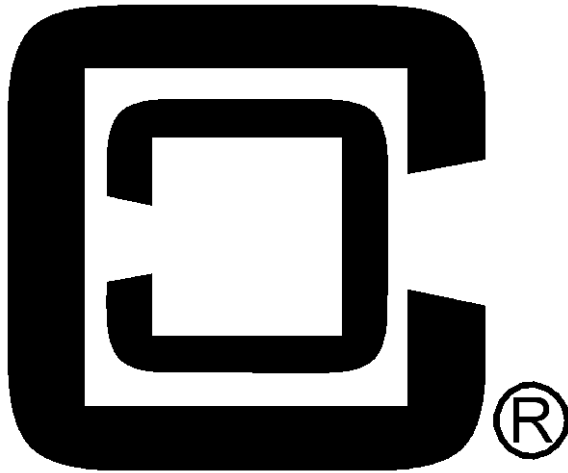


CLIPPERCREEK, INC
INNOVATIVE INFRASTRUCTURE FOR
ELECTRIC AND HYBRID VEHICLES



User's Manual



Model PCS

PLEASE NOTE

This user's 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.

If you have questions about the use of this product, contact your customer service representative. Refer to the Customer Support section located in this guide.

Please visit ClipperCreek's website at www.clippercreek.com

CONTENTS

IMPORTANT SAFETY INSTRUCTIONS	4-5
ADDITIONAL SAFETY INFORMATION	6
FCC INFORMATION	7
OPERATION	8
THE PCS FRONT PANEL	9
GROUNDING INSTRUCTIONS	10
MOVING & STORAGE INSTRUCTIONS	10
MAINTENANCE	11
CUSTOMER SUPPORT	11
SPECIFICATIONS	12
SAE-J1772™ CONNECTOR HOLSTER (OPTIONAL)	13
WARRANTY INFORMATION	14-15

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 charge station.

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 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 PCS, basic electrical safety precautions should be followed:

- Use this charge station to charge electric vehicles equipped with an *SAE-J1772™ charge port only*. Consult the vehicle owner's manual to determine if the vehicle is equipped with the correct charge port.
- Make certain the charge station *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 charge station yourself.
- Do not operate your charge station if it or the *SAE-J1772™* charge cable is physically open, cracked, frayed, or otherwise visibly damaged. Contact your 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 a charge station that is in use.
- Do not use this device with an extension cord.

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

Lorsque l'utilisation de la PCS, 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-J1772™* 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-J1772™* 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.
- Ne pas utiliser cet appareil avec une rollonge.

ADDITIONAL SAFETY INFORMATION

NOTE: **WARNING:** Unplug the charge station from the wall outlet before servicing or cleaning the unit.



AVERTISSEMENT: Debranchez la station de recharge de la prise murale avant de réparer ou de nettoyer.

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-J1772™* standard for communication can inform the charge station that they require an exhaust fan. The PCS is not equipped to control ventilation fans. Do not charge the vehicle with the PCS if ventilation is required.

Véhicules qui sont conformes à la norme *SAE-J1772™* de communication peuvent informer la station de recharge qu'ils nécessitent un ventilateur d'extraction. Le PCS n'est pas équipé pour contrôler les ventilateurs. Ne chargez pas le véhicule avec les PCS 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 your charge station is suspected, we suggest the following steps be taken before consulting your ClipperCreek Sales and 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 quiconque autre qu'un centre de service autorisé peut annuler la conformité FCC.

OPERATION

The PCS Electric Vehicle Charging Station is a compact portable charging station 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.

The PCS is very easy to use. Just unwrap the *SAE-J1772™* charge cable, plug the wall plug into any grounded 120V wall socket, and plug the charge coupler firmly into the vehicle's charge port. **Always plug the PCS into the wall socket first.**

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 PCS 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 PCS will turn off. When disconnecting the PCS, always remove the vehicle connector first then remove the plug from the wall socket. To remove the vehicle connector once a charge cycle has completed (or to interrupt a charge in progress) press and hold down the latch release lever on the charge coupler handle then unplug the charge coupler from the vehicle charge port. When not in use, the cord may be re-wrapped around the PCS and the entire assembly secured with the included nylon straps.

If charging always takes place in the same location, such as the home garage at night, the PCS may be left plugged into the wall socket without damage.

THIS DEVICE IS NOT INTENDED FOR USE WITH AN EXTENSION CORD.

THE PCS FRONT PANEL

The front panel on the PCS has four indicator lights:

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

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



Figure 1. Front Panel

#	Amber Power LED	Green Charging LED	Red Power Fault LED	Red Charging Fault LED	Fault Condition
1	off	off	off	off	Not plugged into wall socket or no power from wall socket. 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.

Table I. Front Panel LED Information

GROUNDING INSTRUCTIONS

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

The plug-in PCS is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet 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.

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 a 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.

MOVING & STORAGE INSTRUCTIONS

When transporting the portable charge station, do not lift or carry the entire unit by the *SAE-J1772™* charge cord. Likewise, do not lift or carry the entire unit by the NEMA wall plug.

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

MAINTENANCE

The PCS 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. Start by unplugging the charging station from the vehicle.
2. Unplug the charging station from the wall receptacle before cleaning.
3. Clean the charge station 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. Commencer par dé brancher la station de recharge du véhicule.
2. Debrachez la station de recharge de la prise murale avante de le nettoyer.
3. 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.

CUSTOMER SUPPORT

Call your 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 YOU CALL.**

This information is printed on the label on the bottom of the PCS enclosure. If your call is made after business hours or on weekends, please leave your 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 please call: 530-887-1674
Hours: Monday to Friday between 8:00 am and 5:00 pm (Pacific Standard Time)

SPECIFICATIONS

Line Input Power	
Voltage & Wiring:	120V AC single-phase - L1, Neutral and Safety Ground
Voltage Range:	85V AC to 132V AC
Frequency:	60 Hz

Current & Output Power (at 120VAC)	PCS Model No.	Circuit Breaker	Maximum Current	Output Power
	PCS-10	10A	6A or 8A	0.7 or 0.9KW
	PCS-15	15A	10 or 12A	1.2 or 1.4KW

- Note that the maximum current for the vehicle is set by the duty cycle of the Pilot waveform.
 - Output power is variable depending upon the PCS model and vehicle demand.

Plugs: Attached NEMA 5-15P plug

Dimensions:
Dimensions are for the enclosure only:

Height:	280 mm (11 inches)
Width:	100 mm (4 inches)
Depth:	80 mm (3 inches)

Weight: 4 kg (8.5 lbs) including the SAE-J1772™ connector and 7.6m (25') of cable

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 – water tight

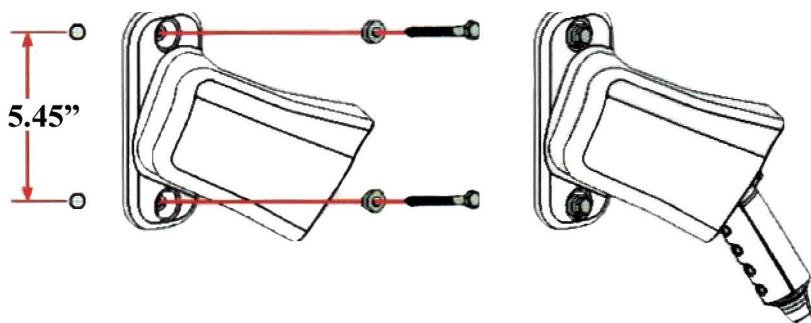
Agency Approvals: cULus Listed, cETLus Listed, FCC Part 15 Class B

MOUNTING THE *SAE-J1772*TM CONNECTOR HOLSTER

The *SAE-J1772*TM connector holster is an available option to provide a convenient protective housing for the *SAE-J1772*TM connector head when it is not in use.

- The *SAE-J1772*TM connector holster should be placed so that users have easy and safe access to the *SAE-J1772*TM connector.
- For indoor installation, mount the *SAE-J1772*TM connector holster between 18 and 48 inches above the ground or grade.
- For outdoor installation, mount the *SAE-J1772*TM connector holster between 24 and 48 inches above the ground or grade.
- The *SAE-J1772*TM 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 the hole locations on the mounting surface.
- Place the *SAE-J1772*TM 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*TM 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 2. Mounting the holster using the exterior wood screws and washers



WARRANTY INFORMATION

*LIMITED WARRANTY
ELECTRIC VEHICLE SUPPLY EQUIPMENT and ACCESSORIES*

ClipperCreek, Inc.
11850 Kemper Road, Suite E
Auburn, California 95603
Telephone: 530-887-1674
Email: information@clippercreek.net

ClipperCreek shall provide the following warranty with respect to the Products to Representative, its Sub-Representatives and their customers:

Product 3-year parts, 3-year factory labor:

ClipperCreek, Inc. warrants this product to be free from defects in material and workmanship. The warranty period shall commence on the date of installation date (first use). The product installation date must be evidenced and communicated to ClipperCreek by way of the warranty registration card (or its equivalent). The warranty registration card must be filled out completely and accurately, and returned to ClipperCreek within 30 days after installation, and the product installation date shall be within 6 months after the purchase date. If a product installation date is not communicated to ClipperCreek as described above, the product purchase date shall serve as the warranty commencement date.

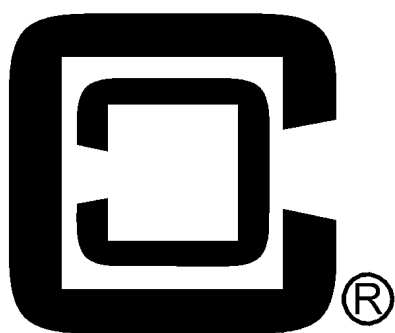
If this product is defective in materials or workmanship during the warranty period, ClipperCreek will, at its option, repair or replace the product. Repair parts and/or replacement products may be either new or reconditioned at ClipperCreek's discretion. This limited warranty does not cover service or parts to repair damage due to improper installation or use, including but not limited to improper connections with peripherals, external electrical faults, accident, disaster, misuse, abuse or modifications to the product not approved in writing by ClipperCreek. Any service repair outside the scope of this limited warranty shall be at applicable rates and terms then in effect. This warranty covers factory parts and factory labor only; it does not cover field service or removal and replacement of the product or any other costs.

All other express and implied warranties for this product including the warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Some

states do not allow the exclusion of implied warranties or limitations on how long an implied warranty lasts, so the above limitation may not apply to you. If this product is not as warranted above, your sole and exclusive remedy shall be repair or replacement as provided above. In no event will ClipperCreek, any of its authorized sales and service representatives, or its parent company be liable to customer or any third party for any damages in excess of the purchase price of the product. This limitation applies to damages of any kind including any direct or indirect damages, lost profits, lost saving or other special, incidental, exemplary or consequential damages whether for breach of contract, tort or otherwise or whether arising out of the use of or inability to use the product, even if ClipperCreek or an authorized ClipperCreek representative or dealer has been advised of the possibility of such damages or of any claim by any other party. Some states do not allow the exclusion or limitation of incidental damages for some products, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

To obtain warranty service:

Call your nearest authorized Service Representative or ClipperCreek at the above number. You will receive information as to how service for the product will be provided. If you mail or ship the product in for service, you must insure the product, prepay all shipping charges, and properly pack it for shipment in its original shipping container or its equivalent. You are responsible for all loss or damage that may occur in transit. You must provide proof of purchase of the product and the purchase date before any warranty service can be performed.



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