

# User Manual



HCS EVSE  
EN



## PLEASE NOTE

This user manual includes the latest information at the time of printing. Enphase Energy, Inc. reserves the right to make changes to this product without further notice. Changes or modifications to this product by other than an authorized service facility may void the product warranty.

Contact a Customer Service Representative with any questions about the use of this product. 877-797-4743



**WARNING:** This product can expose you to chemicals, including Carbon Black, which is known to the State of California to cause cancer. For more information go to: [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

To view latest version of the product warranty, please visit

<https://enphase.com/warranty/us>

To view the latest version of this manual, please visit

<https://enphase.com/installers/resources/documentation/ev-chargers>

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## IMPORTANT SAFETY INSTRUCTIONS

Carefully read these instructions and the charging instructions in your vehicle owner's handbook before charging your electric vehicle.

The following symbols may be found in this manual or on labels affixed to the Electric Vehicle Supply Equipment (EVSE):

**NOTE:** *This means pay particular attention.* Notes contain helpful suggestions.



**CAUTION:** *This symbol means be careful.* There is potential to do something that may result in damage to the equipment.



**WARNING:** *This symbol means danger.* You are in a situation that could cause bodily injury. Before you work on any electrical equipment, be aware of the hazards involved with electrical circuitry and standard practices for preventing accidents.

## Instructions Pertaining to a Risk of Fire or Electric Shock

When using the HCS, basic electrical safety precautions should be followed:

- Use this EVSE to charge electric vehicles equipped with an *SAE J1772 charge port only*. Consult the vehicle's owner manual to determine if the vehicle is equipped with the correct charge port.
- Make certain the EVSE SAE J1772 charge cable is positioned so it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- This product contains no user serviceable parts. Consult the Customer Support section in this manual for service information. Do not attempt to repair or service the EVSE yourself.
- **Do not** operate your EVSE if it or the SAE J1772 charge cable is physically open, cracked, frayed, or otherwise visibly damaged. Contact a Service Representative for service immediately. Consult the Customer Support section in this manual for information on the Service Representative in your area.
- Not for use in commercial garages where a COMMERCIAL GARAGE is defined as a facility (or portion thereof) used for the repair of internal combustion vehicles in which the area may be classified due to flammable vapors being present (such as from gasoline).
- **Do not** place fingers inside of the coupler end of the SAE J1772 charge cable.
- **Do not** allow children to operate this device. Adult supervision is mandatory when children are in proximity to an EVSE that is in use.

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## Additional Instructions for Plug-In EVSE Configurations

- 240V plugs are specifically designed for **occasional** relocation, such as moving from one home to another home.
- For personal safety, the circuit breaker **MUST** be turned off prior to plugging in AND/OR unplugging 240V appliances (including this EVSE).
- A high-quality industrial grade dedicated NEMA outlet receptacle listed to UL 498 (US) and C22.2 No. 182.3-16 (Canada) standards **must** be used with your plug type EVSE.
- Check the receptacle and plug have a tight fit prior to use.
- **Do not** use this EVSE with an extension cord or wall plug adapter. Plug this EVSE directly into the receptacle. We recommend that plug-in EVSEs remain plugged into the receptacle.
- Have an electrician verify all wiring to the outlet is correct and in compliance with local code requirements before connecting the EVSE.
- A worn or defective receptacle can cause the plug to overheat and become a fire hazard. Periodically touch the plug surface during charge session to see if it is hot to touch. If so, we recommend an electrician check the connection tightness and replace the receptacle .
- Ensure that the EVSE is mounted to the wall or placed on a support so it does not hang from the receptacle. Receptacles are not designed to support the weight of the EVSE.
- The EVSE shall be installed so that the power supply cord does not contact the floor when plugged into the outlet.

## Additional Safety Instructions



**WARNING:** Turn off power to the EVSE at the circuit breaker panel before moving, servicing or cleaning the unit.



**WARNING:** Always turn off input power to the EVSE at the circuit breaker panel prior to plugging into or unplugging from a wall socket.

**NOTE: VENTILATION** - Some electric vehicles require an external ventilation system to prevent the accumulation of hazardous or explosive gases when charging indoors. Consult the vehicle owner's manual to determine if your vehicle requires ventilation during indoor charging.

**NOTE:** Vehicles which conform to the SAE J1772 standard for communication can inform the charge station that they require an exhaust fan. The EVSE is not equipped to control ventilation fans. Do not charge the vehicle with the EVSE if ventilation is required.



**CAUTION: DO NOT CHARGE** a vehicle indoors if it requires ventilation. Contact a Service Representative for information.

**Save these instructions for future reference.**



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## FCC INFORMATION

This device complies with Part 15 of the FCC rules. 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.

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

This product has been designed to protect against Radio Frequency Interference (RFI). However, there are some instances where high powered radio signals or nearby RF-producing equipment (such as digital phones, RF communications equipment, etc.) could affect operation.

If interference to the EVSE is suspected, the following steps should be taken before consulting a Enphase Sales or Service Representative for assistance:

1. Reorient or relocate nearby electrical appliances or equipment during charging.
2. Turn off nearby electrical appliances or equipment during charging.



**CAUTION:** Changes or modifications to this product by other than an authorized service facility may void FCC compliance.

## OPERATION

The HCS is a compact wall or pedestal-mounted EVSE that provides the Plug-in Hybrid or Battery Electric Vehicle (together Plug-In Electric Vehicles, or “PEV”) user with a safe and manageable link between the power grid and the PEV. Both hardwired and plug-in HCS versions are available.

To use the HCS simply unwrap the charge cable and plug the SAE J1772 connector firmly into the vehicle's charge port.

Normally, the vehicle will immediately request a charge using a special communication line in the cable. Within a few seconds the Green “Charging” light on the face of the HCS will turn on and the charging cycle will begin. After an average driving day the vehicle battery pack will require several hours to recharge completely. Charging overnight is the most convenient way to maintain healthy batteries and ensure the vehicle’s full range will be available for the next day.

When the vehicle has stopped charging the Green “Charging” light on the HCS will turn off. To remove the connector head once a charge cycle has completed (or to interrupt a charge in progress) press and hold down the latch release lever on the connector handle then unplug the connector from the vehicle charge port.

## Front panel LED indications

The front panel on the HCS/ has four indicator lights, as shown in **Figure 1**.

**POWER** (Amber), indicates that power is available to the EVSE.

**CHARGING** (Green), indicates that the vehicle is requesting a charge and AC power is currently applied to the vehicle.

**POWER FAULT** (Red), indicates that the EVSE is not wired correctly. The problem can be due to improper grounding or a missing Earth Ground. The wiring should be examined by a qualified electrician.

**CHARGING FAULT** (Red), indicates that the EVSE is unable to communicate with the vehicle correctly, or a safety fault condition has been detected by the unit.

**Figure 1: Front Panel**



**Table 1: Front Panel LED Information**

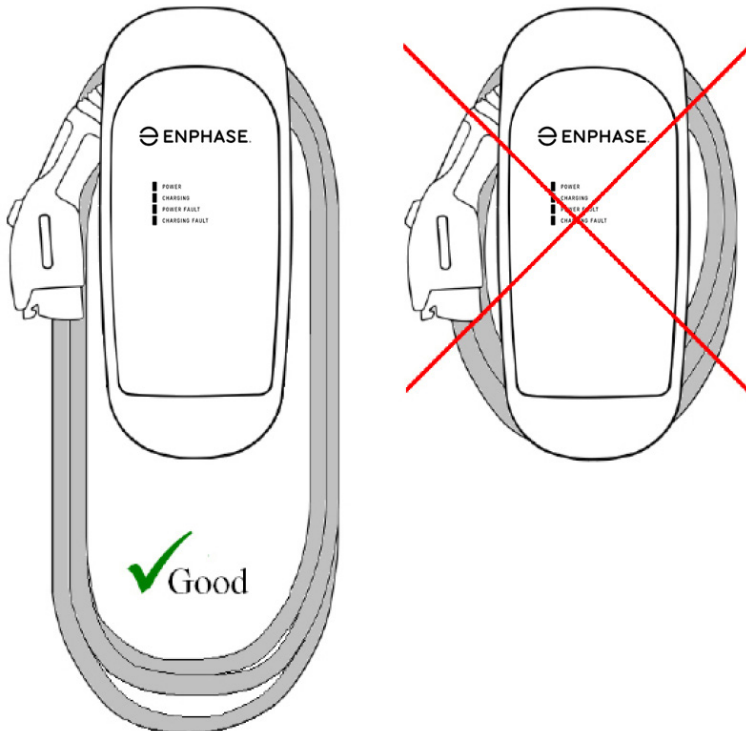
#	Amber Power LED	Green Charging LED	Red Power Fault LED	Red Charging Fault LED	Fault Condition
1	off	off	off	off	No power to EVSE. Check circuit breaker.
2	ON	off	off	off	Not plugged into the EV or the EV is not ready to charge.
3	ON	ON	off	off	Charging enabled, power is applied to the vehicle.
4	ON	off	ON - not blinking	off	Improper grounding or ground is not present.
5	ON	off	off	ON - not blinking	Problem with EV communications. Disconnect and restart.
6	ON	off	off	blinking	EV ground fault trip. Check vehicle connection.
7	ON	off	blinking	blinking	Internal EVSE fault. Call for service.

## CHARGE CABLE WRAP GUIDELINES

The HCS enclosure body is sculpted to allow the charge cable to be wrapped around it for convenient storage as well as to keep the bulk of the cable off of the ground and out of the way. As the charge cable is comprised of a number of wires, coiling the charge cable too tightly around the enclosure will result in the charge cable feeling warmer to the touch than would ordinarily be the case.

To minimize this effect, it is recommended that the charge cable be loosely draped around the enclosure body with larger loops. This will also permit greater convenience in “pulling off” additional loops if a longer charge cable reach is desired.

**Figure 2: Drape the Charge Cable Loosely Around the Enclosure**



## INSTALLATION - SERVICE CONNECTIONS



**CAUTION:** To reduce the risk of fire, connect only to a circuit provided with the appropriate maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70 (US) or the Canadian Electric Code C22.1 (Canada).

**Table 2: Service Connections for HCS by Model**

<b>HCS Model</b>	<b>Connection/Receptacle Type</b>	<b>Circuit Breaker Rating</b>
HCS-40R	Hardwired	40A
HCS-40PR	NEMA 6-50R	40A/50A
HCS-40PR	NEMA 14-50R	40A/50A
HCS-50R	Hardwired	50A
HCS-50PR	NEMA 6-50R	50A
HCS-50PR	NEMA 14-50R	50A
HCS-60R	Hardwired	60A
HCS-80R	Hardwired	80A



**CAUTION: This is a single-phase device. Do not connect all three phases of a 3-phase feed!** You may use any two phases of a three phase wye-transformer feed. The centerpoint of the three phases (usually used as Neutral) must be grounded somewhere in the system. A Neutral connection is not required by the EVSE. Only Line 1, Line 2, and Ground are required, as shown in **Figure 3**.

**CAUTION:** The two phases used must each measure 120V to Neutral. Earth Ground must be connected to Neutral at only one point, usually at the service entry breaker panel.

**CAUTION:** If a 240V 3-phase feed is from a Delta-connected secondary, the leg used must have a center-tap. That tap must be Grounded. Only the two phases on either side of the center-tapped leg can be used. See **Figure 4**.

**CAUTION: Warranty is void if this unit is not wired properly.**



**WARNING:** Only a qualified electrician should perform the installation. The installation must be performed in accordance with all local electrical codes and ordinances.

Only 3 wires are connected, but care must be taken that the service transformer secondary connection is definitely known, and the 3 wires from the main circuit breaker panel are connected and labeled correctly. **Figures 2, 3, and 4** show the most common service transformer secondary wiring formats.

Notice that L1, L2, & Ground are labeled on each diagram. Those transformer outputs correspond to the same inputs on the HCS. Also, each of the two 3-phase diagrams shows an L3 output, which is not used. Do not connect all three phases of a 3-phase secondary to the EVSE. This is a single-phase device.

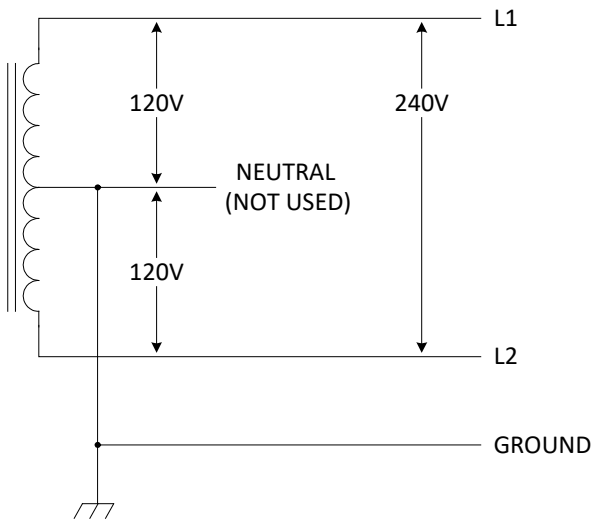
The Neutral at the service panel *must* be connected to Earth Ground *somewhere* in the system on *any* of the three connection arrangements. Ground-fault protection is not possible unless the Neutral (center-tap on the service transformer) is connected to an Earth Ground. If no Ground is provided by the electrical service, a grounding stake must be driven into the Ground nearby, following local electrical codes. The grounding stake must be connected to the ground bar in the main breaker panel, and Neutral connected to Ground at that point.



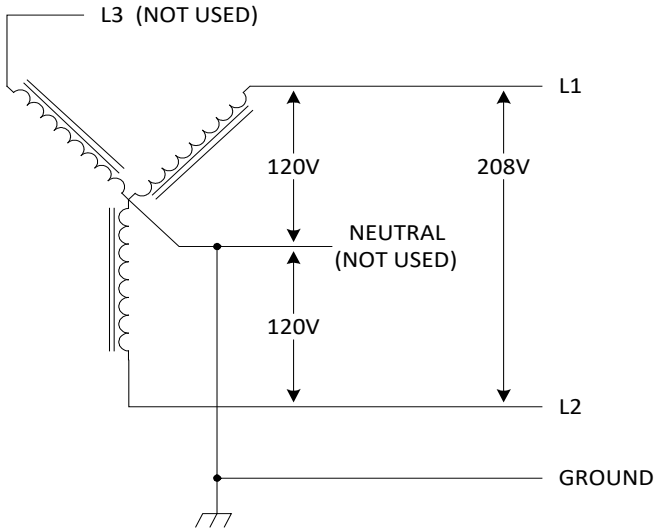
**WARNING:** Local electrical codes must always be followed when installing the grounding stake.

The following diagrams illustrate the three service transformer secondary connections most common in North America.

**Figure 3: 220/240V Single Phase**

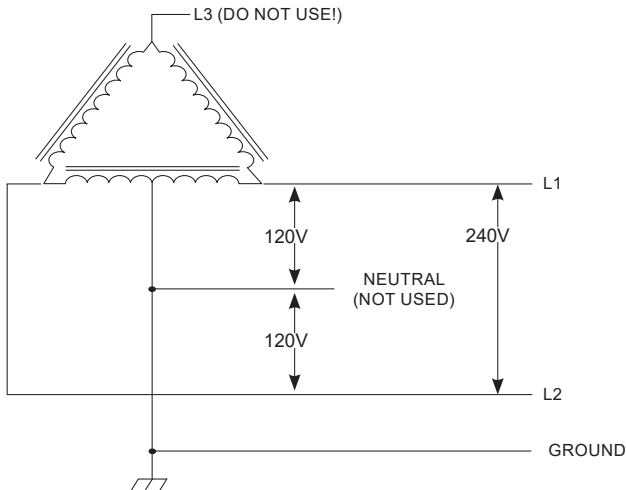


**Figure 4: 208V 3-Phase, Wye-Connected**



**NOTE:** With a wye-connected secondary, any two of the legs can be used to provide 208V to the HCS. For example, L1 & L2, or L1 & L3, or L2 & L3. Leave the unused leg open. Do not connect it to a Neutral bar, or to Ground. Be sure the center point is grounded to Earth somewhere in the system.

**Figure 5: 240V 3-Phase, Delta-Connected, with Center-Tap on One Leg**







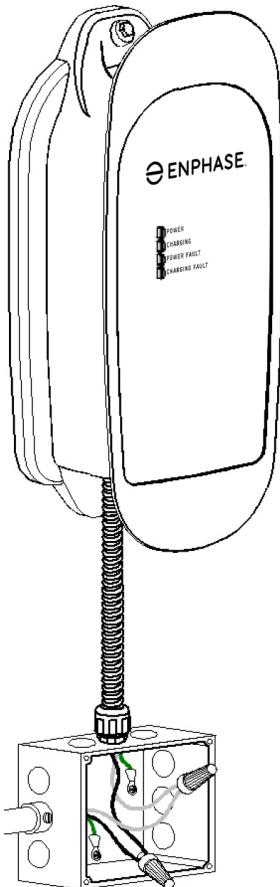
**CAUTION:** With the delta connection, one leg must be center-tapped. Only the two phases on either side of the center tap can be used. The two phases must both measure 120V to Neutral. The third line (L3) of the delta is 208V, with respect to Neutral, and is sometimes referred to as a “stinger.” **Do not use this third line!** Consult the transformer manufacturer’s literature to be sure the single leg can supply the required power.

**CAUTION:** A 3-phase delta-connected transformer secondary without a center-tap on one leg cannot be used with the EVSE. No “Neutral” point is available to be connected to ground for ground-fault protection. The EVSE will not allow the contactor to close if it does not sense the presence of a Ground wire connected to a “Neutral” point on the transformer secondary.

## WIRING INSTRUCTIONS (Hardwired)

Route the HCS conduit to a nearby junction box. Use the included ½” trade size watertight conduit fitting and sealing washer to provide a moisture-resistant seal between the conduit fitting and the junction box. If necessary, drill a 7/8” diameter hole to accommodate the conduit fitting. For outdoor installations, ensure the junction box is fully sealed using appropriate electrical grade silicone sealant.

### Figure 6: Wiring the EVSE in a Junction Box



Before connecting the service conductors, please carefully read the section of this manual titled **Installation - Service Connections**. If unsure of the type of power provided at the service panel, please consult with the local utility or call a Service Representative for assistance.

The three supplied HCS-40 service conductors use stranded 10 AWG 90°C copper wire.

The three supplied HCS-50, HCS-60, and HCS-80 service conductors use stranded 8 AWG, 90°C copper wire.

The insulation of each conductor is color coded for standard 240V AC installation:

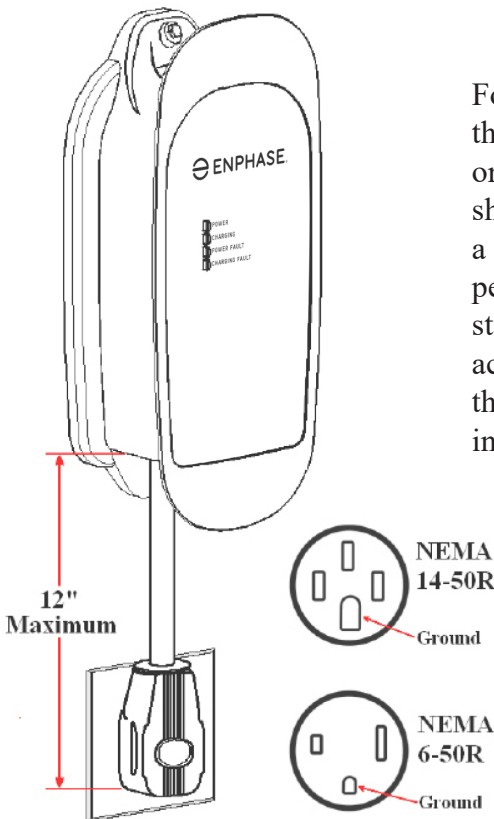
<b>Green:</b>	Ground
<b>Black:</b>	Line 1 (120V AC to Ground)
<b>Red:</b>	Line 2 (120V AC to Ground)

## RECEPTACLE INSTRUCTIONS (Plug-In EVSE)

The plug-in HCS is fitted with either a NEMA 14-50 or 6-50 plug extending from the bottom of the enclosure. Regulations limit this plug to a maximum of 6 feet (1.8 m) in length, including the plug head. For this reason, the plug-in EVSE must be mounted above the NEMA receptacle and must also be located within 6 feet (1.8 m) of it.

In both NEMA 14-50P and 6-50P configurations, the ground pin is located at the furthest point on the plug. It is recommended that a NEMA 14-50R or 6-50R receptacle be oriented accordingly, such that the ground socket is at the lowest point.

**Figure 7: Preferred Orientation of the NEMA Receptacles Below the Plug-in EVSE**



For Plug type EVSEs, the provided 14-50R or 6-50R receptacle shall be installed by a qualified electrician per local codes and standards and in accordance with the manufacturer’s instructions.

## Receptacle Safety Instructions for 240V Plug-Type EVSE

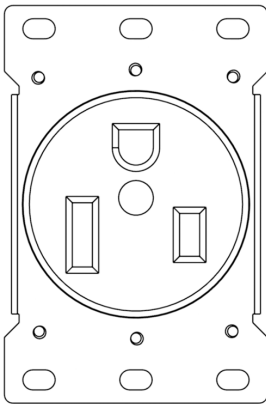
An EV Supply Equipment (EVSE) draws substantially more power than any average home load. For Plug type EVSE units, the provided 14-50R or 6-50R receptacle shall be installed by a qualified electrician per local codes and standards and in accordance with the manufacturer's instruction. If you require an additional or replacement receptacle, please contact customer service for assistance.

**NOTE:** Installation of the receptacle shall be in accordance with local codes and the instructions provided with the receptacle by a qualified electrician.

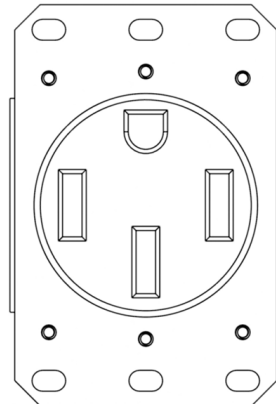


**WARNING:** Improper installation of receptacle may have an increased risk of overheating and may lead to fire hazard.

**Figure 8: NEMA 6-50R**



**Figure 9: NEMA 14-50R**



It is also highly recommended that a qualified electrician inspects the premise wire connections on the back of a pre-existing NEMA outlet before using it. Wire connection points behind the receptacle may become loose or oxidized if they were installed many years ago and may cause the outlet to fail. Ensure that the receptacles are free of any physical damage or defects prior to the installation of the EVSE.

If you believe the provided receptacle to be defective, please contact our customer support at 877-797-4743.

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## GROUNDING INSTRUCTIONS

This product must be grounded. If this product should malfunction, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

### Hardwired EVSE Grounding

The hardwired HCS is equipped with three service conductors shielded by three feet of flexible conduit. This product must be connected to a grounded, metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the ground lead on the product.

### Plug-in EVSE Grounding

The plug-in HCS is equipped with a supply cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate receptacle that is properly installed and grounded in accordance with all local codes and ordinances.



**WARNING:** Improper connection of the equipment grounding conductor may result in a risk of electric shock. Check with a qualified electrician if doubt exists as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

## MOUNTING PROCEDURES

Determine the wall mounting position of the EVSE:

- On the hardwired HCS/EVSE Charger, the three service conductors are shielded by 3' (1 m) of flexible conduit at the bottom of the unit. The EVSE must be positioned such that this conduit can reach a nearby junction box.
- On the plug-in HCS/EVSE Charger, the NEMA plug head is connected by up to 6 feet (1.8 m) of cable (including the plug head) to the bottom side of the EVSE. The plug-in HCS must be positioned such that this plug can safely be inserted into a wall-mounted NEMA socket. Do not allow the power supply cord to contact the floor when plugged into the outlet.
- Position the bottom of the EVSE at a comfortable height and at least 18" (45.7 cm) above the ground for indoor installations and 24" (61 cm) off the ground for outdoor installations. Ensure that the LEDs on the front panel of the EVSE can clearly be seen by the user of the device.
- The HCS/ has two vertically aligned mounting holes spaced 17" (43.2 cm) apart, one each on the enclosure top and bottom. Use a ruler or template to mark hole locations on the mounting surface.

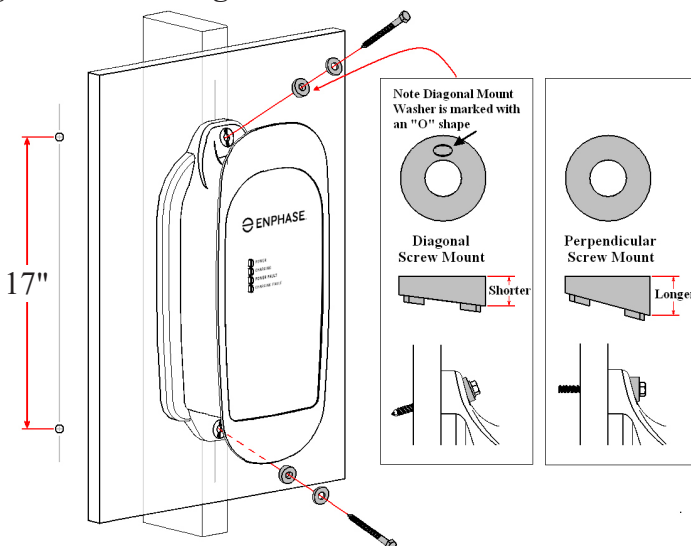


**WARNING:** For safety, always turn off input power to the EVSE at the circuit breaker panel prior to plugging it in or wiring it to the service lines. Likewise, turn off the circuit breaker prior to unplugging it or disconnecting the unit from the service lines.

## EVSE Mounting for Hollow-Wall Construction

- Place the unit such that both mounting holes can take advantage of solid structural framing inside of the wall or a strong wall surface such as plywood.
- Size ¼”- 20 lag screws are recommended for mounting the EVSE to a wooden structure. Pre-drill appropriately sized pilot holes to allow the lag screw to grip the wooden structure while preventing the wood from cracking or splintering while the screw is fastened.
- The included plastic angle washers can be oriented to allow the lag screws to be fastened at an angle while still providing a solid flat backing to the screw head.
- If the screw head is smaller than the ⅜” (1 cm) washer aperture, an additional flat washer will need to be placed between the plastic angle washer and the head of the lag screw.
- If either mounting hole does not have a solid mounting structure (such as drywall without a solid backing) it will be necessary to use proper anchoring hardware such as drywall toggles or molly bolts.

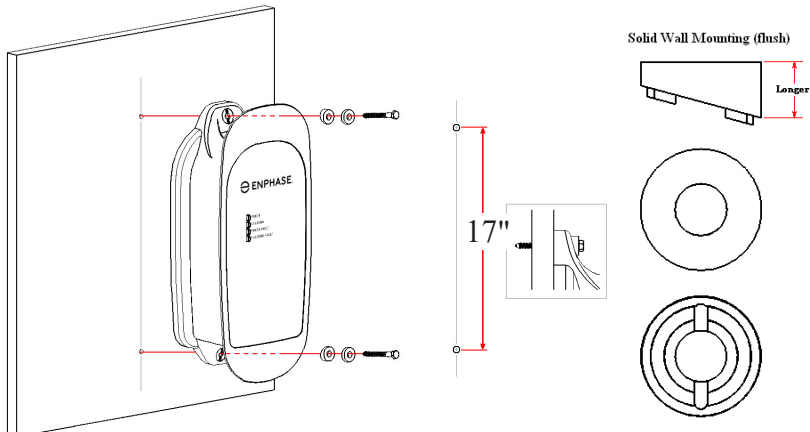
**Figure 9: Mounting EVSE to a Hollow-Wall**



## EVSE Mounting for Solid-Wall Construction

- To secure the unit in concrete, pre-drill appropriately sized holes and use multi-set or wedge anchor hardware at both mounting points.
- To secure the unit in brick or stone, pre-drill appropriately sized holes and use sleeve anchors at both mounting points.
- The included plastic angle washers can be oriented to allow bolts to be fastened either at an angle or perpendicular to the mounting surface.
- **NOTE** there are two different sets of plastic angle washers included. Select those washers that best accommodate the mounting hardware “angle of attack” and orient them accordingly.
- **NOTE** that if the head of the mounting hardware is smaller than the  $\frac{3}{8}$ " (1 cm) plastic angle washer aperture, an additional flat washer will need to be placed between the plastic angle washer and the mounting hardware.
- Machine screw size  $\frac{1}{4}$ "- 20 hardware is recommended for mounting the EVSE. Screw shafts of at least 2" (5.1 cm) are recommended. The EVSE plastic angle washer hole size is  $\frac{3}{8}$ " (1 cm) in diameter, ensure the screw heads are of a larger diameter. Place appropriately sized washers between the screw heads and the HCS enclosure mounting flanges.

**Figure 10: Mounting EVSE to a Solid-Wall**





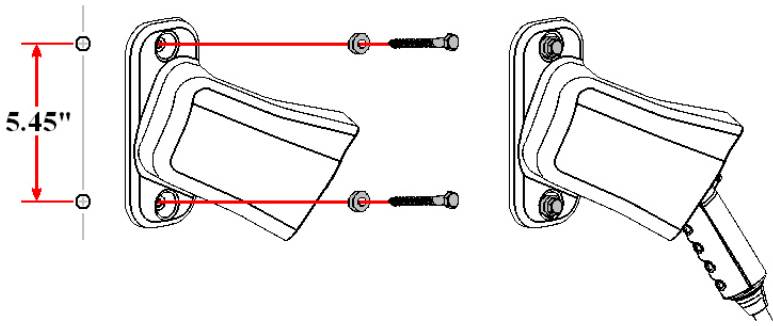
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## MOUNTING THE SAE J1772 CONNECTOR HOLSTER

The SAE J1772 connector holster is included to provide a convenient protective housing for the SAE J1772 connector head when it is not in use.

- The SAE J1772 connector holster should be placed so that users have easy and safe access to the SAE J1772 connector.
- For indoor installation, mount the SAE J1772 connector holster between 18” (45.7 cm) and 48” (122 cm) above the ground or grade.
- For outdoor installation, mount the SAE J1772 connector holster between 24” (61 cm) and 48” (122 cm) above the ground or grade.
- The SAE J1772 connector holster has two vertically aligned mounting holes spaced 5.45” (13.8 cm) apart, one each on the enclosure top and bottom. Use a ruler or template to mark hole locations on the mounting surface.
- The vertical alignment of the HCS and SAE J1772 connector holster mounting holes allows for the convenient mounting of both components onto the same post or wall structure. For example, the holster may be mounted directly above the EVSE.
- Place the SAE J1772 connector holster such that both mounting holes can take advantage of solid structural framing inside of the wall or a strong wall surface such as plywood.
- A set of exterior wood screws and stainless steel washers are included for the purposes of mounting the SAE J1772 connector holster to a wooden surface.
- For mounting to a solid surface such as concrete, brick, or stone, alternate hardware may need to be procured. Examples of solid-wall mounting hardware include multi-sets, wedge anchors and sleeve anchors. Use the type of mounting hardware most appropriate for the supporting structure.

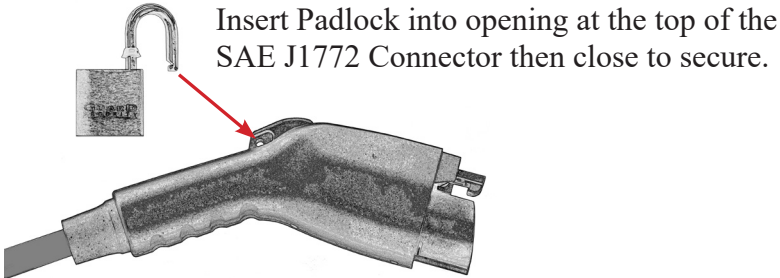
**Figure 11: Mounting the SAE J1772 Connector Holster Using the Exterior Wood Screws and Washers**



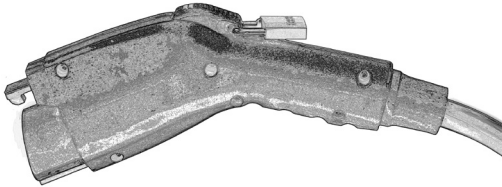
## USING THE PADLOCK (IF APPLICABLE)

A padlock with three keys is included with Enphase EVSE when the connector style includes a lock hole. This rust-proof, solid brass padlock is provided to secure the charge connector to prevent the vehicle's charge from being interrupted via removal.

### Figure 12: Locking the SAE J1772 Connector with Padlock Included

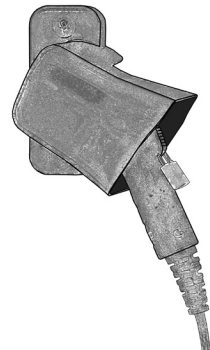


### Figure 13: Charge Connector Secured with Padlock which Cannot be Removed from Vehicle without Key



### Figure 14: Padlock Used in Combination with Connector Holster After Charging

**NOTE:** This padlock can also be used in combination with the provided connector holster as a low cost access control solution. Refer to **Figure 14.**



## MOVING & STORAGE INSTRUCTIONS

**NOTE:** Both hardwired and plug-type HCS and IQ EV Charger models are intended for fixed installations. For mounting requirements, consult the **Mounting Procedures** section of the **Installation Instructions** in this manual.

Always turn off input power to the EVSE at the circuit breaker panel prior to hard-wiring or disconnecting from the service lines. Likewise, always turn off input power to the EVSE at the circuit breaker panel prior to plugging into or unplugging from a NEMA socket.

When transporting the EVSE, do not lift or carry the entire unit by the charge cable. Likewise, do not lift or carry the entire unit by the flexible conduit and input conductors or the NEMA.

The EVSE has a non-operational storage temperature range of -40°C to +80°C (-40°F to +176°F).

## OPTIONAL FEATURES

**If the HCS unit being installed is equipped with an optional feature such as ChargeGuard, Share2, COSMOS, use the provided HCS Optional Features User Manual.**

**A digital copy of the HCS Optional Features User Manual can be found at:**

**[link.enphase.com/ev-charger-docs](https://link.enphase.com/ev-charger-docs)**

## MAINTENANCE

The EVSE requires no periodic maintenance other than occasional cleaning.



**WARNING:** To reduce the risk of electrical shock or equipment damage, exercise caution while cleaning the EVSE and the EV charge connector cable.

1. Turn off the EVSE at the circuit breaker.
2. Unplug the EVSE from the receptacle.
3. Clean the EVSE using a soft cloth lightly moistened with mild detergent solution. Never use any type of abrasive pad, scouring powder, or flammable solvents such as alcohol or benzene.

## **CUSTOMER SUPPORT**

Call a Enphase Service Representative at any time, 24 hours a day, at the number below. **PLEASE HAVE THE MODEL NUMBER AND SERIAL NUMBER AVAILABLE WHEN CALLING.**

This information is printed on the label on the side of the HCS enclosure. If a call is made after business hours or on weekends, please leave a name, telephone number, the unit serial number, and a brief description of the problem. A Service Representative will call back at the earliest opportunity.

<p><b>Distributor Service Number Here</b></p>
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**TO CONTACT ENPHASE DIRECTLY FOR SERVICE, CALL 877-797-4743 MONDAY THROUGH FRIDAY BETWEEN 8:00AM AND 5:00PM PACIFIC TIME.**

# SPECIFICATIONS

## Line Input Power Voltage & Wiring:

240V AC single-phase - L1, L2, and Safety Ground.  
 208V AC 3-phase wye-connected - Any two phases and Safety Ground.  
 240V AC 3-phase, delta-connected. With center-tap on one leg, must use only the two phases on either side of the center-tap. The two phases must both measure 120V AC to ground. **Do not use the third leg (208V “Stinger”).**

## Supplied Input

Pre-installed supplied input conductors of the HCS-40R: L1, L2 and Ground use 3 feet of 10AWG, 90°C copper wire.  
 Pre-installed supplied input conductors of the HCS-50R, HCS-60R, and HCS-80R: L1, L2 and Ground use 3 feet of 8AWG, 90°C copper wire.

## Frequency:

50/60 Hz

## CCID:

20mA

## Current & Output Power: (at 240V AC)

HCS Model Number	Circuit Breaker	Max Current	Output Power	Cable Length
HCS-40R (hardwired)	40A	32A	7.7 kW	25 ft (7.6 m)
HCS-40PR + 6-50PR	40A/50A	32A	7.7 kW	25 ft (7.6 m)
HCS-40PR + 14-50PR	40A/50A	32A	7.7 kW	25 ft (7.6 m)
HCS-50R (hardwired)	50A	40A	9.6 kW	25 ft (7.6 m)
HCS-50PR + 6-50PR	50A	40A	9.6 kW	25 ft (7.6 m)
HCS-50PR + 14-50PR	50A	40A	9.6 kW	25 ft (7.6 m)
HCS-60R (hardwired)	60A	48A	11.5 kW	25 ft (7.6 m)
HCS-80R (hardwired)	80A	64A	15.4 kW	25 ft (7.6 m)

**NOTE:** The maximum current for the vehicle is set by the duty cycle of the Pilot waveform. Output power is variable depending upon the HCS model and vehicle demand.

## Plugs:

An attached NEMA 6-50P or NEMA 14-50P plug is available on plug type EVSE units. The 14-50R or 6-50R receptacle supplied with your product **must** be used if provided.

## Dimensions:

Dimensions are for the enclosure only:  
 Height: 19.7 inches (500 mm)  
 Width: 8.9 inches (226 mm)  
 Depth: 5.3 inches (135 mm)

## Weight:

HCS-40R or HCS-40PR with 40A SAE J1772 connector and 25' length of cable: 6.1kg (13.5 lbs)

HCS-50R or HCS-50PR with 40A SAE J1772 connector and 25' length of cable: 6.3kg (14 lbs)

HCS-60R with 48A SAE J1772 connector and 25' length of cable: 9.0 kg (21 lbs)

HCS-80R with 64A SAE J1772 connector and 25' length of cable: 9.0 kg (21 lbs)

## Environment:

Operating Temperature: -22°F to +122°F (-30°C to +50°C)  
 Storage Temperature: -40°F to +176°F (-40°C to +80°C)

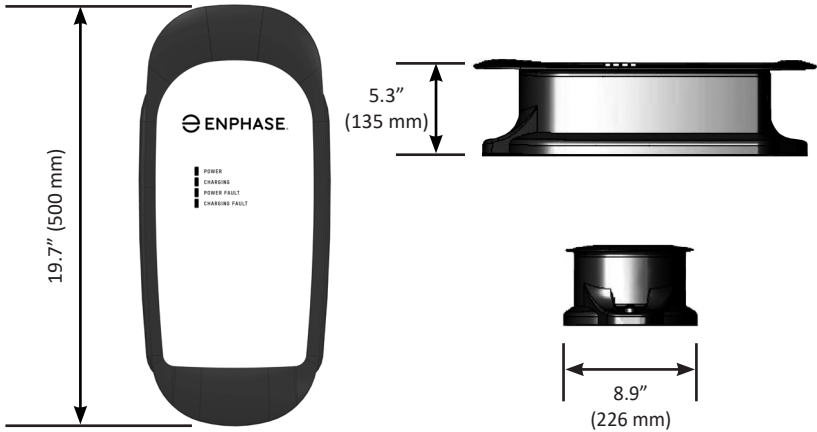


Enclosure Rating: NEMA 4 - watertight

Agency Approvals:

ETL Listed, FCC Part 15 Class B, ENERGY STAR® Certified  
NOM (for particular models)

**Figure 15: Enclosure Dimensions**



## Revision history

REVISION	DATE	DESCRIPTION
140-00277-02	July 2023	Updated receptacle figures. Updated receptacle content block.
140-00277-01	Jan 2023	Initial release
Previous releases		



[enphase.com](https://enphase.com)