



**INNOVATIVE INFRASTRUCTURE FOR
ELECTRIC AND HYBRID VEHICLES**



User Manual



Model HCS

PLEASE NOTE

This user manual includes the latest information at the time of printing. ClipperCreek, 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) 694-4194



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

To view the latest version of this manual please visit clippercreek.com/installation-manuals

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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 EVSE:

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

Cela signifie accorder une attention particulière. Les remarques contiennent des suggestions utiles.



CAUTION: *This symbol means be careful.* You are capable of doing something that might result in damage to equipment.

ATTENTION: *Ce symbole signifie être prudent.* Vous êtes capable de faire quelque chose qui pourrait causer des dommages à l'équipement.



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.

AVERTISSEMENT: *Ce symbole signifie un danger.* Vous êtes dans une situation qui pourrait causer des blessures corporelles. Avant de travailler sur un équipement électrique, être conscient des dangers présentés par les circuits électriques et les pratiques courantes de prévention des 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.

Instructions se Rapportant à un Risque d'Incendie ou de Choc Électrique

Lorsque l'utilisation de la HCS, précautions fondamentale de sécurité électrique doivent être suivies:

- Utilisez cette station de recharge pour charger les véhicules électriques équipés d'un *SAE-J1772™* port de recharge seulement. Consultez le manuel du propriétaire du véhicule afin de déterminer si le véhicule est équipé d'un correcte port de recharge.

- Assurez-vous que le *SAE-J1772TM* câble de recharge sur la station de recharge est positionné de telle sorte qu'il ne sera pas piétiné, accroché plus de, ou autrement endommagé ou de subir le stress.
- Ce produit ne contient aucune pièce réparable par l'utilisateur. Consultez la section Support à la Clientèle dans ce manuel pour obtenir des informations de service. N'essayez pas de réparer ou d'entretenir la station de recharge vous-même.
- Ne faites pas fonctionner votre station ou le câble de recharge si elles sont physiquement ouverte, fissuré, effiloché, ou autrement visiblement endommagé. Contactez votre représentant du service pour service immédiatement. Consultez la section Support à la clientèle dans ce manuel pour obtenir des informations sur le représentant du service dans votre région.
- Ne pas utiliser dans les garages commerciaux où un garage commercial est défini comme une installation (ou une partie) utilisé pour la réparation de véhicules à combustion interne dans lequel la zone peut être classée en raison de vapeurs inflammables étant présents (Tels que de l'essence.)
- Ne posez pas les doigts à l'intérieur de l'extrémité du *SAE-J1772TM* coupleur du câble de recharge.
- Ne pas laisser les enfants utiliser cet appareil. Supervision d'un adulte est obligatoire lorsque des enfants sont à proximité d'une station de recharge qui est en cours d'utilisation.



WARNING: Turn off input power to your EVSE at the circuit breaker panel before servicing or cleaning the unit.

AVERTISSEMENT: Couper l'alimentation d'entrée à votre station de recharge sur le panneau de disjoncteur avant de nettoyer ou de réparer l'appareil.

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.

VENTILATION: Certains véhicules électriques nécessitent un système de ventilation externe pour éviter l'accumulation de gaz explosifs ou dangereux lors de la charge à l'intérieur. Consultez le manuel du propriétaire du véhicule pour déterminer si votre véhicule nécessite une ventilation quand le recharge en salle.

NOTE: Vehicles which conform to the *SAE-J1772TM* standard for communication can inform the EVSE that they require an exhaust fan. The HCS is not equipped to control ventilation fans. Do not charge the vehicle with the HCS if ventilation is required.

Véhicules qui sont conformes à la norme *SAE-J1772TM* de communication peuvent informer la station de recharge qu'ils nécessitent un ventilateur d'extraction. Le HCS n'est pas équipé pour contrôler les ventilateurs. Ne chargez pas le véhicule avec les HCS si la ventilation est nécessaire.



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

ATTENTION: NE PAS RECHARGER un véhicule à l'intérieur si il nécessite une ventilation. Contactez votre représentant de service pour plus d'informations.

Save these instructions for future reference.

Conservez ces instructions pour référence future.

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.

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 ClipperCreek 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.

ATTENTION: Modifications apportées à ce produit par qui conque autre qu'un centre de service autorisé peut annuler la conformité FCC.

OPERATION

The HCS EVSE 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 HCS and plug-in HCS versions are available.

The HCS is very easy to use. Simply unwrap the *SAE-J1772™* charge cable and plug the 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.

The HCS Front Panel

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

POWER (yellow), indicates that power is available to the HCS.

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 HCS 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 HCS is unable to communicate with the vehicle correctly, or a safety fault condition has been detected by the unit.

Figure 1: HCS 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.

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 C22.2 NO. 280-13 (Canada).

ATTENTION: Pour réduire le risque d’incendie, de se connecter uniquement à un circuit fourni avec le approprié circuit de dérivation protection maximale contre les surintensités, en conformité avec le Code National électrique ANSI/NFPA 70 (US) ou Code Canadien de l’électricité C22.2 NO. 280-13 (Canada).

Table 2: Service Connections

HCS Model	Connection/Receptacle Type	Circuit Breaker Rating
HCS-40R (Ruggedized)	Hardwired	40A/50A
HCS-60R (Ruggedized)	Hardwired	60A
HCS-80R (Ruggedized)	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 HCS. Only Line 1, Line 2, and Ground are required, as shown in **Figure 3**.

ATTENTION: Il s'agit d'un appareil monophasé. Ne pas relier tous les trois phases d'une alimentation triphasée!!! Vous pouvez utiliser les deux phases d'un triphasé en étoile transformateur alimentation. Le point central des triphasé (généralement utilisé comme Neutre) doit être mis à la terre quelque part dans le système. Une connexion Neutre n'est pas exigée par la HCS. Seulement ligne 1, ligne 2, et Mise à la Terre sont nécessaires, comme le montre la **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.

ATTENTION: Les deux phases utilisées doivent mesurer chaque 120V à Neutre. Mise à la terre doit être connecté au Neutre en un seul point, généralement à l'entrée panneau de disjoncteurs de service.



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**.

ATTENTION: Si une alimentation à triphasé 240V provient d'un triangle connecté secondaire, la bornes utilisée doit avoir un centretap. Que la tap doit être Mise à la Terre. Seuls les deux phases l'une ou l'autre côté du centre tapped brancher peut être utilisé. Voir la **Figure 4** ci-dessous.



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

ATTENTION: La garantie est annulée si cette unité n'est pas correctement câblé



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

AVERTISSEMENT: Seul un électricien qualifié doit effectuer l'installation. L'installation doit être effectuée conformément à tous les codes électriques locaux et des ordonnances.

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 HCS. 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.

AVERTISSEMENT: Les codes électriques locaux doivent toujours être respectées lors de l'installation du piquet de mise à la terre.

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

Figure 2: 220/240V Single Phase

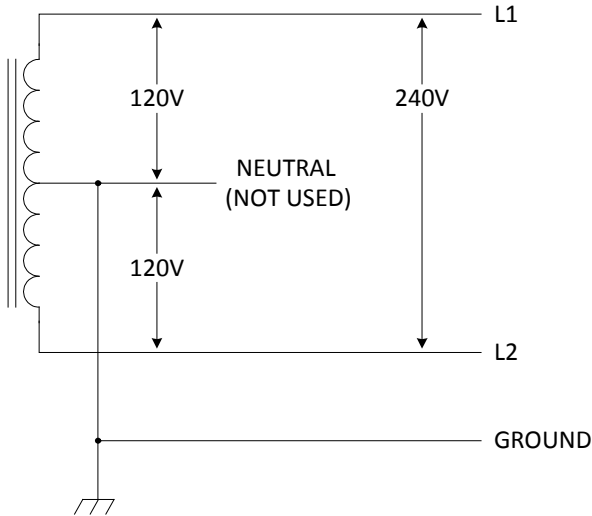
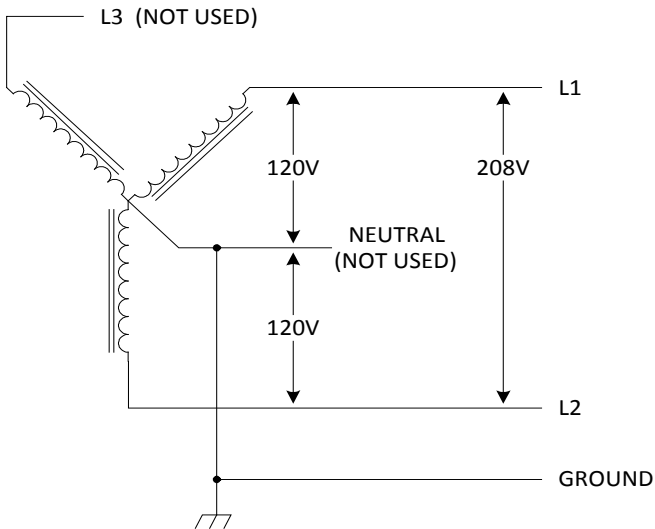


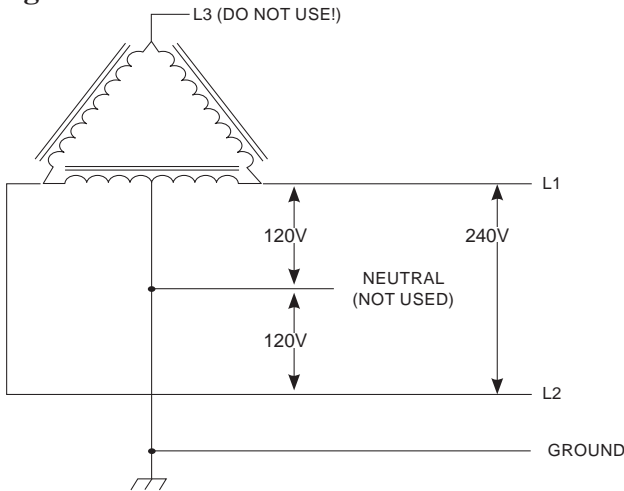
Figure 3: 208V 3-Phase, Wye-Connected



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.

Avec un transformateur étoile-connecté secondaire, deux des lignes peut être utilisé pour fournir 208V à la HCS. Par exemple , L1 & L2, ou L1 & L3, ou L2 & L3. Laissez la borne inutilisée ouverte. Ne le connectez pas à un bar Neutre, ou à la Mise à la Terre. Assurez-vous que le point central est Mis à la Terre quelque part dans le système.

Figure 4: 240V 3-Phase, Delta-Connected, w/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.

ATTENTION: Avec la connexion triangle, une borne doit être centretappée, et seulement les deux phases d’un côté ou de l’autre du centre tap peut être utilisé. Les deux phases doivent mesurer 120V à Neutre. La troisième ligne (L3) du delta est 208V, par rapport à la position Neutre, et il est parfois désigné comme un “stinger”. Ne pas utiliser ce troisième ligne! Consultez la documentation du transformateur fabricant pour être sûr du borne unique peut fournir la puissance requise.



CAUTION: A 3-phase delta-connected transformer secondary without a center-tap on one leg *cannot be used with the HCS*. No “Neutral” point is available to be connected to ground for ground-fault protection. The HCS 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.

ATTENTION: Un triphasé triangle-connecté transformateur secondaire sans centre-tap sur le terminal ne peut pas être utilisé avec la HCS. Aucun point “Neutre” est disponible pour être connecté à Mise à la Terre pour protection de défaut à la terre. Le HCS ne permettra pas le contacteur de fermer si elle ne détecte pas la présence d’un fil de Masse connecté à un point “Neutre” sur le secondaire du transformateur.

MOUNTING PROCEDURES

Locate the wall mounting position of the EVSE:

- On the hardwired HCS, the three service conductors are shielded by three feet of flexible conduit at the bottom of the unit. The HCS must be positioned such that this conduit can reach a nearby junction box.
- Position the bottom of the EVSE at a comfortable height and at least 18 inches above the ground for indoor installations and 24” 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” apart, one each on the enclosure top and bottom. Use a ruler or template to mark hole locations on the mounting surface.



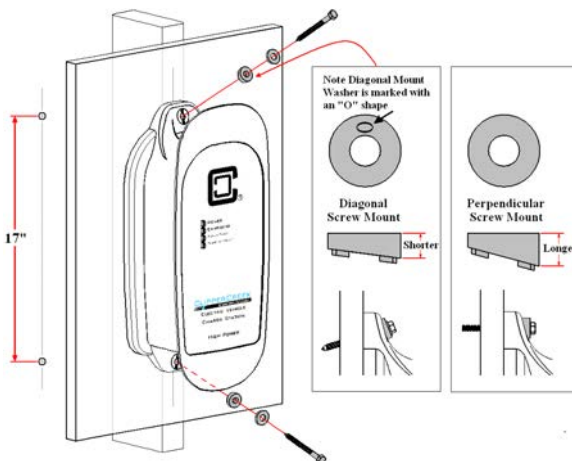
WARNING: For safety, always turn off input power to the EVSE at the circuit breaker panel prior to plugging it in or wiring it to the service lines. Likewise, turn off the circuit breaker prior to unplugging it or disconnecting the unit from the service lines.

AVERTISSEMENT: Pour sécurité, toujours désactiver le courant d’entrée de la station de recharge au niveau du disjoncteur du panneau avant de le brancher ou de câblage à les lignes de service. De même, coupez le disjoncteur avant de le débrancher ou déconnecter l’unité à partir des lignes de services.

HCS 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 $\frac{1}{4}$ "- 20 lag screws are recommended for mounting the HCS 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 $\frac{3}{8}$ " 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.

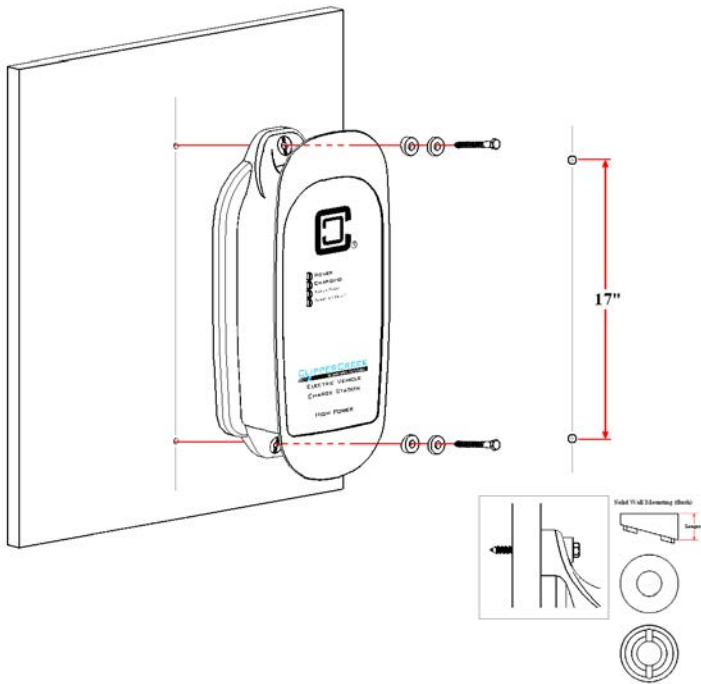
Figure 5: Mounting the HCS to a Hollow-Wall



HCS 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 $\frac{3}{8}$ ” 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 HCS. Screw shafts of at least 2” are recommended. The HCS plastic angle washer hole size is $\frac{3}{8}$ ” 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.

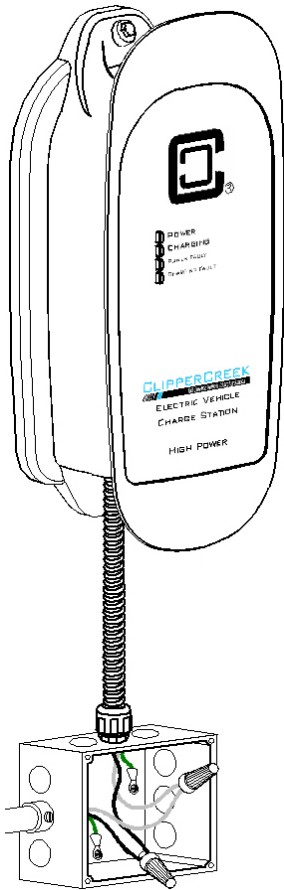
Figure 6: Mounting the HCS to a Solid-Wall



WIRING INSTRUCTIONS (Hardwired HCS)

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 7: Wiring the HCS in a Junction Box



Before connecting the HCS 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-15, 20, 25, 30 or 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:

- Green:** Ground
- Black:** Line 1 (120V AC to Ground)
- Red:** Line 2 (120V AC to Ground)

Les trois HCS-15, 20, 25, 30 un HCS-40 service conducteurs fournis utilisent bloqués câble en cuivre 10 AWG 90°C.

Les trois conducteurs de service HCS-50, HCS-60 et HCS-80 fournis utilisent des câbles toronnés de calibre 8 AWG, 90°C fil de cuivre.

L'isolation de chaque conducteur est un code couleur pour l'installation de 240V AC norme:

Vert: Mise à la Terre

Noir: Ligne 1 (120V AC à Mise à la Terre)

Rouge: Ligne 2 (120V AC à Mise à la Terre)

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.

HCS 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.



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.

AVERTISSEMENT: Une mauvaise connexion du conducteur de terre peut entraîner un risque de choc électrique. Vérifier avec un électricien qualifié si il existe un doute quant à savoir si le produit est correctement mis à la terre. Ne pas modifier la fiche fournie avec le produit – si elle n'entre pas dans la prise, faites installer une prise adéquate par un électricien qualifié.

MAINTENANCE

The HCS requires no periodic maintenance other than occasional cleaning.



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

1. Turn off the EVSE at the circuit breaker before cleaning.
2. 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.

AVERTISSEMENT: Pour réduire le risque de choc électrique ou des dommages équipement, user de prudence lors du nettoyage de l'appareil et le câble du connecteur de charge EV.

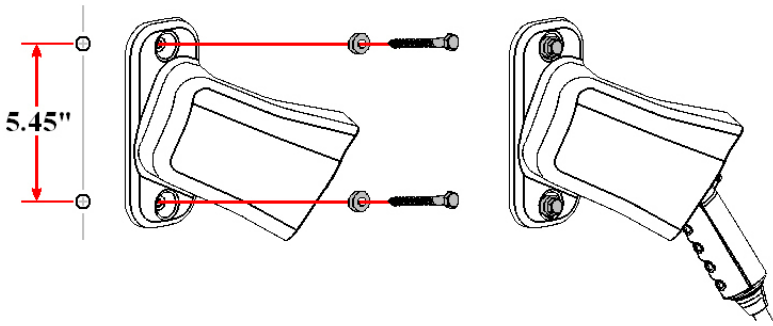
1. Eteignez la équipement au disjoncteur avant de le nettoyer.
2. Nettoyez l'équipement à l'aide d'un chiffon doux légèrement humidifié avec une solution de détergent doux. Ne jamais utiliser de tampons abrasifs, de poudre à récurer ou de solvants inflammables tels que l'alcool ou le benzène.

MOUNTING THE *SAE-J1772TM* CONNECTOR HOLSTER

The *SAE-J1772TM* connector holster is included to provide a convenient protective housing for the *SAE-J1772TM* connector head when it is not in use.

- The *SAE-J1772TM* connector holster should be placed so that users have easy and safe access to the *SAE-J1772TM* connector.
- For indoor installation, mount the *SAE-J1772TM* connector holster between 18” and 48” above the ground or grade.
- For outdoor installation, mount the *SAE-J1772TM* connector holster between 24” and 48” above the ground or grade.
- The *SAE-J1772TM* connector holster has two vertically aligned mounting holes spaced 5.45” 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-J1772TM* 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 HCS.
- Place the *SAE-J1772TM* 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-J1772TM* 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 24: Mounting the SAE-J1772™ Connector Holster Using the Exterior Wood Screws and Washers

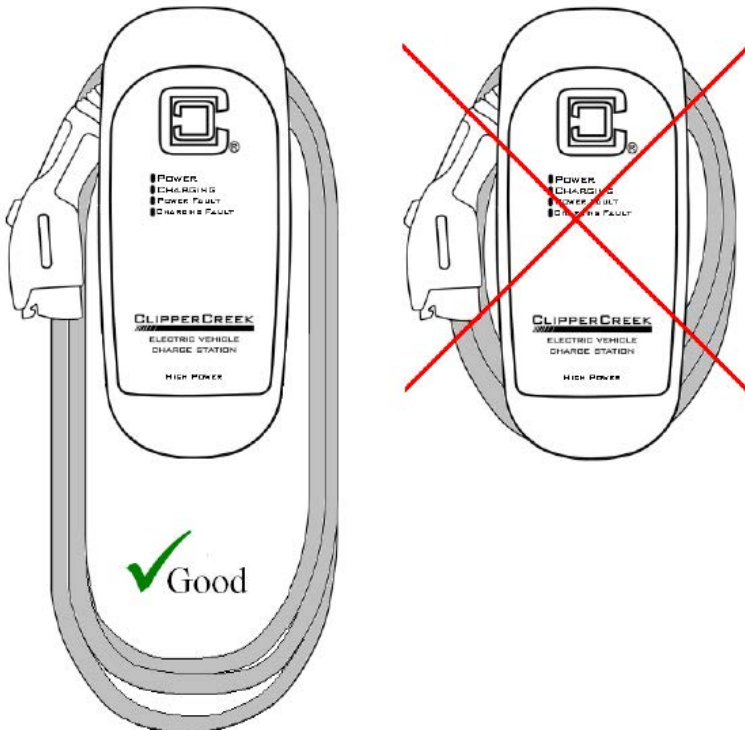


CHARGE CABLE WRAP GUIDELINES

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 HCS 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 HCS 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 25: Drape the Charge Cable Loosely Around the HCS Enclosure



CUSTOMER SUPPORT

Call a ClipperCreek, Inc. 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.

**Distributor Service
Number Here**

TO CONTACT CLIPPERCREEK, INC. DIRECTLY FOR SERVICE, CALL (877) 694-4194 MONDAY THROUGH FRIDAY BETWEEN 8:00AM AND 5:00PM PACIFIC STANDARD 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 Conductors:	Pre-installed supplied input conductors of the HCS-15, 20, 25, 30 or 40: L1, L2 and Ground use 3 feet of 10AWG, 90°C copper wire. Pre-installed supplied input conductors of the HCS-50, HCS-60, and HCS-80: L1, L2 and Ground use 3 feet of 8AWG, 90°C copper wire.				
Voltage Range:	185V AC to 264V AC				
Frequency:	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	7.7kW	25 ft (7.6m)
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HCS-60R (hardwired)	60A	48A	11.5 kW	25 ft (7.6m)
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HCS-80R (hardwired)	80A	64A	15.4 kW	25 ft (7.6m)
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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:

Dimensions:

Dimensions are for the enclosure only:

Height:	500 mm	(19.7 inches)
Width:	225 mm	(8.9 inches)
Depth:	135 mm	(5.3 inches)

Weight:

HCS-40R with 32A *SAE-J1772™* connector and 25' length of cable: 6.1kg (13.5 lbs)

HCS-60R with 48A *SAE-J1772™* connector and 25' length of cable: 8.1 kg (17.8 lbs)

HCS-80R with 64A *SAE-J1772™* connector and 25' length of cable: 8.1 kg (17.8 lbs)

Environment:

Operating Temperature: -30°C to +50°C (-22°F to +122°F)
Storage Temperature: -40°C to +80°C (-40°F to +176°F)
Enclosure Rating: NEMA 4 - watertight

Agency Approvals:

ETL Listed, FCC Part 15 Class B



ZEF ENERGY



CLIPPERCREEK

RELIABLE. POWERFUL. MADE IN AMERICA.

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