

LEDVANCE PHASE EV Installation Guide

Level 2 Commercial Charging Station

Perfect for facility managers of office, multi-residential, retail, education, hospitality, and other business locations. LEDVANCE PHASE EV Level 2 Commercial Charging Station is offered in wall mounted units or a free-standing pedestal where two units can be mounted side-by-side or back-to-back. With powerful software integration from AmpUp, LEDVANCE PHASE EV combines performance and value to deliver fast charging at an affordable price.



⚠ WARNING

Please Read All Instructions Before Attempting Installation

- **WARNING: TO AVOID FIRE, SHOCK OR DEATH, TURN OFF POWER** at the circuit breaker or fuse and test that the power is off before wiring! Do not remove circuit protective devices or any other component until power is turned off.
- **WARNING: TO AVOID FIRE, SHOCK OR DEATH**, carefully read the charging instructions in your vehicle's manual before charging and heed the following warnings:
- **DO NOT** put your fingers into the vehicle connector.
- **DO NOT** use this product if the flexible power cord is frayed, has broken insulation or any other signs of damage.
- **DO NOT** use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- **WHEN USING THIS DEVICE AROUND CHILDREN**, supervise closely.
- **TO REDUCE THE RISK OF FIRE, CONNECT ONLY TO A CIRCUIT PROVIDED WITH BELOW AMPERES** maximum branch circuit over-current protection in accordance with the National Electrical Code NFPA 70®, and the Canadian Electrical Code, Part I, C22.1.

Models	Circuit Breaker Rating
EVC48ALVL2C1, EVC48ALVL2C1WH, EVC48ALVL2C1GY	60A

- **DO NOT** operate charger in temperatures outside its operating range of -22°F to 122°F (-30°C to 50°C)

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! INSTALLATION NOTE !

To connect to a CPO for monitoring and revenue collection, each charger **MUST** have a strong and consistent communication signal **AT THE LOCATION** where the charger will be installed. The charger can connect through 4G, WiFi, or Ethernet cable. The installer **MUST** test for a strong signal at the installation site before beginning the installation. If there is not a strong and consistent cell signal or WiFi network signal, an Ethernet cable must be run to the charger or an alternate location should be chosen.

Safety Precautions

IMPORTANT:

READ CAREFULLY BEFORE INSTALLING THE CHARGER. RETAIN FOR FUTURE REFERENCE.

GENERAL:

Upon receipt of the charger, thoroughly inspect for any freight damage which should be brought to the attention of the delivery carrier.

Compliance

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada (IC) Statement:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

MPE (Maximum Permissible Exposure) Requirements

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne.

La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

What's Included

- 1 x charger
- 1 x cable hanger
- 1 x charge coupler holster
- 1 x M25 cable strain relief (cable gland)
- 1 x M32 cable strain relief (cable gland)
- 8 x M5 wall anchors w/screws (for holster & hanger)
- 3 x M6 wall anchors w/screws (for charger wall mount)
- 1 x T20 25mm tamper-proof Torx® bit, 1/4in hex

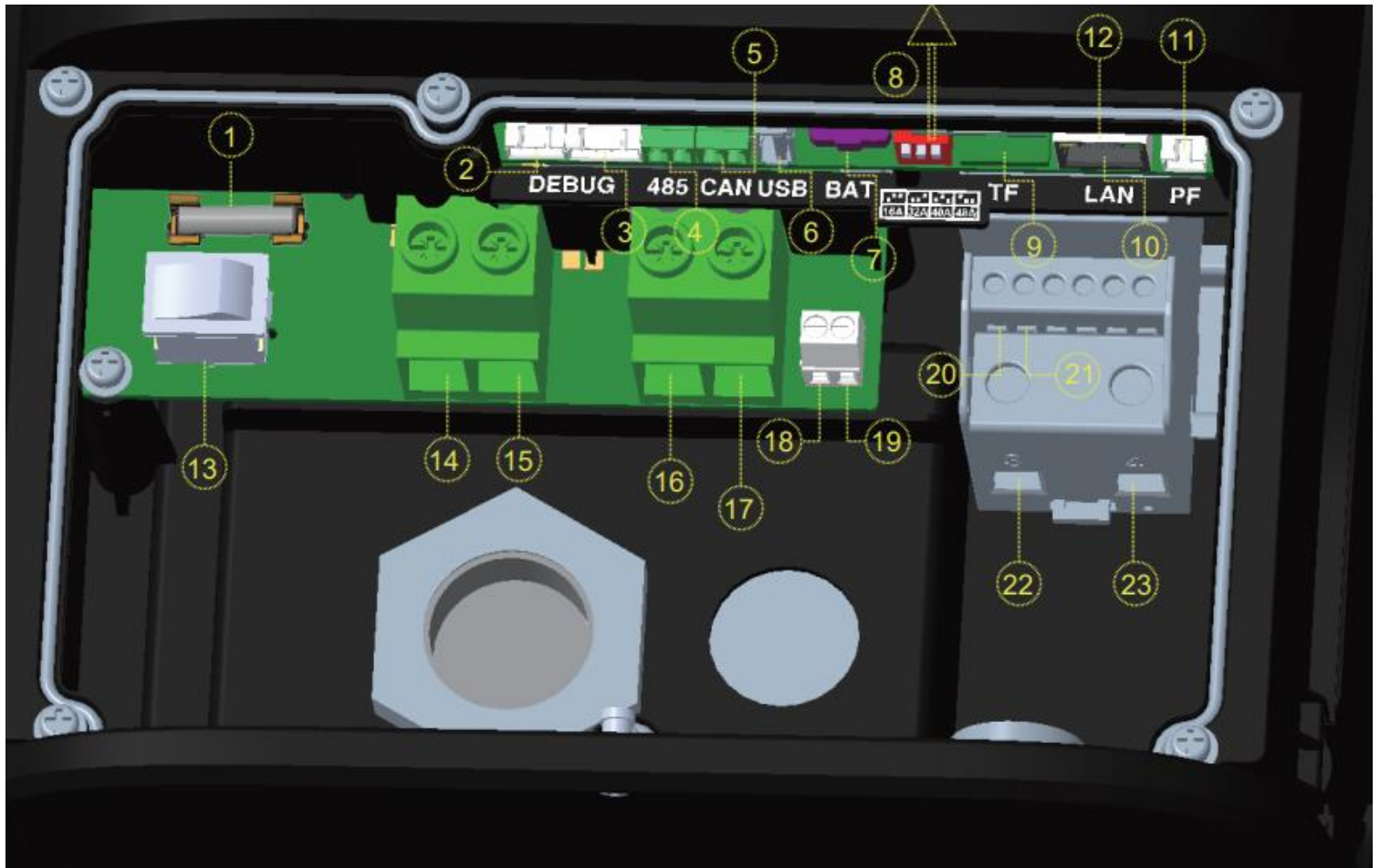
Tools You Will Need

- 1/4 in hex bit driver
- Phillips screwdriver (#2)
- Wire cutter & stripper
- Crimping pliers
- Drill or hammer drill

Specifications

FEATURES AND FUNCTIONS	
Charging mode	Level 2
Vehicle connection	SAE J1772 (Type 1 connector)
Cable length	25ft
Display	4.3in LCD w/charging status light bar
COMMUNICATION	
Interfaces	4G, WiFi, Ethernet
SIM card	Super SIM card (shipped installed)
User authentication	RFID, QR Code, App
Back-end protocol	OCPP 1.6, upgradeable to OCPP 2.0.1
Software upgrade	Over-the-air (OTA)
Software provider	AmpUp
ELECTRICAL DESIGN	
Power supply voltage	AC level 2, 208/240V
Rated frequency	60Hz
Rated current	Up to 48A – 16/32/40/48 amp selectable
Power output	Max 11.5kW
Input connection	Hardwired – terminal lug screws
Primary Input wire gauge	6AWG Copper - Consult all applicable codes
Power requirements	208V (single phase), 240V (single or split phase)
Metering	Revenue grade embedded metering \pm 1% accuracy
Ground fault protection	Standard
Over voltage protection	Standard – 6kV surge suppression
Over current protection	Standard
GENERAL DESIGN	
Environmental rating	NEMA 4 enclosure (UL50E), IK08 impact protection
Ingress protection	IP66
Dimensions (H x W x D)	16.34" x 9.45" x 5.59" (415mm x 240mm x 117mm)
Weight	19.8-22 lbs. (9-10kg)
Operating temp	-22°F to 122°F (-30°C to 50°C)
Storage temp	-40°F to 167°F (-40°C to 75°C)
Cooling	Natural cooling – fanless
Paint	UV protection
CERTIFICATIONS AND STANDARDS	
Standards	ETL (UL2594, UL2231, UL1998, UL991)
EMC	FCC Part 15 Class B
ENERGY STAR (EVSE v1.1)	Yes
California Type Evaluation Program (CTEP)	In progress
Warranty	5-Year warranty

Unit Parts



- | | |
|-------------------------------|------------------------|
| 1. Fuse | 13. Power switch |
| 2. Debug serial port | 14. Input L1 |
| 3. Download interface | 15. Input L2 |
| 4. 485 interface | 16. Input Ground |
| 5. CAN interface | 17. Cable Ground |
| 6. USB interface | 18. Reserved interface |
| 7. Coin cell battery | 19. CP interface |
| 8. Dip switch control | 20. RS485 interface A |
| 9. TF card holder | 21. RS485 interface B |
| 10. Ethernet interface (RJ45) | 22. Cable L2 |
| 11. PF pulse interface | 23. Cable L1 |
| 12. SIM card interface | |

Get Started

IMPORTANT NOTE: Each Charger **MUST** have a strong and consistent communication signal **AT THE LOCATION** the charger will be installed. The charger can connect through 4G, WiFi, or Ethernet cable. The installer **MUST** test for a strong signal at the installation site before beginning the installation. If there is not a strong and consistent cell signal or WiFi network signal, an Ethernet cable must be run to the charger.

Step 1: Subscribe to a Software Charging Plan

The site host, property manager, or the owner must go to <https://payments.ampup.io> to subscribe to a software charging plan. A software charging plan is required to access the Community Manager portal where you will be able to customize various features that are included with your plan. We recommend completing this step before or on installation day, prior to activation for a smooth progression. You will receive login credentials via email for AmpUp Community Manager (<https://community.ampup.io/login>) after the charger is installed and activated.

Step 2: Site & Charger Registration

Before or on installation day, register chargers with the AmpUp system, so you can easily bring them online during installation. Scan the QR code on the **Installer Quick Start Guide** or go to <https://register.ampup.io>.

Step 3: Install the Charger

Follow the steps **starting on Page 8** to install and power up your charger(s). Then confirm connectivity for each unit.



Step 4: Activate the Charger

If there is a strong and consistent cell signal at the installation location of the charger, the charger has a pre-installed super SIM card that will automatically detect and connect to the nearest cellular network once it is connected to power. On mobile or web, simply open the registration email that you received from AmpUp titled "EV Charger Registration Complete" and tap on "Start Verification". If there is not a strong cell signal but there is a strong WiFi signal - refer to Page 14 to connect to the WiFi. Otherwise, an Ethernet cable must be run to the charger.

Scan the "Scan to Charge" QR code on the charger to complete the verification process. Call AmpUp at 833-692-6787 to confirm activation.

AmpUp will reach out to the site-host (customer / charger operator) for onboarding to manage their charger and handle support requests and questions within the next 30 minutes to an hour. You will also get login credentials for the AmpUp Community Manager.

Your charger(s) can be installed and operational within the same day if you follow the steps above. The site-host must subscribe to a charging plan before or on installation day.

Still have questions? The AmpUp team is ready to help. Call **833-692-6787**.



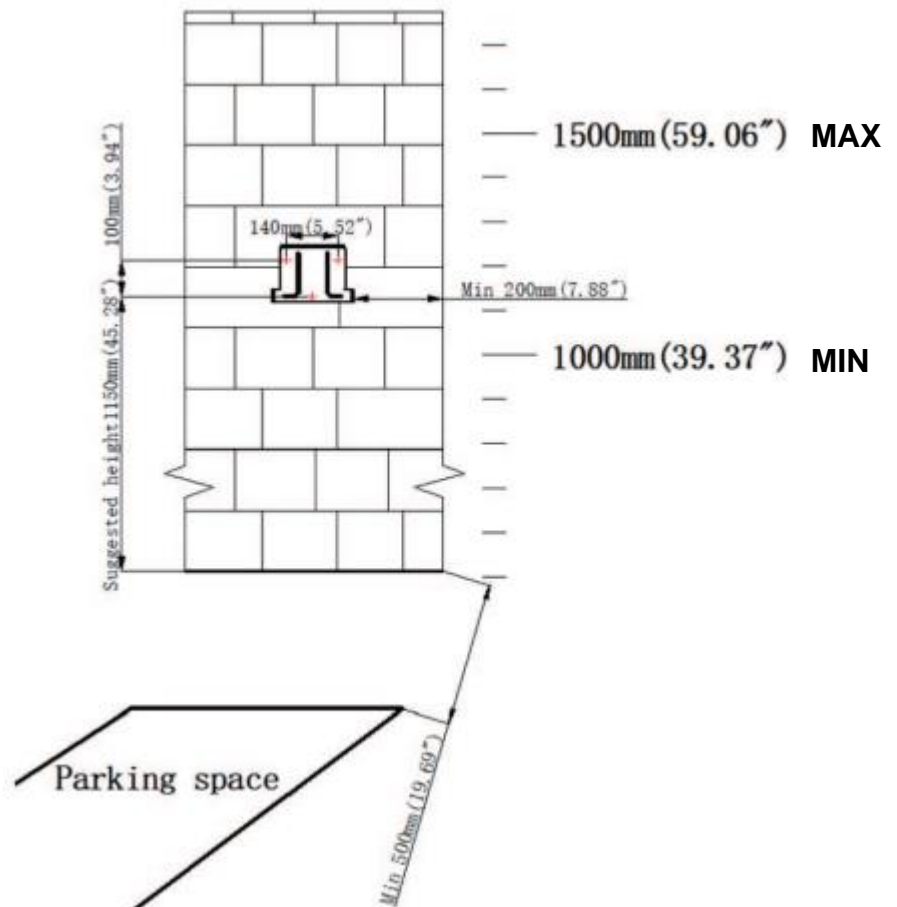
Installing the Mounting Plate

1. Remove the 2 screws – one on each side of the charger to detach the wall mounting plate from the charger.



2. Place the wall mounting plate against the wall as a template as shown in the diagram below and mark the 3 mounting holes. (Suggested height from the ground to the bottom holes is approximately 45.28 inches.)

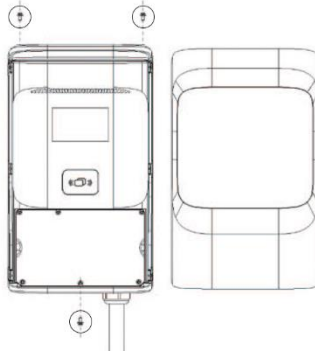
If installing with a pedestal, please see separate **Pedestal Installation Instructions**.



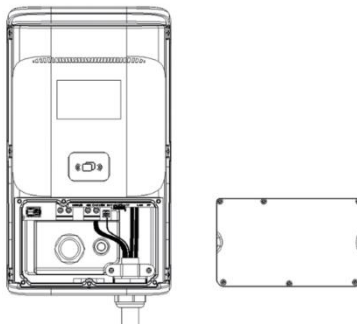
3. Drill the 3 holes with an appropriate sized bit and secure the wall mounting plate using the included M6 wall anchors and screws.

Preparing the Charger

1. Remove the cover frame from the front of the charger by unscrewing the 2 screws on top and 1 screw from the bottom of the charger.



2. Once the 3 screws are removed, carefully lift the cover outward and up to detach the cover frame.
3. Remove the 6 screws to take off the access panel cover.



For Rear Wiring

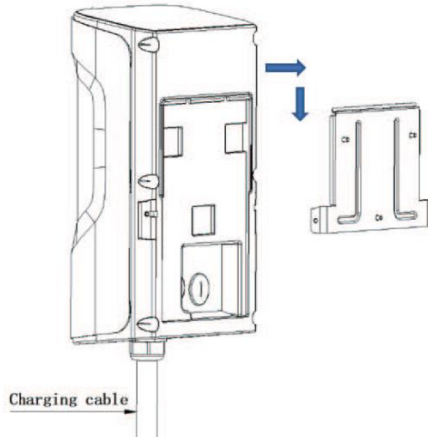
Remove the rear plug(s) by loosening the hex nut in a counterclockwise direction. Then use the same plug to cover the hole at the bottom of the charger. Use the included cable strain relief to run the wiring to the charger.

For Bottom Wiring

Use the included cable strain relief to run your wiring up from the bottom of the charger.

Mounting the Charger

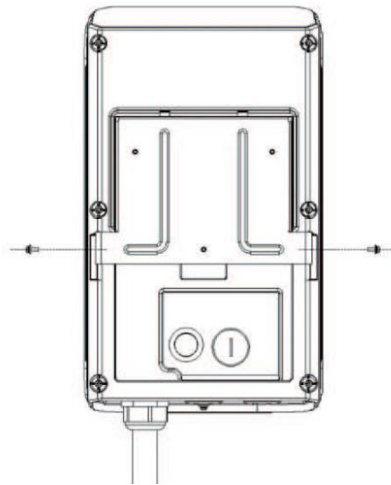
1. Align the charger to the wall mounting plate and hang it as shown in the illustration below.



For **rear wiring installation**, use the included cable strain relief and feed the power supply wires through the rear port with enough length to connect the wires to the terminals.

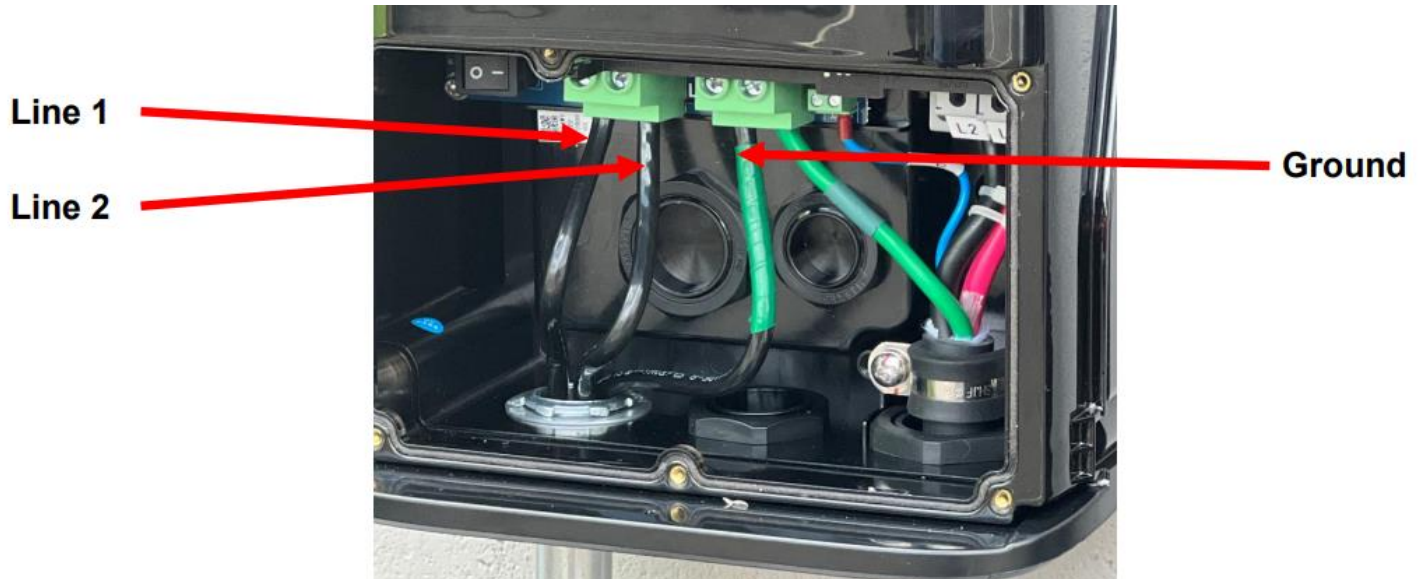
Strain relief must be installed for IP rating.

2. Secure the charger to the wall mounting plate with the 2 original screws.



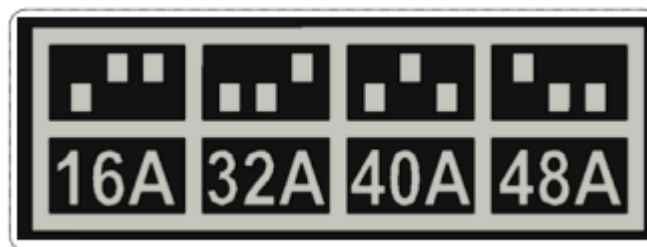
Electrical Wiring

1. For bottom wiring installation, use the included cable strain relief and feed the power supply wires through the bottom port with enough length to easily connect the wires to the terminals.
2. Connect the electrical wires L1, L2, and Ground to the appropriate terminals. See diagram below or refer to the Unit Parts.



Current Adjustment

The default current setting is **48A** but this charger can be adjusted down to 40A, 32A, or 16A using the dip switches. See illustration below.

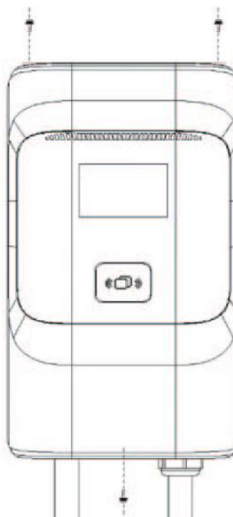


Closing the Charger

1. Before closing the charger, check to make sure that all power supply wires are connected to the appropriate terminals.
2. If you plan to use an Ethernet cable (LAN cable) for your network, make sure that it is properly seated in the RJ45 port.
3. Check the pre-installed super SIM card to make sure it is properly seated in the SIM card slot.
4. Confirm the dip switches position for the desired Amperage.
5. Make sure the power switch is in the ON position.
6. Reinstall the wiring cover as shown below with the original 6 screws.



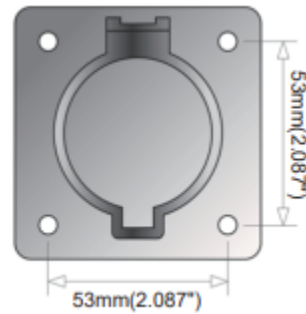
7. Reinstall the cover frame with the original 3 screws.



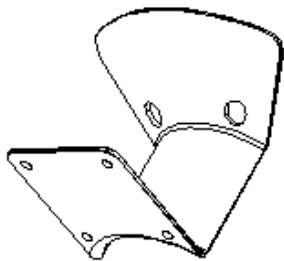
Installing the Holster and Cable Hanger

You may place the holster and cable hanger wherever it is most convenient, being sure that the location does not place any tension on the charging cable.

1. Place the holster against the wall and mark the mounting holes.



2. Drill the 4 holes with an appropriate sized bit and secure the holster with the included M5 wall anchors and screws. (Suggested height from the ground is 33.5 inches)
3. Repeat the process for the cable hanger.



Cable Hanger

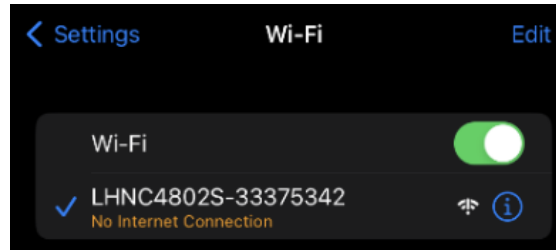
Suggested Mounting



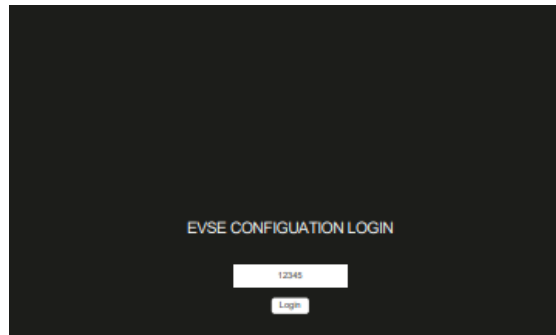
How to setup WiFi Connection

If you need to use WiFi instead of the cellular connection, please follow the steps below:

1. Power on the charger.
2. Use a smart phone, tablet, or laptop and open the WiFi settings. You will see a network name starting with "LHxxxxxxx-xxx75342" (see example below). The last 5 digits of the network should match the last 5 digits of your charger Serial Number. Select the network to establish a connection from your device to the charger.



3. Open a web browser (Google Chrome or Microsoft Edge if using a laptop) and key in "192.168.4.1" into the URL address field. Press <enter> and it will take you to the EVSE CONFIGURATION page.



4. Fill in the default password "12345" to access the EVSE CONFIGURATION tool. We recommend that you change this password under the **Advanced Options** to prevent unauthorized access in the future.

Note: As a security measure, you have approximately 3 minutes from the time the charger is powered up to connect via this method to access the EVSE CONFIGURATION. If session has expired, cycle power to the charger and repeat.

5. Under **User Options**, enter your WiFi SSID and Password that you would like to use.

EVSE CONFIGURATION

User Options

WiFi SSID:

WiFi Password:

Plug and Play:

Advanced Options

Serial Number:

OCPP Version:

OCPP Server:

OCPP AuthPass:

Connect Alternative Server:

New password:

Enter your network WiFi SSID and Password here.

Network Setting

DHCP:

Static IP:

Static Gateway:

Static Mask:

4G APN:

4G USER:

4G Password:

Aside from the WiFi SSID, WiFi Password, and New password fields, DO NOT make changes to the other fields.

6. Click <SAVE> and wait for the popup confirmation. Then click <RESET> to restart the charging station with the new settings. Once the new settings have been uploaded, the charger light bar will blink green a few times.

Status Light Bar

Green: Available
for Charging



Blue: In Operation



Purple: Charging
Complete



Red: Fault /
Service Needed



Charger Screens

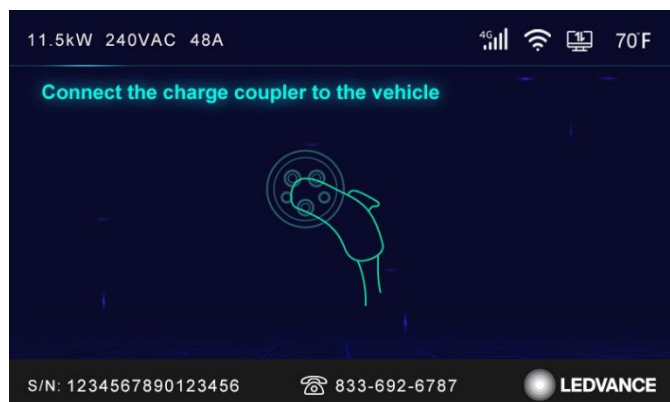
Power On



Standby / Ready to Charge



Preparing – Not connected to a vehicle



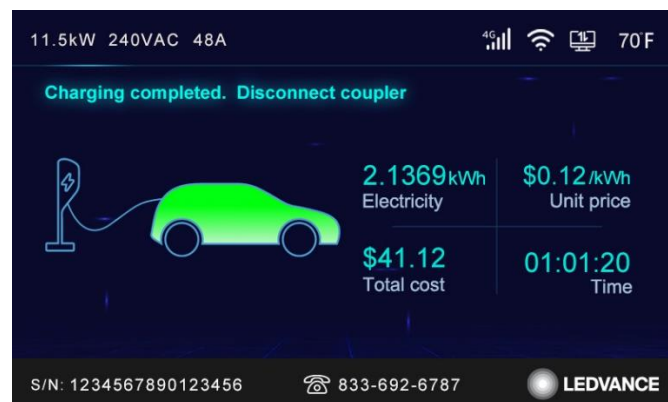
Preparing – Connected to a vehicle



Charging



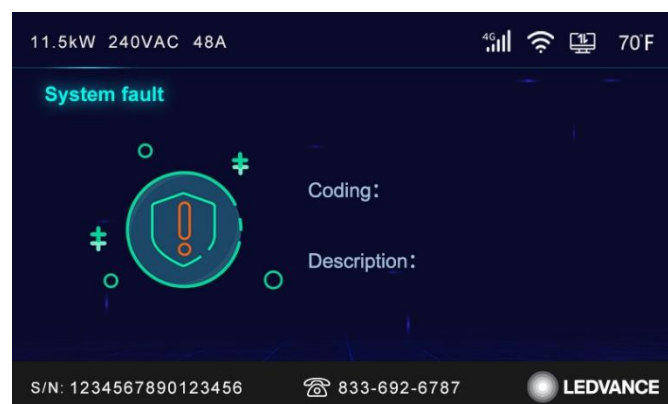
Settlement / End of Session



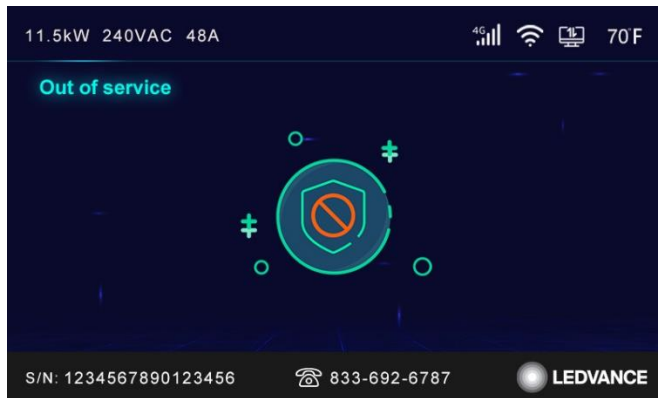
Abnormal Status



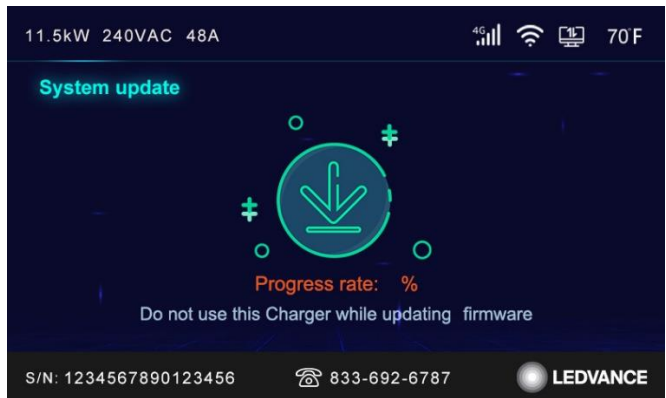
Fault



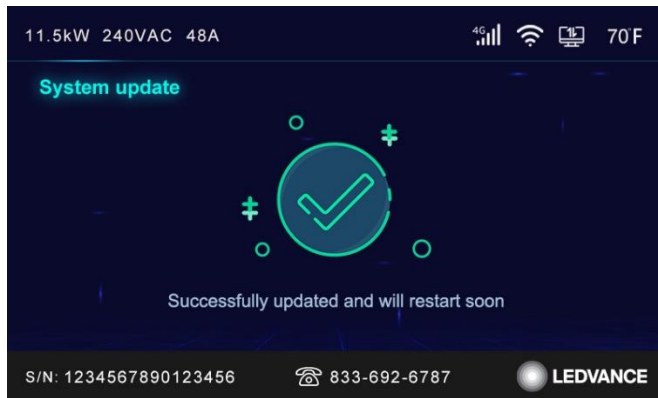
Out of Service



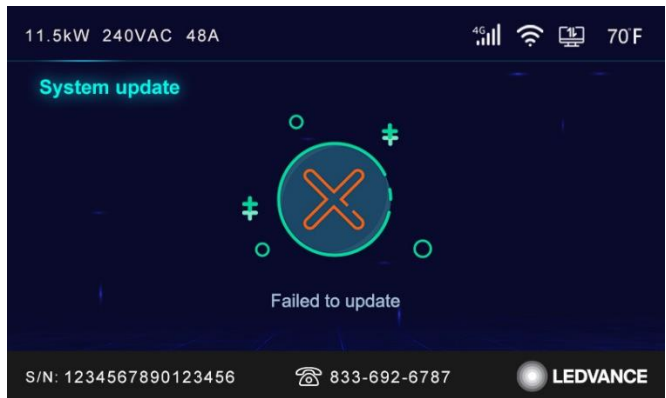
Update Status



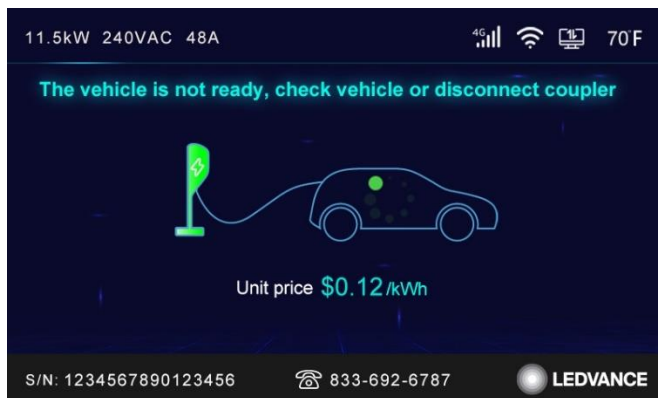
Update Successful



Update Failed



Vehicle is not ready to receive charge



System Fault Settlement / End of Session



Charging

There are multiple ways to start a charging session:

- Scan “Scan to Charge” QR code with your smart mobile device.
- Scan the appropriate (iOS or Android) QR code to download the AmpUp App for your smart mobile device. Then use the AmpUp App to start charging.
- Scan RFID card (card must be connected to your AmpUp account or registered in the Community Manager)
- Call AmpUp Customer Service 833-692-6787.
- Site-host can manually remote-start a charging session.

Troubleshooting

Note that some errors will initiate an automatic reset after 15 seconds if the detected fault is resolved. In addition, the site host can use the Community Manager to initiate soft reset and hard reset.

Disconnecting the charge coupler from the vehicle will clear the display screen and return it to the Standby Screen.

If the error does not automatically reset, make sure that the charge coupler is not connected to a vehicle. Then power cycle the unit by switching the circuit breaker off and on.

If the error persists, contact AmpUp Customer Service at **833-692-6787**.

For more information about LEDVANCE PHASE EV™, visit <https://phaseev.ledvance.com/>

Fault Code	Solution
11 – CP failure	Check the connection of charging connector and EV inlet. Disconnect and reconnect the charging connector.
13 – Under voltage fault	Measure the input voltage to see if it is abnormal.
14 – Over voltage fault	Measure the input voltage to see if it is abnormal.
15 – Over temperature fault	Turn off the charger power to cool down the machine before powering it on again. Make sure that the charger is not covered or installed in a high temperature environment. If the situation recurs, please power off and stop using the machine immediately, then contact Customer Service.
16 – Metering failure	Power off and restart the device. Turn circuit breaker off and then on.
17 – Leakage fault	Check whether the charging connector, charging cable, and EV inlet are damaged or wet. Power off, disconnect and reconnect the charging connector and restart.
18 – Short circuit fault	Check whether the charging connector and its cable are damaged or wet.
19 – Over current fault	Check whether the charging connector is correctly inserted to the EV inlet. Check whether the OBC is normal. Check the maximum current settings of the charger.
21 – EV response timeout	Battery of EV is full. Check if the charging connector is properly inserted to the EV inlet. Disconnect and reconnect the charging connector.
22 – EV not supported	This EV does not meet the SAE J1772 and cannot be charged.
23 – Relay sticking fault	The device is damaged and needs to be returned to the manufacturer for repair. Contact Customer Service.
24 – Leakage current device failure	The sensor is damaged and needs to be returned to the manufacturer for repair. Contact Customer Service.
25 – Ground fault	Charger is not grounded; check input power and all connections.

Warranty

PHASE EV™ Level 2 Commercial Charging Station Limited Warranty

LEDVANCE LLC and LEDVANCE Ltd. / Ltée (LEDVANCE) is pleased to provide a limited warranty for the products listed below that are primarily used in **industrial or commercial** applications. (For the use in US AND CANADA)
[Subject to change without notice](#)

LEDVANCE warrants the PHASE EV™ Level 2 Commercial Charging Station (collectively, the “Product”) to be free from defects in materials and workmanship for a period of five (5) years from the date of shipment to the Purchaser (“Warranty Period”) when used as directed and subject to the Terms and Conditions herein. If shipment date is unverifiable, the date code of the product plus three (3) months shall be used to determine shipment date. This limited warranty is extended by LEDVANCE to the original end-user at the original installed location only.

Models	Warranty Period
EVC48ALVL2C1XX	5 Year (60 months)

If the Product fails to operate during the applicable Warranty Period due to a manufacturing defect, LEDVANCE will, at its sole option, replace or repair the Product or key components at no charge or grant the original purchaser a credit towards Product replacement. Key components can include display screen and SAE J1772 connector with cable. If LEDVANCE grants a replacement and Product is not available, a comparable product will be provided. LEDVANCE will not be responsible for labor or transportation costs for removal, return or installation.

TERMS AND CONDITIONS

This warranty only applies when the Product is properly wired and installed in accordance with the instructions contained in the product installation guide and in applicable Product Information Bulletin. The warranty excludes defects resulting from theft, acts of nature, accidents, abuse, fire, vandalism, or civil disturbances. This warranty excludes defects or damage caused by any primary side (line voltage) power source problems including, but not limited to, unregulated power, short circuits or lightning induced power surges, under/over voltage/current conditions, operating outside specified temperature range, or storing the Product outside the specified temperature range. This warranty does not apply to any abnormal use or use in violation of any applicable standard, code or instructions for use in installations including those contained in the latest National Electrical Code (NEC) and the Standards for Safety of Underwriters Laboratory, Inc. (UL). This warranty will not apply in the event of conditions demonstrating abnormal use or stress, including but not limited to:

- Exceeding the maximum ambient operating temperatures specified in the Product Information Bulletin and or Cut Sheet published on our website.
- Using or storing the product outside the specified temperature range in the Product Information Bulletin and or Cut Sheet.
- Harm, damage or otherwise being subjected to problems caused by negligence (including but not limited to physical damage from a vehicle or other object) or misuse, or use of the Products other than as specified in the relevant documentation.
- Improper site preparation, maintenance, or installation.
- Normal cosmetic or superficial damage, normal aging, scratches, stains, dents, or exterior fading. The paint finish on the Product is not covered by this Warranty.

- Accident, fire or exposure to any other hazard (including extreme electromagnetic field or any acts of nature such as earthquakes, tornadoes, floods, biological infestations, lightning, etc.)
- Use of the Product with software or parts not provided, approved, or specified by LEDVANCE.
- Any other causes beyond the control of LEDVANCE.

This warranty does not cover any repair, alteration, modification, or reinstallation of the Product.

A warranty claim can be reported online at www.ledvanceUS.com/warranty or by contacting either LEDVANCE's National Customer Service & Sales Center at 1-800-654-0089 Fax: 866-632-9674 or a designated LEDVANCE sales representative.

If deemed necessary by LEDVANCE under the terms of this warranty, Purchaser will receive a Return Material Authorization ("RMA") number, and shall promptly return the Product to the address provided on the RMA as directed by LEDVANCE at the Purchaser's expense. The RMA must be included on both the packing slip of the Product or Product component being returned and on the outside of the box. FAILURE TO FOLLOW THIS PROCEDURE SHALL VOID THE WARRANTY. IF REPLACEMENT PRODUCT IS PROVIDED UPFRONT FREE OF CHARGE AND THE ORIGINAL PRODUCT IS NOT RETURNED OR THE RETURNED PRODUCT IS NOT COVERED BY THE TERMS OF THE WARRANTY, THE ORIGINAL PURCHASER WILL BE CHARGED FOR THE REPLACEMENT PRODUCT AT THE THEN CURRENT PRICE PLUS SHIPPING COSTS. Replacement Product provided will be warranted for the remainder of the original Warranty Period.

If upon examination of the Product, LEDVANCE determines the root cause of failure to be due to a defect in materials or workmanship, LEDVANCE will provide the appropriate remedy as set forth above. LEDVANCE reserves the right to (i) examine all Product to determine the cause of failure and (ii) be the sole judge as to whether a Product is defective and covered under this warranty.

LIMITATION OF LIABILITY

THE FOREGOING SHALL CONSTITUTE THE EXCLUSIVE REMEDY OF PURCHASER AND THE SOLE LIABILITY OF LEDVANCE FOR THE PRODUCT. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IMPLIED. IN NO EVENT SHALL LEDVANCE BE LIABLE FOR ANY OTHER COSTS OR DAMAGES, INCLUDING LOST PROFITS OR REVENUES, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES. SOME STATES AND JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION. IN NO EVENT SHALL LEDVANCE'S TOTAL LIABILITY FOR ANY REASON HEREUNDER EXCEED THE PRICE PAID BY PURCHASER FOR THE PRODUCT PURCHASED.