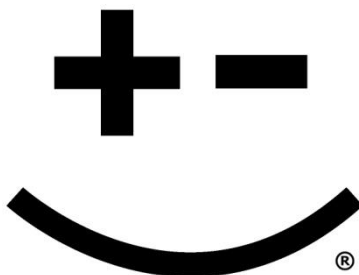


# PEP<sup>®</sup> stations<sup>®</sup> LEADING THE CHARGE<sup>®</sup>

Model No. PS-2000

WARRANTY AND OPERATING INSTRUCTIONS



# PEP Stations Limited Warranty

1. **Effective Date** The effective date shall be the date of actual on-line registration of the Products in Customer's facility.

2. **Warranty.**

2.1 **Limited Warranty.** Products and accessories are warranted to the original Customer to be free of defects in material and workmanship for a period of twelve (12) months from effective date. PEP Stations' sole obligation under this warranty is to repair or replace any defective part or component. Notwithstanding anything to the contrary herein, this warranty does not cover replacement of expendable items, such as fuses, switches and connectors shipped with or integrated into the Products.

PEP CHARGING STATION PRODUCTS REQUIRE INTERNET CONNECTIVITY FOR PROPER OPERATION, MONITORING AND SERVICES. FAILURE TO PROVIDE FUNCTIONAL INTERNET CONNECTIVITY VOIDS THIS WARRANTY IN ITS ENTIRETY.

2.2 **EXCLUSION OF ALL OTHER WARRANTIES.** THIS IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PEP STATIONS WITH RESPECT TO THE PRODUCTS, AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO PEP STATIONS IN SPECIFICATIONS, DRAWINGS OR OTHERWISE, AND WHETHER OR NOT PEP STATIONS' PRODUCTS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED FOR CUSTOMER'S USE OR PURPOSE.

2.3 **Maximum Warranty Liability; Actions that Void Warranty.** PEP Stations' total warranty expense with respect to any Product and/or installation is limited to a maximum of the original purchase price of that Product. PEP Stations will not be liable for any costs of removal, disposal, installation, transportation or any other charges which may arise in connection with a warranty claim. This warranty will be voided by damage or wear to Products caused by abnormal operating conditions (including exposure to acid, chemical fumes, metallic dust or extreme temperatures), accident, abuse, damage, misuse, vandalism, unauthorized alteration or service to a Product by a person not authorized by PEP Stations, or if the Product was not operated or maintained in strict compliance with PEP Stations' operating instructions. Any evidence of an attempt to disassemble or reverse engineer the Products will void the warranty.

PEP CHARGING STATION PRODUCTS REQUIRE INTERNET CONNECTIVITY FOR PROPER OPERATION, MONITORING AND SERVICES. FAILURE TO PROVIDE FUNCTIONAL INTERNET CONNECTIVITY VOIDS THIS WARRANTY IN ITS ENTIRETY.

3. **Force Majeure.** PEP Stations or the PEP Stations authorized representative shall not be liable for any loss or damage resulting from failure or delay of performance due to unforeseen circumstances or causes beyond their control, including without limitation shipping, riots, war, fire, flood, sabotage, acts of God, weather-related transit or strikes, delays, delays caused by electrical or computer network issues, inability to obtain materials, or compliance with any law, regulation or order, whether valid or invalid, of any government body.

4. **Limitation of Liability.** PEP STATIONS AND THE PEP STATIONS AUTHORIZED REPRESENTATIVE (IF ANY) WILL NOT BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES OR EXPENSES OF ANY NATURE ARISING FROM INSTALLATION, USE OR ANY OTHER CAUSES WHATSOEVER. PEP STATIONS AND THE PEP STATIONS AUTHORIZED REPRESENTATIVE (IF ANY) WILL NOT BE LIABLE FOR THE ACTS, WORKMANSHIP OR NEGLIGENCE OF CUSTOMER'S EMPLOYEES, CONTRACTORS, SUBCONTRACTORS, SUPPLIERS OR AGENTS. PEP STATIONS AND THE PEP STATIONS AUTHORIZED REPRESENTATIVE (IF ANY) WILL NOT BE LIABLE UNDER CONTRACT, TORT OR OTHERWISE FOR PERSONAL INJURY, WRONGFUL DEATH, PROPERTY DAMAGE, LOSS OF ANTICIPATED PROFITS OR REVENUE, LOSS BY REASON OF PLANT SHUTDOWN, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, RESULTING FROM THE PRODUCT'S INSTALLATION OR USE, EVEN IF PEP STATIONS OR THE PEP STATIONS AUTHORIZED REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. CUSTOMER ASSUMES RESPONSIBILITY FOR ALL PERSONAL INJURY AND PROPERTY DAMAGE RESULTING FROM THE HANDLING, POSSESSION OR USE OF THE PRODUCT.

5. **Limitation on Damages.** PEP STATIONS AND THE PEP STATIONS AUTHORIZED REPRESENTATIVE (IF ANY) WILL NOT BE LIABLE TO CUSTOMER FOR ANY LIABILITY, WHETHER IN CONTRACT, TORT OR OTHER THEORY OF LIABILITY, BEYOND THE AMOUNT ACTUALLY PAID BY CUSTOMER FOR THE PRODUCT WHICH GAVE RISE TO THE CLAIM.

6. **Limitation on Actions.** Any action, regardless of form, arising out of this Agreement must be brought by Customer no more than one (1) year after the date in which the claim first occurred.

## IMPORTANT SAFETY INSTRUCTIONS

### SAVE THESE INSTRUCTIONS

**WARNING-** When using electric products, basic precautions should always be followed including the following:

- Read all the instructions before using this product
- This device should be supervised when used around children
- Do not put fingers into the electric vehicle conductor
- Do not use this product if the flexible power cord or EV cable are frayed, have broken insulation, or other signs of damage.
- Do not use the PEP Station PS2000 if the enclosure or the EV connector is broken, cracked, open or shows any other indication of damage.
- Do not operate the PEP Station PS2000 in temperatures outside the operating range of -22°F to 131°F (-30°C to 55°C)
- The wiring and concrete pedestal or wall mounting bracket must be installed by a certified electrician and must comply with local electrical codes and ordinances.
- Do not install the PEP Station PS2000 near flammable, explosive or combustible materials.

**WARNING-** To reduce the risk of fire or electric shock, do not remove the rear panel. No user serviceable parts are inside. Repair should only be done by Customer Solutions Engineers.



**RISK OF ELECTRIC SHOCK**

The specifications, instructions and other information in this manual are subject to revision at any time without prior notice.



## Operating Instructions

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# Operating Instructions

## 1.0 Introduction & Overview

### 1.1 Product overview

PEP Stations meet all National Electric Code and National Fire Protection Association requirements for electric vehicle (EV) charging stations and complies with all relevant UL standards.

Each PEP Station is a dual Level 2(208-240V/30A) commercial charging station that charges two plug-in electric vehicles simultaneously.

Each PEP Station has a touch screen user-interface which guides the electric vehicle driver through a few simple steps to initiate charging. A built-in card reader allows each unit to be configured for either access cards or credit cards; the hourly rate being determined by the station’s owner. Each PEP Station is networked to be centrally monitored and has communication capabilities to allow for system management functions for station owners, diagnostic reporting and software upgrades.

PEP Stations are distinctive in design and are easily identifiable by the stainless steel exterior and yellow coiled cords; they represent sustainable sites, innovation and a property owner’s commitment to reducing emissions.



Figure 1

# Operating Instructions



## 1.2 Product specifications

### Power Specifications

AC Power Output (maximum)	Level 2: 7.2kW (two dedicated circuits, 208/240V AC min. of 30A continuous)
AC Power Input	Level 2: 7.2kW (two dedicated circuits, 208V/240V AC @ 30A per charging circuit)
Input Power Connections	Line 1, Line 2 per circuit with common ground
Standby Power	5W
Recommended Panel Breaker	Double pole 40A max breaker on dedicated branch for each circuit
Energy Metering Accuracy	3% @ 2 minute intervals
Output Charging Connector	SAE J1772™ EV connectors on 18' max. extended length coiled cord

### Safety and Operational Specifications

Safety Compliance	Complies with UL 2594, UL 2231, UL 1998, NFPA 70, NEC Article 625, ADA
Grounds Fault Detection	20mA CCID with auto retry (15 min delay, 4 tries)
Plug-Out Detection	Power terminated per SAE J1772 specification
Surge Protection	6 kV @ 3,000 A
EMI Compliance	FCC Part 15 Class A

### Environmental Specifications

Enclosure Rating	NEMA 3R per NEMA 250-1997
Operating Humidity	Up to 100% over full operating temperature range
Operating Temperature	-22°F to 131°F (-30°C to 55°C) ambient temperature
Terminal Block Temperature Rating	212°F (100°C)

### Functional Interfaces

LCD Screen Resolution	800 x 600 PIXELS
Screen Characteristics	8.0" diagonal touch screen, sunlight readable and fingerprint resistant
Vertical Viewing Angle	124° viewing angle
Horizontal Viewing Angle	120° viewing angle
Card Reader	ISO 7811 compliant

### Network Specifications

Local Area Network	10/100/1000 Base-T Ethernet
Network Communication Protocol	TCP/IP, IPv4/IPv6, DHCP Addressing
Network Security	HTTPS, SSL

### Other Specifications

Approximate Shipping Weights	70lbs for the component housing, 30 lbs for the installation kit
Component Housing Dimensions	9"x9"x24" plus front-mounted cord/connector assemblies
Reinforced Concrete Pedestal	12"x12"x27" above grade with 42" below grade, form provided
Wall Mounting Bracket	9"x11"x12" steel bracket, secured to approved wall with (4) 5/8" lag bolts

## 2.0 Operating Instructions for PEP Station Owners

Each PEP Station is required to be connected to the Internet via an Ethernet cable (a wireless solution will be available in 2012) through a customer provided network or an Internet Service Provider. Connectivity allows PEP Stations, through its service partner Diebold, 7x24x365 remote monitoring for usage and faults. Internet connectivity enables PEP Stations to also receive automatic software updates. If on-site service is necessary, the remote monitoring service will notify PEP Stations and service will be dispatched accordingly. Additionally, PEP Station owners will have access to help and support services by calling (888) 760-0140.

The service agreement gives the station owner access to the PEP Station web site, which provides the following functions:

- Reporting- PEP maintains usage statistics on a per-station and aggregate basis. This information will be distributed to registered users on a monthly basis.
- Rate Management- Station owners may set the hourly fee for credit card billing.
- Access Management- PEP Stations can be configured to accept access cards (PEP provided), credit cards or free charging.
- Hours of Operation- PEP Stations can be configured for time of day operation.

It is suggested that the station owner or facility manager periodically clean the station with a non-abrasive cloth and inspect the PEP Station to verify that it is functioning as intended.

**WARNING-** To reduce the risk of fire or electric shock, do not remove the rear panel. No user serviceable parts are inside. Repair should only be done by Customer Solutions Engineers.

## Operating Instructions

### 3.0 Station Registration Process

Upon purchase and installation of a PEP Station, the station owner will be required to register and configure their PEP Station at [www.pepstations.com](http://www.pepstations.com) before the station will enable charging. The owner will be guided through a short series of steps to complete the on-line registration process. Please allow one business day for activation to take place once the registration information has been submitted.

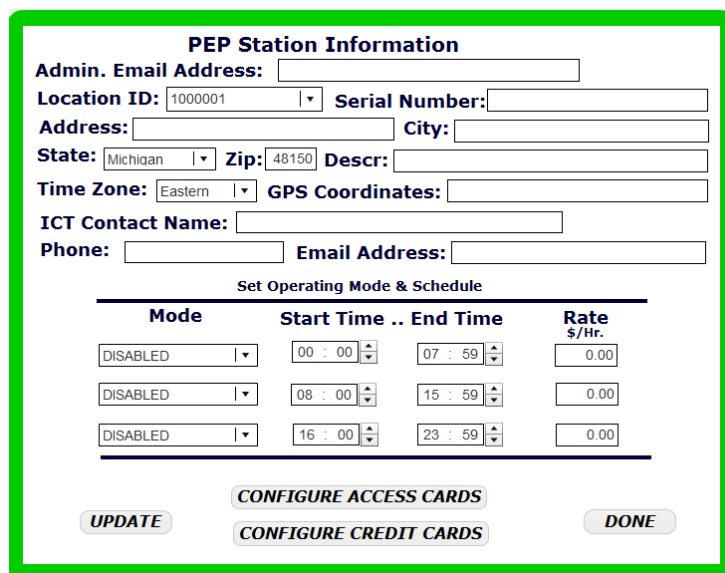
The information that will be required for registration is:

- Station serial number, located on the side panel of the PEP Station
- The address where the PEP Station is installed
- Owners contact information
- The owner will be required to assign a site administrator and IT/ICT contact to each station. These contacts may be the same as the owner and can be assigned to multiple PEP Stations.
- Acceptance of the Sales Order Terms and Conditions
- Configure the station for free access, access cards (PEP provided) or credit cards

Some of the optional information and features for station registration are:

- Configure the station to accept multiple types of access. PEP Stations may be configured for free access, access cards (PEP provided), credit card use or any combination thereof.
- If configured for credit cards, the station owners may set the hourly fee for credit card billing.
- Configure for time of day operation

The image below is a sample of one of the registration screens.



**PEP Station Information**

Admin. Email Address:

Location ID:  Serial Number:

Address:  City:

State:  Zip:  Descr:

Time Zone:  GPS Coordinates:

ICT Contact Name:

Phone:  Email Address:

**Set Operating Mode & Schedule**

Mode	Start Time .. End Time	Rate \$/Hr.
<input type="text" value="DISABLED"/>	<input type="text" value="00 : 00"/> .. <input type="text" value="07 : 59"/>	<input type="text" value="0.00"/>
<input type="text" value="DISABLED"/>	<input type="text" value="08 : 00"/> .. <input type="text" value="15 : 59"/>	<input type="text" value="0.00"/>
<input type="text" value="DISABLED"/>	<input type="text" value="16 : 00"/> .. <input type="text" value="23 : 59"/>	<input type="text" value="0.00"/>

Figure 2

## 4.0 Operating Instructions for Electric Vehicle Drivers

The following set of instructions explains how the electric vehicle driver interacts with the PEP Station to initiate charging.

### 4.1 Home Screen

The Home Screen will display when the operator approaches the PEP Station. The PEP Station must detect a connected vehicle on one of the two J1772 connectors before continuing the sequence to activate charging.

To advance past the Home Screen remove the appropriate J1772 connector from the PEP Station connector holster and insert into the vehicle socket. The pilot signal will communicate that the vehicle is present with a secure connection to the PEP Station and the user interface will advance to the next screen.



# Operating Instructions



## 4.2 Time Selection Screen

Once a vehicle has been securely connected to the PEP Station the sequence will automatically advance to the Time Selection Screen below. The operator must select how many hours they would like to charge their vehicle.

To select the number of hours press the Up Arrow (+ Hours) to increase the charging time in ½ hour increments or press the Down Arrow (- Hours) to decrease the charging time in ½ hour increments. The PEP Station is configured to charge electric vehicles for a minimum of ½ hour and a maximum of 12 hours. If configured to accept credit cards, the price will increase or decrease incrementally with the time selection as configured by the station owner. Once the appropriate time has been selected, press the Next button located at the bottom of the screen to advance to the Swipe Card Screen.



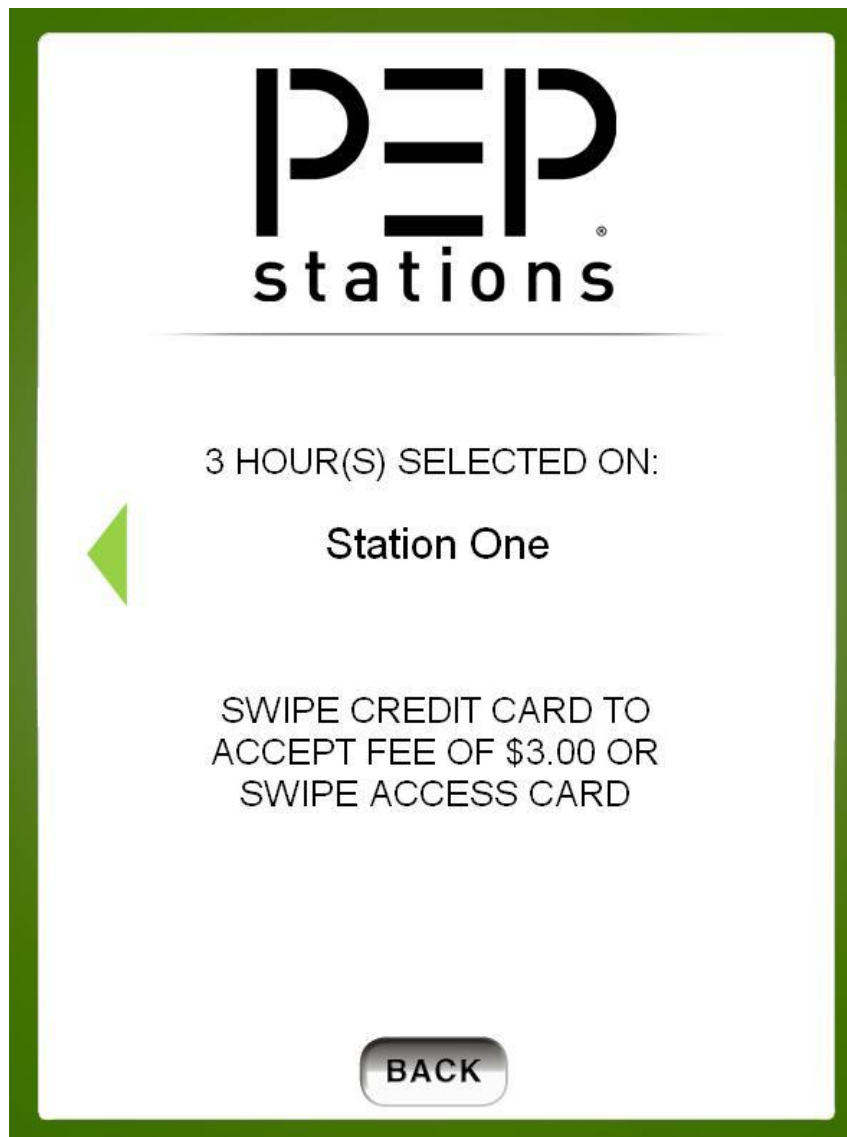
## Operating Instructions



### 4.3 Swipe Card Screen

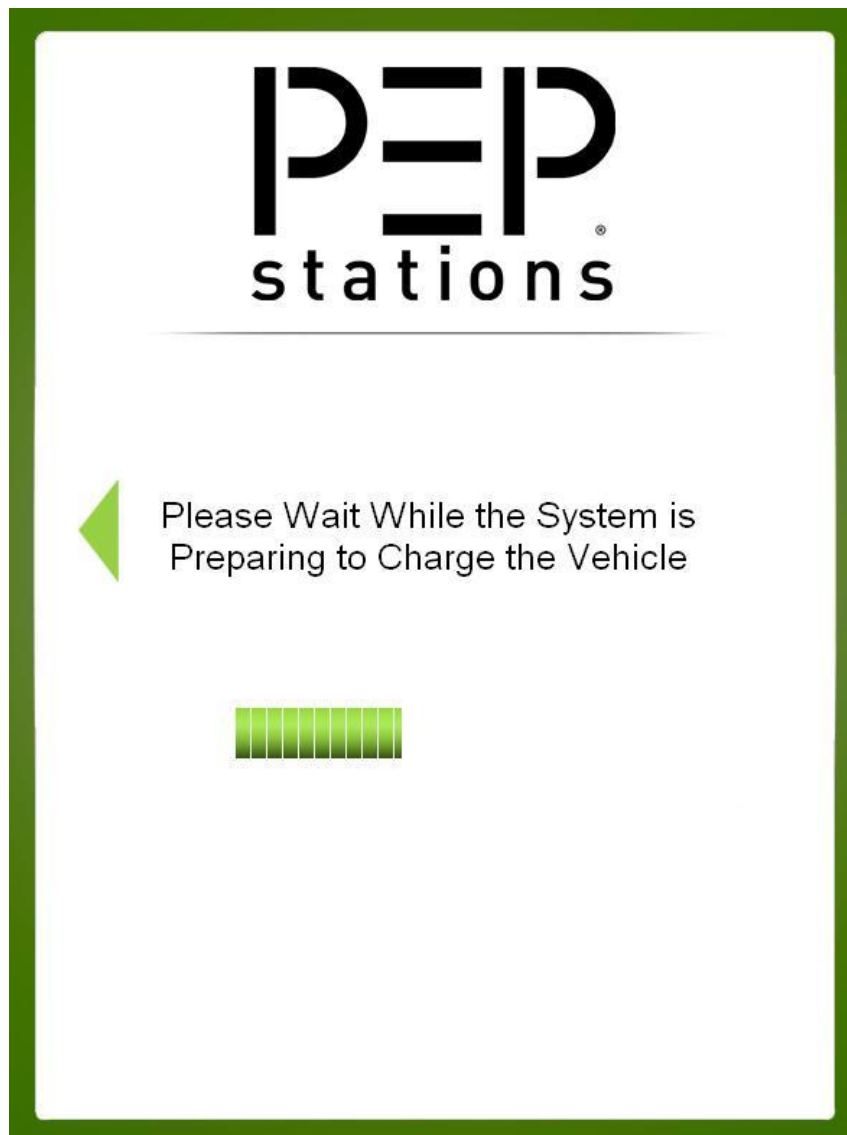
The Swipe Card Screen will display once the time has been selected. The station will not advance to the next screen until an appropriate credit card or access card has been swiped. The user can choose to go back and revise the number of hours to charge their vehicle by hitting the 'Back' button located at the bottom of the screen.

To swipe a credit card, insert the card into the magnetic strip card reader and remove quickly. The card reader is located directly above the J1772 connectors.



## 4.4 Preparing to Charge Screen

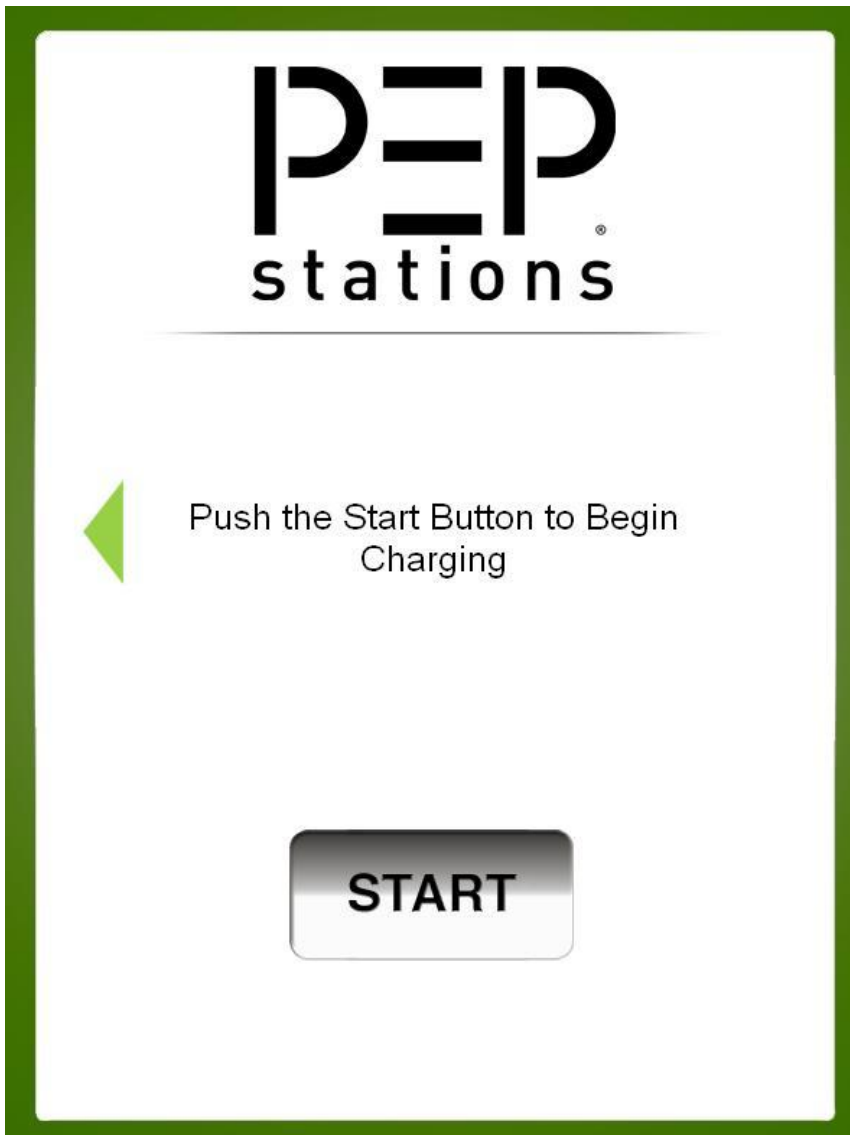
The Preparing to Charge Screen will let the user know that the system is processing the credit card transaction or access card authorization. The green bar indicated below will scroll while this process is occurring. Once the card processing has completed the sequence will automatically advance to the next screen.



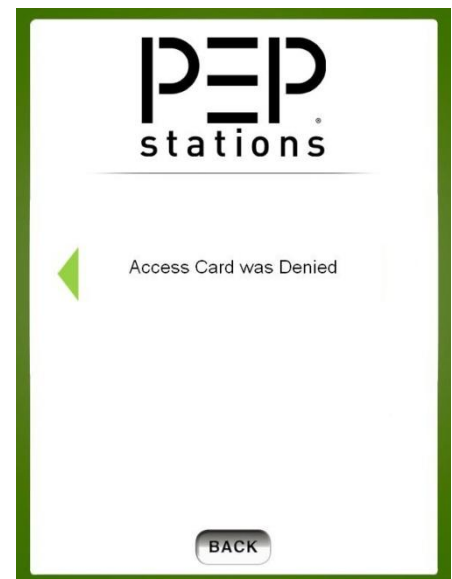
## 4.5 Begin Charging and Card Declined Screens

Once the credit card or access card has been accepted the Begin Charging Screen will automatically display. To complete the process and activate the charging the operator should press the Start button located in the lower center of the screen.

If the credit card was declined or did not read properly, the Card Denied Screen will automatically display. The operator can select the back button in the lower center of the screen to return to the Swipe Card Screen or disconnect the connector from the vehicle to cancel the entire process.



*Begin Charging Screen*



*Card Denied Screen*

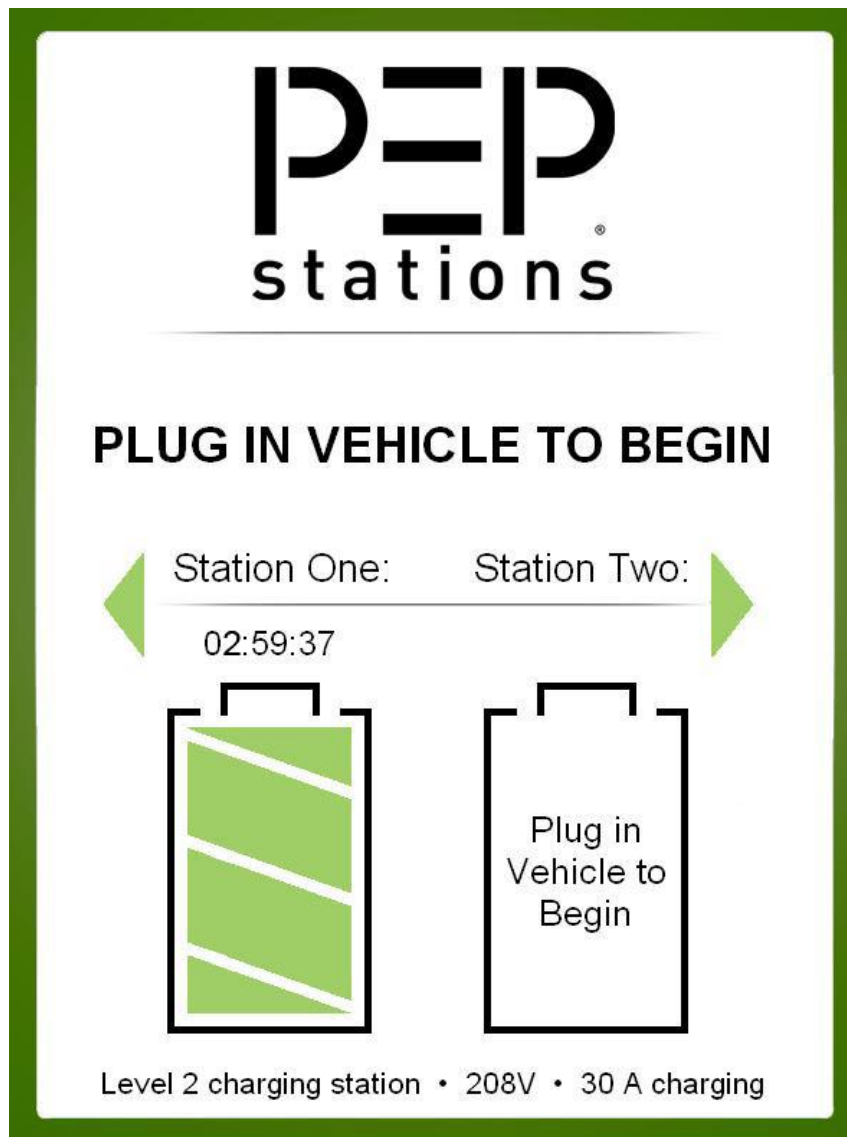
# Operating Instructions



## 4.6 Vehicle Charging Screen

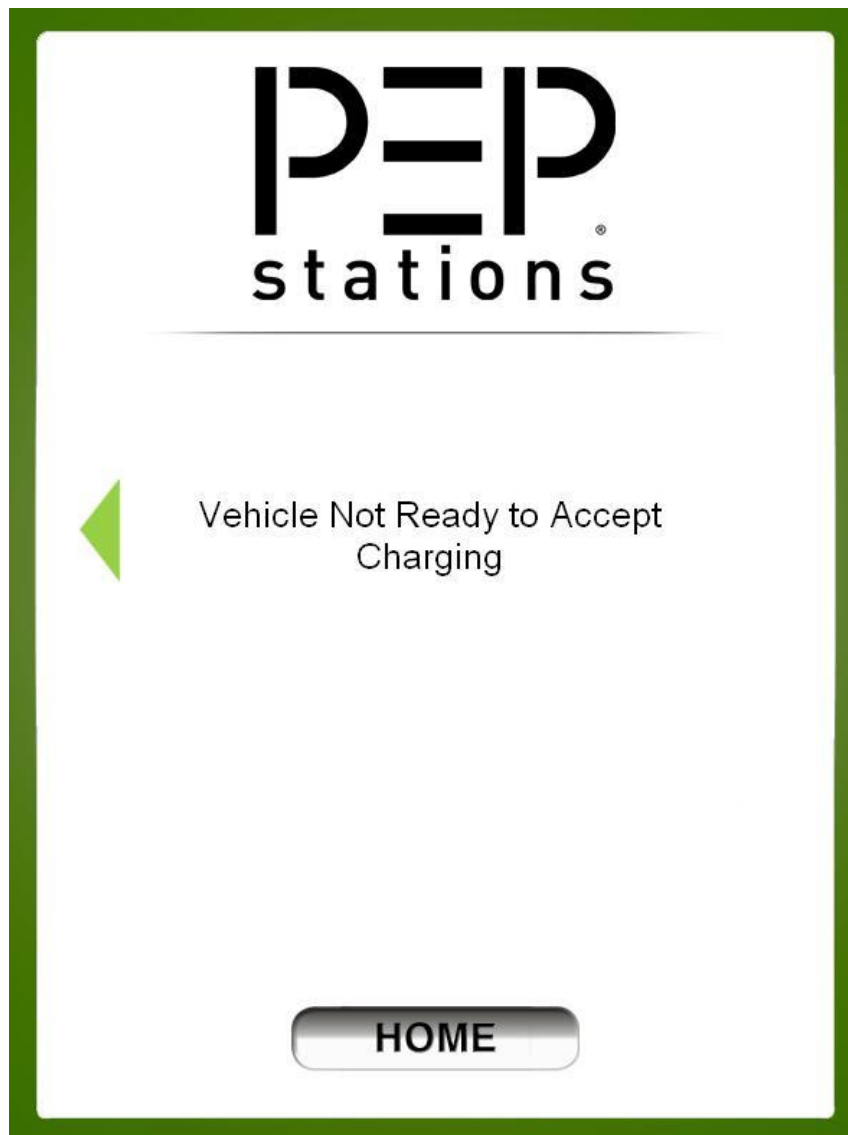
Once the Start button has been pushed on the Begin Charging Screen, the PEP Station will advance to the Vehicle Charging Screen. The Vehicle Charging Screen will display which station is charging and indicate how much time is remaining numerically.

If one station is actively charging when a second user approaches the PEP Station to charge, the Vehicle Charging Screen will display in place of the Home Screen. The second user will then remove the appropriate J1772 connector from the PEP Station connector holster and insert into the vehicle socket. The pilot signal from the vehicle will communicate that the vehicle is present with a secure connection and the PEP Station will advance to the next screen.



## 4.7 Vehicle Not Ready to Accept Charging Screen

If at any point during the process of activating charging on the PEP Station the J1772 connection becomes unsecure, the Vehicle Not Ready to Accept Charging Screen will display. The operator can hit the Home button to return to the Home Screen and restart the sequence. If no action is taken from the operator the sequence will automatically return to the Home Screen after 10 seconds of inactivity.



## 4.8 Fault Screen

If at any point during the charging sequence the internal computer reports a fault or contactor state failure, the Fault Screen will display below. If the Fault Screen displays, PEP Stations monitoring service will be notified. If this is the result of a ground fault, the software will attempt to reset and close the contactors and the screen will display 'Automatic Reset Active'. If the attempt fails, the Fault Screen will continue to display until the connector is disconnected from the vehicle. If the fault is a result of a contactor state open, the Fault Screen will remain on until corrective action is taken by PEP Stations.

