700-4

CS-EVMC-7700-4-E

EV-Master Controller, Single Input

EV-Master Controller, Single Input, in NEMA-3R Enclosure

As shown in figure 1, the EVMC distributes input power from a single 2-pole input line in a sequential fashion to supply power to four 32A level-II car charging stations or eight 16A level-II charge stations. This configuration is optimal for fleet charging or other daily use applications like an office or hotel, where users will be connected for several hours.

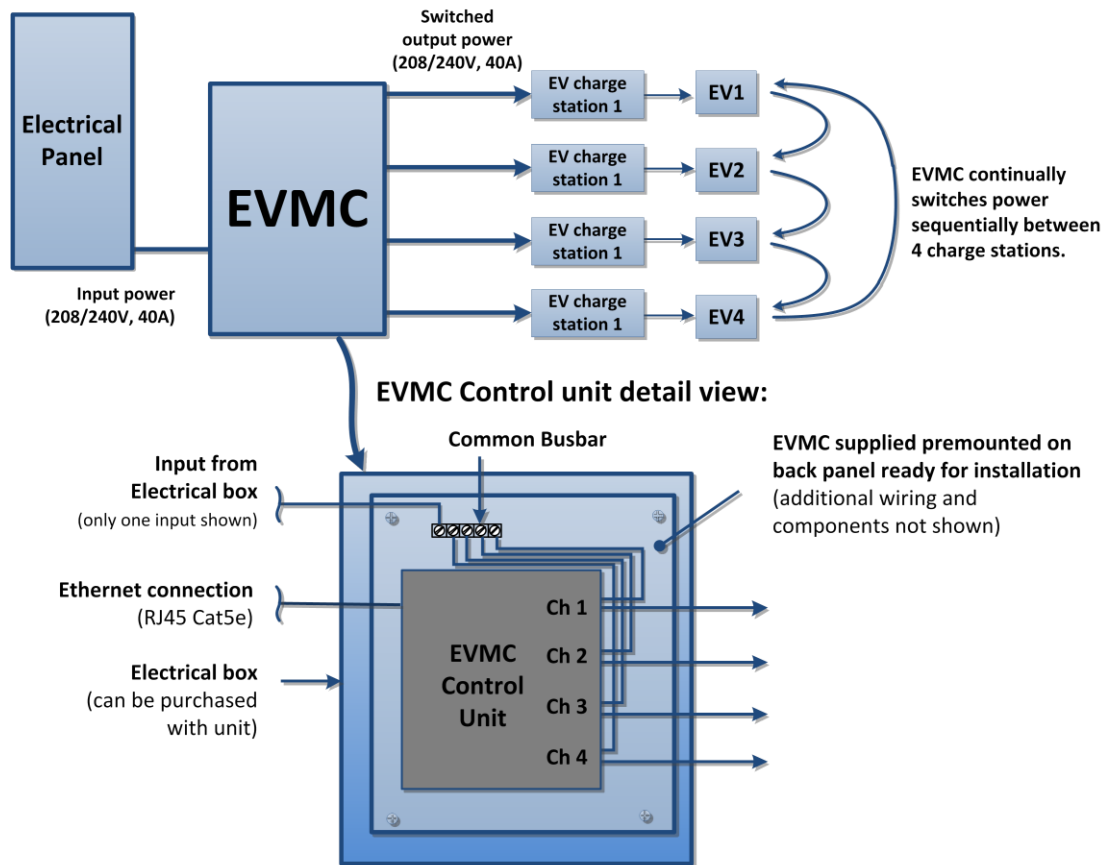


Figure1: Schematic for single input EVMC system showing installation and the sequential rotational sharing of chargers connected to the device. Note: Typical input power is single phase 2pole. Input line 2 is not shown in figure above but connects directly to all outputs via a common input bus bar. See warning 3 regarding required disconnect during service.

The EVMC controller cycles through a 4 channel switching process according to the default and/or user defined parameters. During operation the EVMC will detect if an electric vehicle is connected to charge station as it cycles. If no vehicle is detected or if the vehicle has a full charge, the controller will automatically move to the next charge station to maximize charge times for all vehicles and ensure all vehicles are charged over the work day.

EV-MASTER CONTROLLER, DIRECT INPUT PRODUCT CONFIGURATION

Model Numbers:

CS-EVMC-7700-4D

CS-EVMC-7700-4D-E

EV-Master Controller, Direct Input Configuration

EV-Master Controller, Direct Input Configuration, in 3R Enclosure

As shown below in figure 2, the direct input product configuration has individual 2-pole power inputs for each of the four channels of the EVMC controller. Unlike the single input configuration, there is no common bus bar for shared rotational distribution of load. With the direct input configuration the system can be set to an “all-on” software mode, where all charge stations are energized allowing cars connected to a charger on the system to charge in an on-demand fashion. However, during peak rate times or during off-peak parking times, the system can be set to a **rotational mode**, activating one charge station at a time (see note in fig2 below) limiting total system load to that of an individual charger rather than all 4 chargers at once. This allows charge systems to avoid costly peak rate charges that boost electrical rates from cents per kWh to multiple dollars (See table 1)

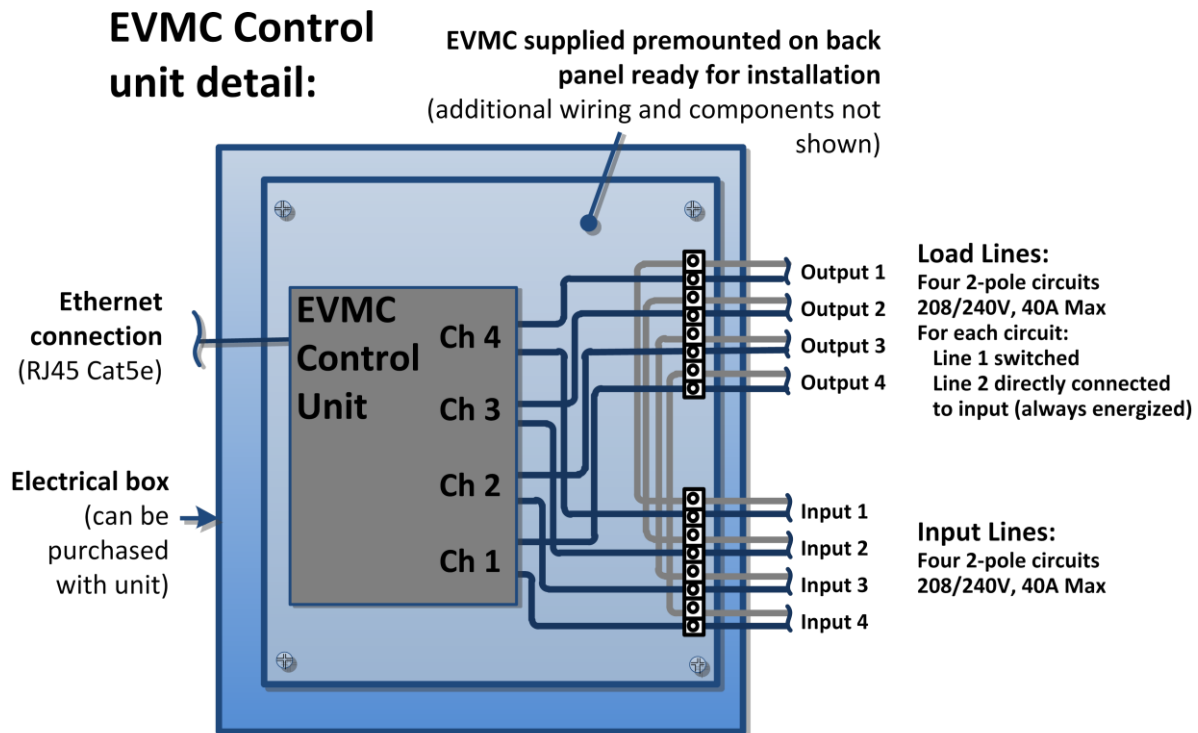


Figure 2: Schematic of Direct Input product configuration. The back panel has separate input terminals for each switched channel. Up to 4 separate 2-pole input lines can be controlled. Note: Switching occurs only for one line of the 2-pole input, the second line is not switched and connects directly to each output as shown in figure, see warning 3 regarding required disconnect during service.

Operational Mode	Operation Status	Application:
All-On	All connected charge stations energized	During hi-demand / high-turnover usage (retail space, EMS, etc.)
Rotational Mode	Sequential activation of charge stations, only one channel activated at any one time	During peak rate hours or during off-peak fleet parking.

Table 1: Available operational modes for the Direct Input EVMC.

EVMC SYSTEM HARDWARE INSTALLATION:

INSTALLATION OF THE SINGLE INPUT PRODUCT CONFIGURATION (Models CS-EVMC-7700-4, CS-EVMC-7700-4-E)

The assembly is an open type construction and must be mounted inside a UL rated electrical box prior to use. Figure 3 below identifies major components for the product.

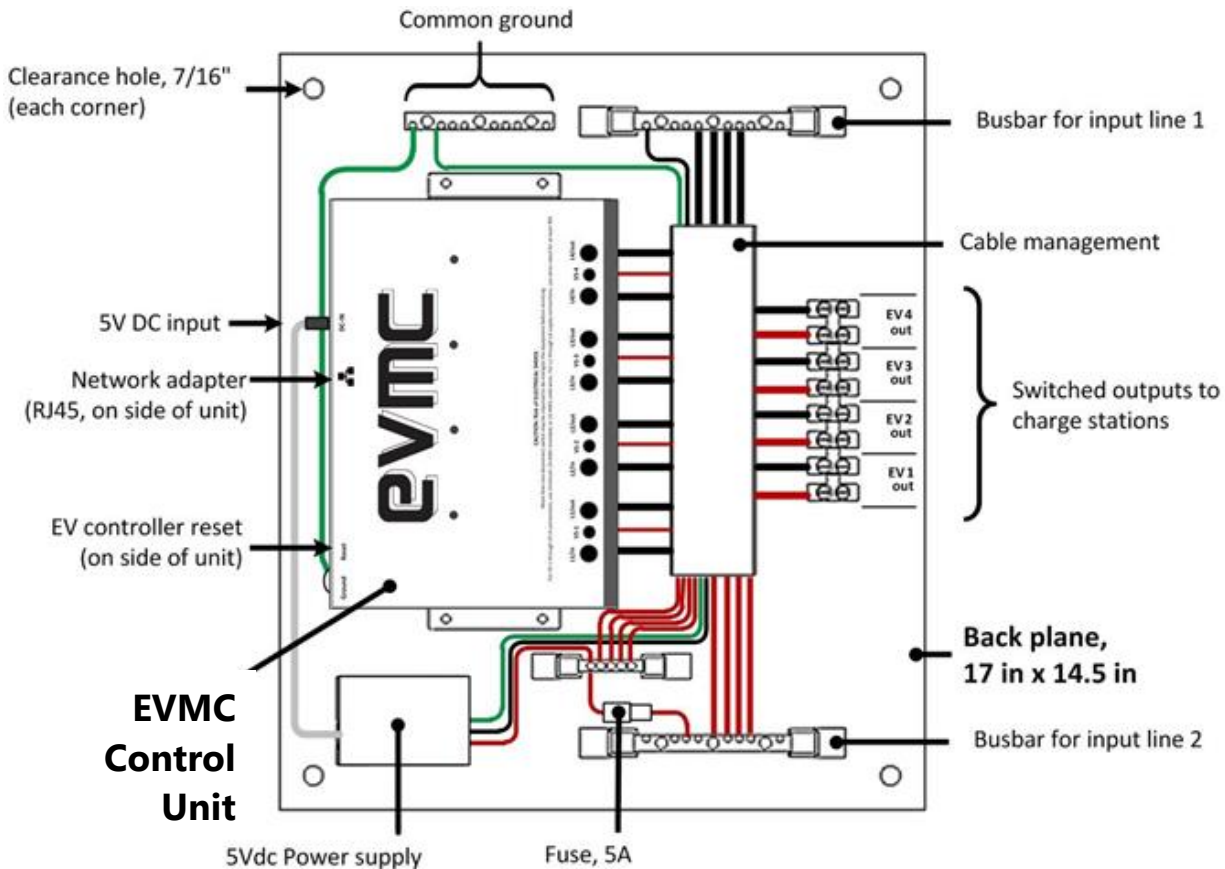


Figure 3: EVMC product assembly (CS-EVMC-7700-4). Note that only line-1 is switched and that line-2 is connected directly to each charge stations from across a common bus bar.

Procedure

1. Select a location to mount the electrical enclosure of the EV-Master Controller. Follow all applicable local and NEC codes when selecting an appropriate location. Always ensure primary circuit protection is used for any supply input line.
2. Drill access holes for input power, output power to EV charge stations (up to 4) and for network cable (Cat5e/6). Run conduit and cabling securement following local and NEC code requirements.
3. For 3 wire input (2 hot/1 ground) connect lines at the following locations (see figure 4):
 - a. Hot line 1 (black) from input to an available lug on the common busbar for line 1.
 - b. Hot line 2 (red) from input to an available lug on the common busbar for line 2.
 - c. Input ground to an available lug on the common ground.

Note: Busbar and internal lines are color coded. Ensure input lines are connected to busbar having the same color as the insulation of the input line.

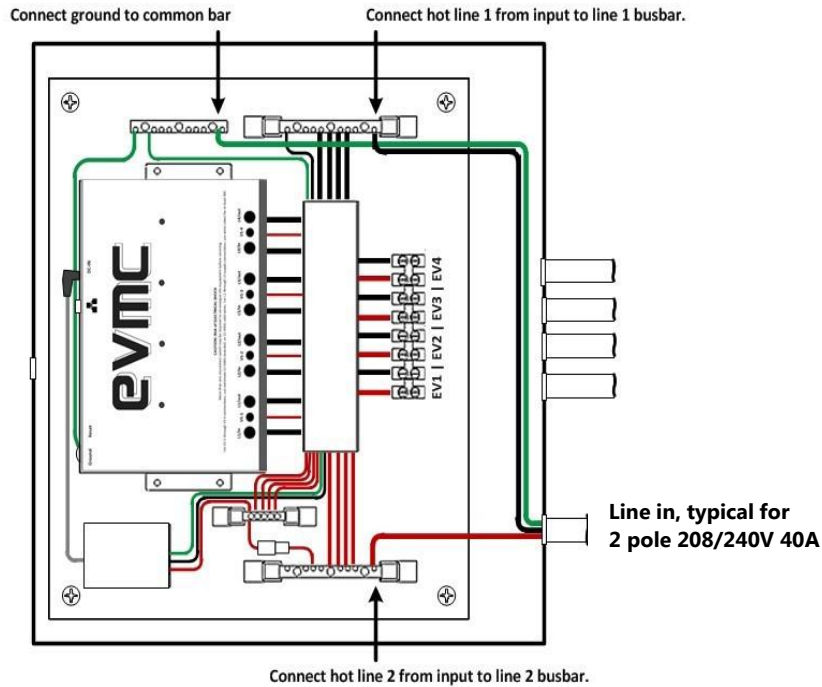


Figure 4: Input line connections to EV-Master controller, typical for 2 pole 208/240V shown above.

4. Connect line outs to each EV station following a similar sequence (see figure 5):
 - a. EV station 1 output line 1 (black) connect to EV1 / line 1 on output terminal block (black)
 - b. EV station 1 output line 2 (red) connects to EV1 / line 2 output terminal block (red).
 - c. EV station 1 ground connects to common ground.

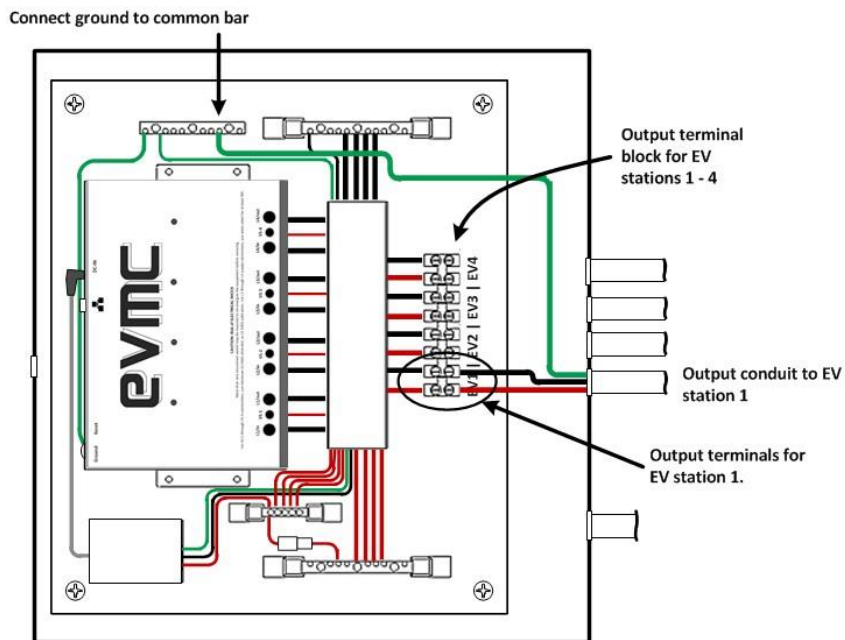


Figure 5: Connection of output power to EV station 1

- d. Connect network cable to network port on EV-Master Controller as shown below. Note in figure 6, input and output grounds for the EV stations are not shown for clarity.

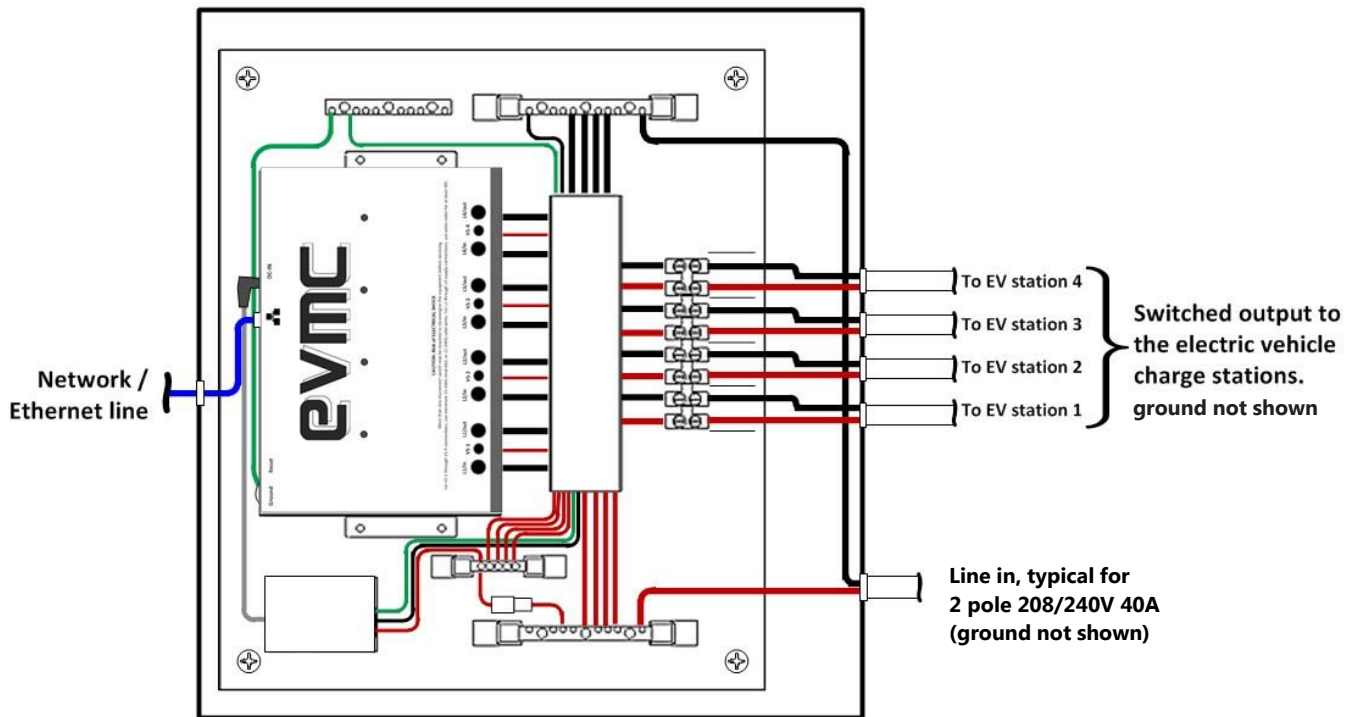


Figure 6: Connect Network cable (Cat 5e or 6) to the RJ45 Network port on the EVMC controller as shown blow. Ensure all input and output connections are as per NEC and local codes. Ground for input and output lines are not shown for clarity.

5. Mechanical installation is now complete. Inspect installed unit and all input, output and ground connections are secure to local and NEC codes and that any loose material or debris is removed from the inside area of the box.
6. Close input breaker to energize circuit.
7. Confirm operation by observing 4 active LED lights on EVMC control unit. Unit will switch relays 1-4 for 2 complete cycles when initially energized; red LED indicates open relay, green LED indicates closed (indicating charge station powered through relay is energized). If no load is detected (indicating no car is parked to any charge station), the unit will go into a standby mode, leaving all relays closed (once a load is detected on a channel, the system automatically opens the remaining channels, and starts timed rotation).
8. When operation is confirmed close panel door.
9. If required, the software interface of the unit can be configured at this time.

**INSTALLATION OF THE DIRECT INPUT PRODUCT CONFIGURATION
(Models CS-EVMC-7700-4D, CS-EVMC-7700-4D-E)**

Figure 7 below shows the CS-EVMC-7700-4D Direct Input EV-Master Controller. For this product configuration, the back-panel has isolated input and output terminal blocks to allow connection of unit to up to four separate 2-pole input lines. Outputs to the charge station are connected to the indicated positions on the output terminal block.

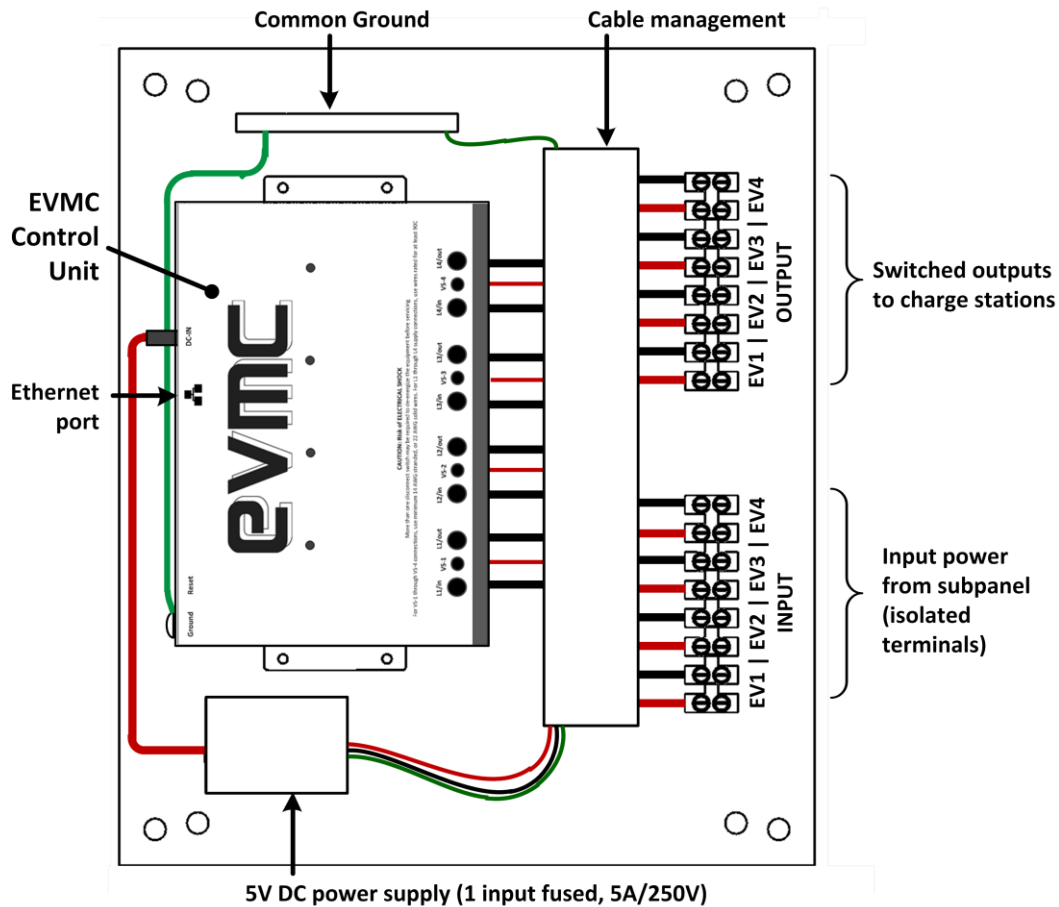


Figure 7: Component identification for the Direct input EV-Master controller.

Hardware Installation Procedure

1. Select appropriate location for installation of enclosure and EVMC. After mounting enclosure, drill clearance holes for line in / line out and Ethernet (if used).
2. For three wire 208/240V connection, secure 2-pole input power to the input terminal block. Always connect at least one input to the EV1 terminal block location as this terminal also powers the 5V DC power supply for the unit. Connect input ground at common ground terminal block.
3. Connect 2-pole output to EV1 at the indicated terminal set of the OUTPUT terminal block. Ensure ground to EV1 connected at common.
4. Repeat for all remaining EV charge stations to be powered by EVMC.
5. If using Ethernet, connect using Cat5e or 6 cable at the network port.
6. Close input breakers to activate unit.
7. Unit will switch relays 1-4 for 2 complete cycles when initially energized. If no load is detected (indicating no car is parked to any charge station), the unit will go into a standby mode, leaving all relays closed (once a load is detected on a channel, the system automatically opens the remaining channels, and starts timed rotation).
8. When operation is confirmed close panel door.
9. If required, the software interface of the unit can be configured at this time.

VIEWING YOUR SYSTEM

LOCATING YOUR UNIT ON YOUR COMPUTER SYSTEM

The EVMC is network enabled and its operation and the device settings can be updated through the System Dashboard. For DHCP enabled networks, use IP or hostname (username: admin, password: password). For non-DHCP enabled, the default unit IP is 192.168.1.1. Contact your system administrator if you need assistance finding the IP address of the unit.

Once you have credentialed into the system you will be on the main system dashboard. The following pages will help you set up the device.

NOTE: You can find the device on your network by matching up the MAC Address which is identified on the unit label applied to the EVMC Controller (see figure below).



Figure 8: MAC and SN are listed on the side of the controller unit.

VIEWING THE SYSTEM DASHBOARD

Once logged onto the system, you will see the EVMC dashboard as shown below (for initial logon user username: "admin", password: "password"). Reference letters in the view refer to definitions called out on the next page.

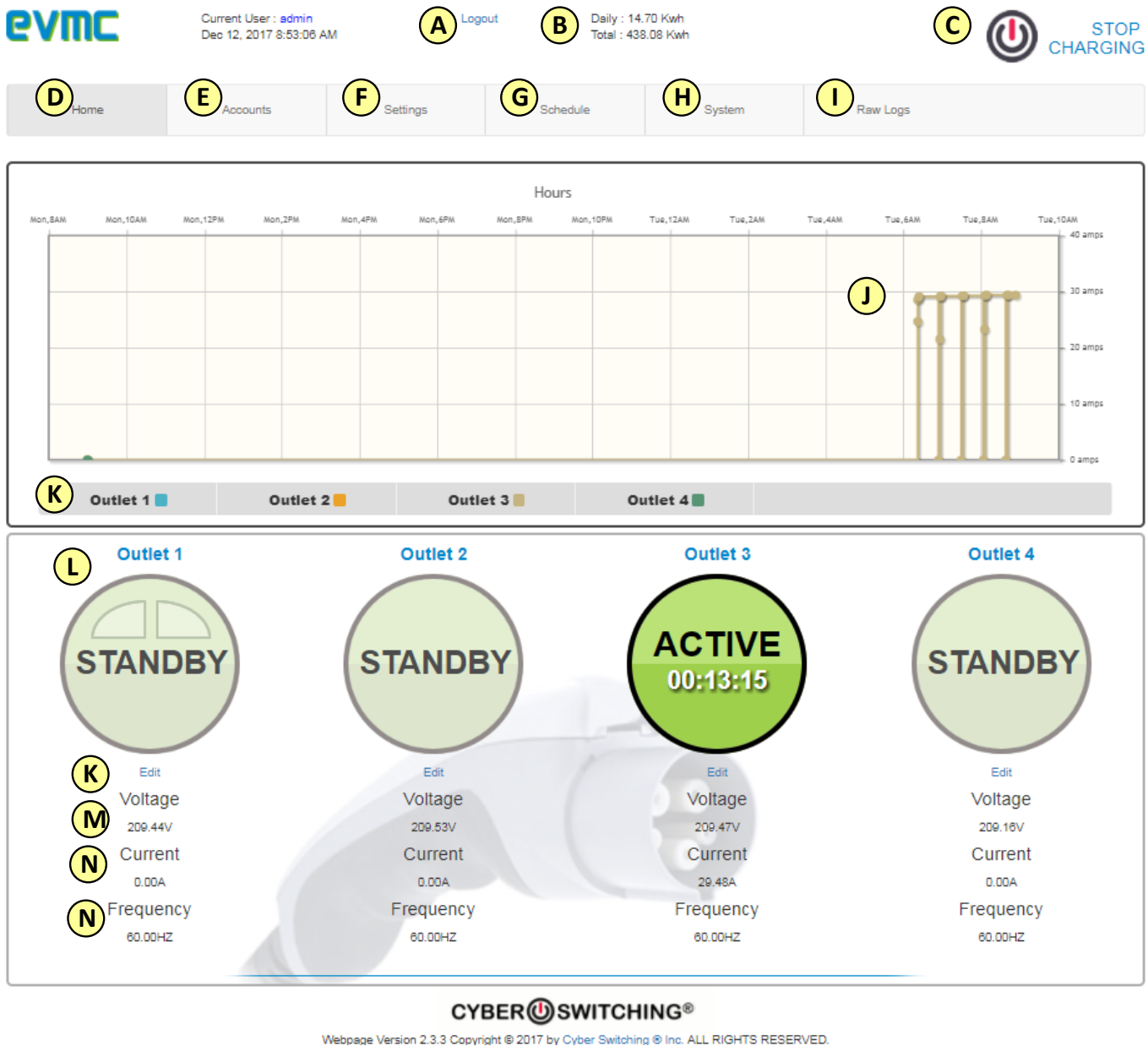


Figure 8: System Dashboard, Home Screen. See explanation of screen functions on next page. In the view shown, Channel Outlet 3 is charging and reporting a load of 30A as indicated by the green active button. Note a timer shows within the channel it has been active for 13 minutes.

A) Logout Link

Clicking the Logout link will log you out of the system.

B) kWh Usage

Reports the kWh usage for the EVMC unit. Daily reports usage for current day and resets every 24 hours. Total reports accumulated kWh usage for EVMC unit and is resettable.

C) Start / Stop Charging Button

Selects for starting or stopping the shared rotational function of the unit.

D) "Home" Page button

Clicking the home button will always return the user to this page.

E) "Accounts" Page Button

Defines system users as needed and charges they have administrative control.

F) "Settings" Page Button

Brings the user to the device settings page for defining system name, network settings, outlet configuration and rotation vs. all on mode.

G) "Schedule" Page Button

Activating the Schedule Button allows operation of the system for predetermined times during a 7 day calendar week.

H) "System" Page Button

Displays device information and buttons for system reboot or reset to factory defaults.

I) "Raw Logs" Page Button

Shows the events recorded by the unit. The system currently logs the last 250 events.

J) Real-Time Usage Chart

Graphically displays real-time demand of vehicles plugged into the charge system. Demand is displayed by amp load per charge station and displayed as load shown over the prior 24 hours.

K) Outlet Usage Chart Toggle Buttons

For toggling a particular outlet to only see that outlets demand usage in the Real-Time Usage Chart.

L) Outlet Name

For customizing the name for each outlet as needed.

M)Outlet Edit Link

Opens the detail page for modifying outlet name, enabling outlet or setting virtual circuit breaker or outlet alerts.

N) Voltage Display

Voltage for outlet

O) Current Display

Current for outlet

P) Frequency Display

Frequency for outlet

CONFIGURING YOUR SYSTEM

Through the dashboard interface the EVMC can be configured to best meet the needs of your charging system. This section details available settings and the steps to configure operation of the unit.

CONFIGURING (EDITING) THE OUTLETS

The dashboard page will show the identification and status for channels 1-4 (or outlets) of the EVMC. To customize the settings for a channel, press the EDIT button (see (K), figure 8) to bring up the edit outlet dialogue box.

On the **Outlet Details** section of this window (see figure 9 below) customizable features are outlet name, outlet voltage monitoring and outlet enabling. When the AUTOMATIC VOLTAGE box is checked, the unit monitors system voltage directly (automatically). When not checked, enter a system voltage level in the box directly below. For almost all applications leave the automatic voltage checked.

Outlet Alert Configuration is used to enable Cyber Switching's Virtual Circuit Breaker (VCB) function, plus low and high current alerts. VCB allows you to set an overcurrent switch and max grace time for a given channel. The alert function will post high and low current alerts to the dashboard based upon setting.

Always remember to press SAVE SETTINGS when modifications are entered.

The screenshot displays the EVMC web interface for editing an outlet. At the top, the EVMC logo is on the left, and 'Current User: jimh' and 'Logout' are on the right. Below the logo, there are navigation tabs for 'Home', 'Details', and 'Raw Logs'. The main content area is titled 'Outlet 1 details' and contains the following fields:

- Name: Outlet 1
- Automatic Voltage
- Voltage: 120.75
- Current: 0.00 A
- Frequency: 60 Hz
- Outlet Enabled

A 'Change Details' button is located below these fields. The 'Outlet 1 Alert Configuration' section is divided into three columns:

- Virtual Circuit Breaker:** Enabled, Max Grace Period: 0 Secs, Threshold value: 0.00 Amps
- Low Current Alert:** Enabled, Max Grace Period: 0 Secs, Threshold value: 0.00 Amps
- High Current Alert:** Enabled, Max Grace Period: 0 Secs, Threshold value: 0.00 Amps

A 'Save Configuration' button is positioned at the bottom right of the form.

Figure 9: Edit Outlet page

SETTINGS PAGE

The SETTINGS page is an administrative level page for configuring the unit for operation. This page is not accessible to viewer or user level privilege. This page is shown below in figures 10A, 10B, 10C and 10D.

The screenshot displays the EVMC Settings page. At the top left is the EVMC logo. To its right, it shows 'Current User : admin' and 'Dec 12, 2017 9:57:49 AM'. Further right is a 'Logout' link. Below this is a navigation bar with tabs for 'Home', 'Accounts', 'Settings' (which is active), 'Schedule', 'System', and 'Raw Logs'. The main content area is divided into three sections: 'General Settings', 'Network Settings', and 'Outlet Settings'.
General Settings: Includes input fields for System Name (EVMC V9_2.3.3), System Location (Cyber Switching Inc.), System Contact (http://www.cyberswitching.com), and System Email. There are checkboxes for 'Enable Quota', 'Auto Start Rotation' (checked), and 'Enable all channels'. A note below states 'Note: Enabling start all channels'. A 'Save General Settings' button is at the bottom.
Network Settings: Includes a MAC Address field (00:09:E8:10:10:62), Host Name (EVMC), and an 'Enable DHCP' checkbox. Below are input fields for IP Address (10.0.3.134), Subnet Mask (255.255.255.0), Gateway (10.0.3.1), Primary DNS (10.0.2.10), and Secondary DNS (8.8.8.8). A 'Save Network Settings' button is at the bottom. A warning message in a pink box states: 'Warning! Changing IP address cause device to lose the network connectivity with this device, after changing the network settings enter the new IP address manually to connect this device.'
Outlet Settings: This section is partially visible at the bottom of the page.

Figure 10A: Settings Page

The **General Setting** section of this page is for input of system identification and location. Additional prompts for ENABLE ALL CHANNELS is in this location. Use of ENABLE ALL CHANNELS function is detailed later in this document in a separate section and is only reserved for Direct Input Product Configuration (CS-EVMC-7700-4D / -4D-E). Do not enable this function for the Single Input Product Configuration at any time (CS-EVMC-7700-4 / -4-E).

The **Network Settings** section sets communication to either DHCP or static network addressing and inputs for updating addressing. To set dynamic IP check the ENABLE DHCP box. For long term monitoring, it is recommended disable DHCP (by clicking on the check to remove it), please confirm with your local computer network administrator for recommended settings and addressing.

The screenshot displays three sections of the settings page:

- Outlet Settings:** A grid of four outlet configuration panels (OUTLET #1 to #4). Each panel includes a 'PREFERRED OUTLET' checkbox, a text input for the outlet name, an 'Enable Cyber Dual Charge Feature' checkbox, and a 'Rotation Interval' dropdown menu set to '30 Sec'. A 'Change Details' button is located at the bottom right of this section.
- SNMP Settings:** A section for configuring SNMP. It has radio buttons for 'SNMP v2c' and 'SNMP v3'. Under 'SNMP v3 Settings', there is a yellow informational box. Below it are fields for 'SNMP v3 User' (snmpadmin), 'Current Authentication Level' (authpriv), and 'Change Authentication Level' (authpriv). There are also fields for 'SNMP v3 Authorization' (MD5) and 'SNMP v3 Privacy' (AES), each with a 'Passkey' and 'Confirm Passkey' field. A 'Save SNMP Settings' button is at the bottom.
- SNMP Trap Settings:** A section with an 'Enable SNMP Trap' checkbox, a 'Receiver IP Address' field (0.0.0.0), and a 'Port' field (162). A 'Save SNMP Trap Settings' button is at the bottom.

Figure 10b: Settings page, continued.

The **Outlet Settings** page is for identifying the outlet and for designating rotational priority of the channel. By checking on the PREFERRED OUTLET box, the system will place the selected channel as a priority in the switching sequence. When this box is not checked for any outlet, the rotational sequence for the unit will be 1-2-3-4-1-2-3-4-, etc. However, if the PREFERRED OUTLET box is checked for channel 1, the rotational sequence for the unit will be: 1-2-1-3-1-4-1-2-, etc. In this case, channel 1 is charging 50% of time no matter how many cars at charging.

Select the ENABLE CYBER DUAL CHARGE FEATURE in the **Outlet Settings** page if a channel is to power two 16A charge stations. If a channel is only powering one 32A charge station or one 16A station, leave the ENABLE CYBER DUAL CHARGE FEATURE box unchecked (default setting). If this function is not selected when two 16A charge stations are connected, a system error will occur when the system reports an increased load level resulting from a car connecting to the second charger on the channel during a given charge cycle.

The ROTATION INTERVAL box sets the delay time the system resides at each outlet to detect for a connected car. The default setting is 30 seconds. If a channel is connected to a shared charging unit, select 60 seconds to allow the charger software to reboot and adjust to load.

The **SNMP Settings** and **SNMP Trap Settings** are modified only for applications where the unit is being monitored separate Management Software system and customization of SNMP is required. In most typical installations, leave at default settings.

SCHEDULE PAGE

The SCHEDULE Page is for setting up a 7 day schedule for system operation. If the system is required to work continually 24/7, then do not enable the schedule function. However, if there are times the system should be inactive and not power charge stations enable the schedule function and set days/times for activity.

To activate the scheduler, select the SETTINGS tab on the selection bar, and check the ENABLE SCHEDULE box to display the **schedule** window (figure 11 below). Check the STATUS box for the particular days the system is to be in operation. Then designate the START TIME and END TIME in the appropriate boxes below.

The system shown in figure 11 is set for a Monday – Friday operation, activating the charge stations at 5AM and turning off the chargers at 6PM. In the displayed view the system is also turned off Saturday and Sunday.

The screenshot shows the EVMC web interface. At the top left is the EVMC logo. To its right, it says 'Current User : admin' and 'Dec 15, 2017 3:25:04 PM'. Further right is a 'Logout' link. Below this is a navigation bar with tabs: Home, Accounts, Settings, Schedule (selected), System, and Raw Logs. The main content area is titled 'Schedule' and contains a checkbox for 'Enable Schedule' which is checked. Below this is a table with columns for Status, Days, and Time (Start Time and End Time). The table shows settings for Sunday through Saturday. Monday through Friday are checked and set to start at 05:00 and end at 18:00. Saturday and Sunday are unchecked and set to start and end at 00:00. A 'Save Schedule' button is located at the bottom right of the table area.

Status	Days	Time			
		Start Time		End Time	
<input type="checkbox"/>	Sunday	00	00	00	00
<input checked="" type="checkbox"/>	Monday	05	00	18	00
<input checked="" type="checkbox"/>	Tuesday	05	00	18	00
<input checked="" type="checkbox"/>	Wednesday	05	00	18	00
<input checked="" type="checkbox"/>	Thursday	05	00	18	00
<input checked="" type="checkbox"/>	Friday	05	00	19	00
<input type="checkbox"/>	Saturday	00	00	00	00

Figure 11; Schedule page and an example of a 5 day office operational setting.

ACCOUNTS PAGE

Select the ACCOUNTS button along the top edge of the DASHBOARD screen, to go to the ACCOUNTS page. Here users can be assigned edit or view privileges to any or all of the channels powered through the EVMC.

To add a user, select the Add User (see (A) in figure 8 below). In the dialogue box assign user name, user password, user role and outlet privilege. Available roles are:

- Administrative - allows full access to configure EVMC system
- User - allows edit access to assigned channels.
- Viewer - allows only home page viewing of EVMC system. No edit access is privilege is assigned

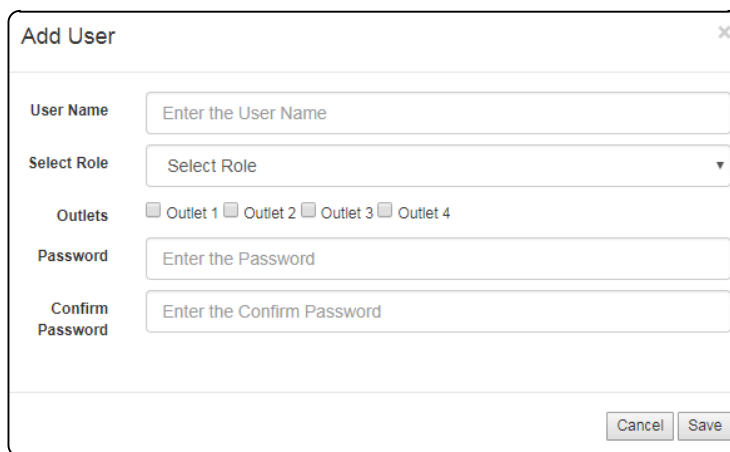
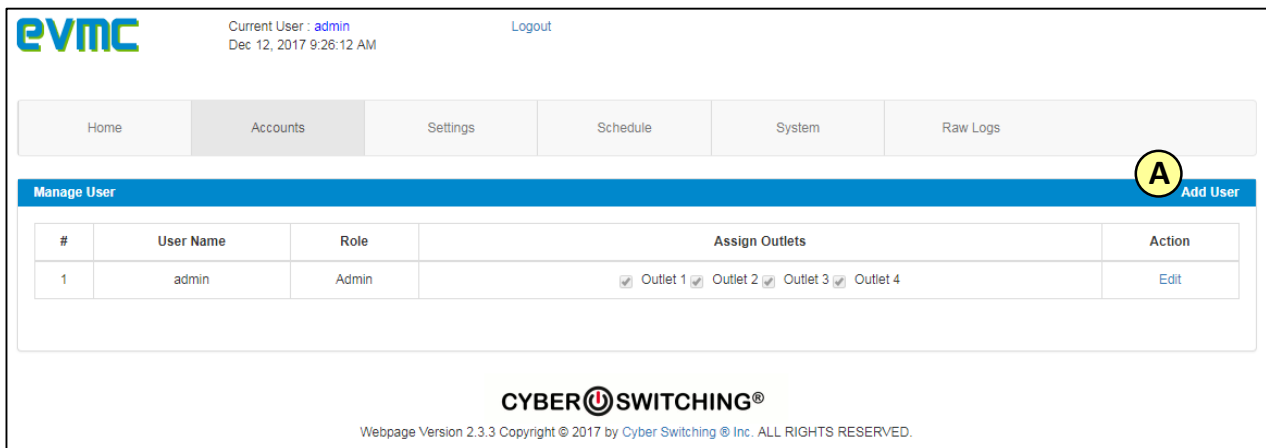


Figure 12: Accounts Page and Add User Dialogue Box.

ALL ON MODE

For Model Number CS-EVMC-7700-4D, and CS-EVMC-7700-4D-E only, the back-panel is configured with each channel on the controller connected to a separate 2-pole input line. For these units, using the control software, the four relays of the controller can be closed to continuously power all charge stations connected to the unit without rotation. In this case a cars connecting to a charger in the system will receive a charge immediately upon connection.

NOTE: DO NOT ACTIVATE THIS FUNCTION FOR THE SINGLE INPUT PRODUCT CONFIGURATION AT ANY TIME (MODELS CS-EVMC-7700-4 /-4-E). THIS SYSTEM IS ONLY USED ON MODELS CS-EVMC-7700-4D / 4D-E ONLY. ENABLING THIS FUNCTION FOR THE SINGLE INPUT PRODUCT CONFIGURATION WILL IMMEDIATELY TRIP INPUT BREAKERS ONCE OUTPUT LOAD EXCEEDS 40A.

To activate the all-on software mode select the SETTINGS button from the interface toolbar, and review the **General Settings** section of the page. Select the ENABLE ALL CHARGE box then press SAVE GENERAL SETTINGS TAB (see figure 12 below).

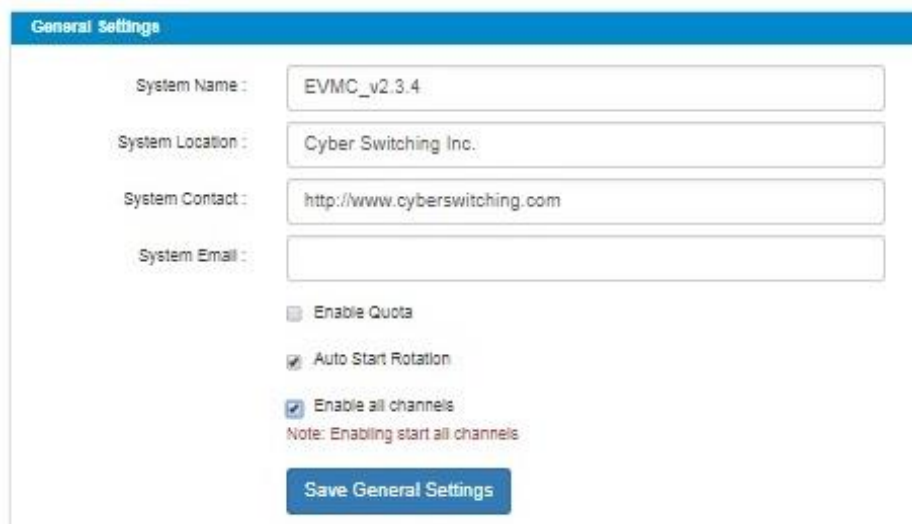


Figure 13; enabling the all on mode.

Navigate back to the home page where you will see a START ALL button as indicated in figure 13.

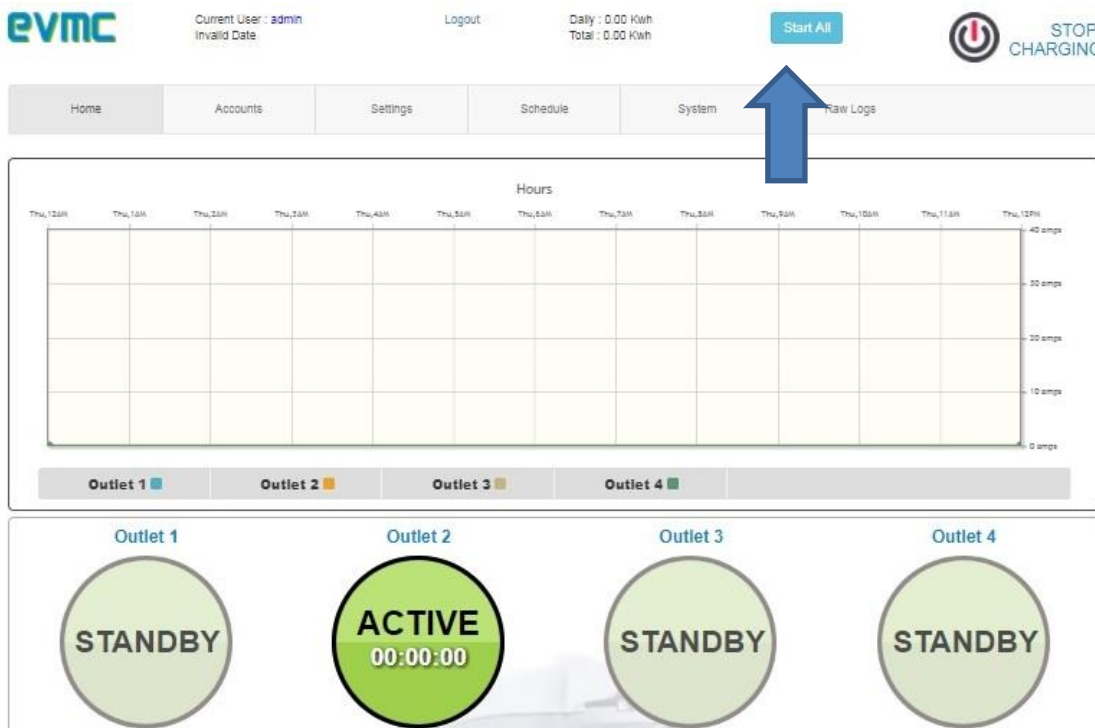


Figure 14; Select the "Start All" button on the Home Page of the user Dashboard once the ENABLE ALL CHANNELS is selected.

Depress the START ALL, and then select the START CHARGING button to close relays. You will now observe all the outlet indicator bubbles go to bright green and indicate "active" showing that the connected chargers are now energized and able to charge vehicles whenever they connect into the system.

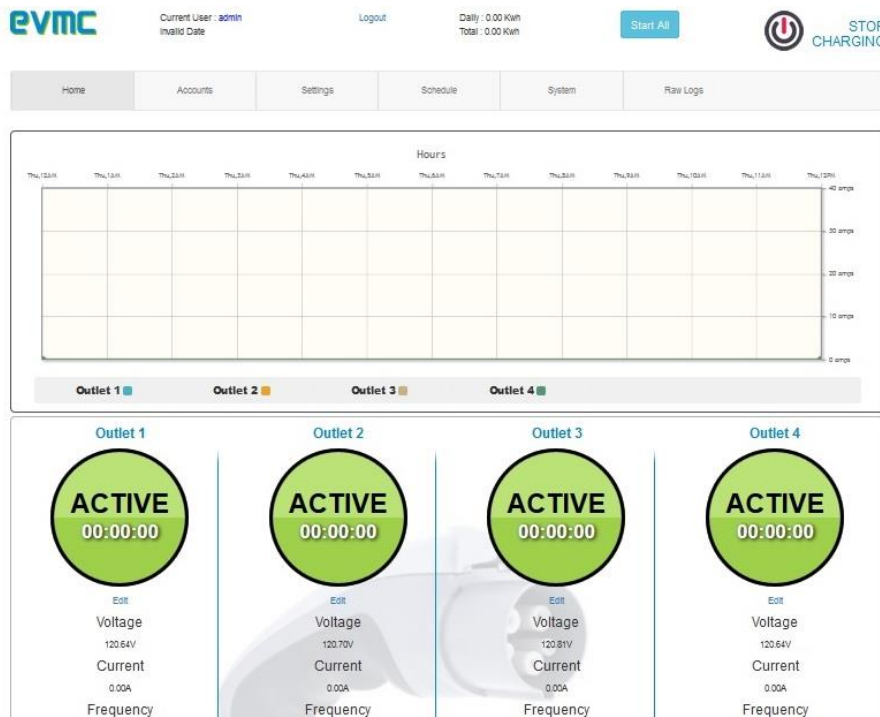


Figure 15: Interface when controller is operating in all ENABLE ALL CHANNELS mode.

To stop the All On Mode and go back to standard rotation, select the STOP CHARGING button and reselect the START CHARGING button. The system will go back to standard rotation at this point.

SYSTEM PAGE

The system page identifies serial number, software version and has control buttons for rebooting the device, factory defaults and kWh.

The screenshot shows the EVMC web interface. At the top left is the EVMC logo. To its right, it displays 'Current User : admin' and 'Dec 12, 2017 10:08:37 AM'. Further right is a 'Logout' link. Below this is a navigation menu with tabs for 'Home', 'Accounts', 'Settings', 'Schedule', 'System' (which is highlighted), and 'Raw Logs'. The main content area is divided into two sections: 'About' and 'System'. The 'About' section lists the following information: Modal Name: EVMC, Serial Name: 1745101062, Modal Number: PM10_001_F_T-000001, Firmware Version: V2.3.3, Manufacturing Date: 16 Nov 2017, Primary Version: 9 - 0, API Version, API Build, and API Build Date. The 'System' section contains a warning box with the text 'Not recommended, use with caution!!!' and two bullet points: 'System Reboot will cause the device to lose network connectivity while reboot process completes, all users will have to log back in.' and 'Reset to Factory defaults clears all user and network settings. All settings will revert to their default values.' Below the warning box are three buttons: 'System Reboot' (yellow), 'Reset to Factory defaults' (red), and 'Reset Total Kwh' (blue).

Figure 16: Settings page

EVMC RAW LOGS

Current User: admin
2012-10-10 10:20:10 (10GMT)

Logout

CYBER SWITCHING®

Home Users Settings System Raw Logs

Current User: admin Logout

Outlet Name	Status	Time
Outlet 4	HOLD	13:03
Outlet 4	RAMPUP	13:01
Outlet 4	RAMPUP	13:01
Outlet 4	RAMPUP	13:01
Outlet 4	ACTIVE	13:01
Outlet 3	ACTIVE	13:00
Outlet 2	ACTIVE	13:00
Outlet 1	ACTIVE	12:59

Figure 17: The Raw Logs page will allow you to see the actual raw data that the unit it capturing and referencing on the main landing page graph.