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EVSE – RS HOME CHARGING DOCK USER’S MANUAL

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Introduction

Thank you for purchasing the AeroVironment™ Home Electric Vehicle Charging Dock Model EVSE-RS™ for use with your electric vehicle. This User Guide shows how to use the Charging Dock with installation instructions for an electrician.

This document is your guide to the Home Charging Dock (Model EVSE-RS™). It provides easy-to-use instructions for using the Charging Dock with your all-electric vehicle.

Please Note

This user’s manual includes the latest information available at the time of printing. AeroVironment, Inc. reserves the right to make changes to this manual or product without further notice. Changes, modifications, or repairs to this product by parties other than an authorized service provider could void the product warranty.

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.

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. However, some high-powered radio signals or nearby equipment, such as digital phones or RF communications equipment, could affect operation.

If you suspect your Charging Dock is receiving interference, take the following steps before contacting Customer Support:

1. Relocate nearby electrical appliances or equipment during charging.

2. Turn off nearby electrical appliances or equipment during charging.

NOTE: Changes or modifications to this product by anyone other than an authorized service provider will void FCC compliance.
Important Safety Instructions

Read these instructions, and the charging instructions in your vehicle owner’s manual, before charging your electric vehicle. Failure to do so can result in death or serious injury.

Symbol Usage

Take special note of all information marked with the following symbols:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="DANGER" /></td>
<td>Indicates information about safety practices which, if not followed, may result in serious injury or death.</td>
</tr>
<tr>
<td><img src="image" alt="WARNING" /></td>
<td>Indicates information about safety practices which, if not followed, could result in personal injury or are necessary to prevent fire or equipment overheating.</td>
</tr>
<tr>
<td><img src="image" alt="NOTE" /></td>
<td>Indicates helpful information for installation or usage, but does not contain personnel or equipment safety related information.</td>
</tr>
</tbody>
</table>

These symbols may also be found on labels affixed to your Charging Dock.

High Voltage Warning

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="DANGER" /></td>
<td>High voltage is present in your electric meter housing and power distribution service panel. Contact with high voltage can cause death or serious personal injury.</td>
</tr>
<tr>
<td><img src="image" alt="WARNING" /></td>
<td>It is recommended that your Charging Dock be installed by a licensed, electrician. To avoid serious injury or death, installation must be in accordance with the manufacturer’s installation instructions and must comply with the provisions of the National Electrical Code (NEC) and all local codes. In cases of conflict between local codes and the NEC, local codes shall take precedence.</td>
</tr>
</tbody>
</table>
General Operational Safety Warnings

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DANGER</strong></td>
<td>DO NOT operate your Charging Dock with a damaged output cable, connector, or Charging Dock housing. Visually inspect the output cable, connector, and Charging Dock housing for damage before each use. If you detect any damage, stop using the Charging Dock and contact Customer Support.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>ALWAYS position the Charging Dock output cable so that it will not be driven over, stepped on, tripped over, or otherwise damaged or stressed while in use. To prevent personal injury and damage to the Charging Dock, output cable, and connector, ALWAYS stow the output cable after use.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>STRANGULATION HAZARD. Small children could become entangled in the output cable and be strangled. Keep small children away from the Charging Dock, and ALWAYS stow the output cable after use.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>The Charging Dock is intended for use by licensed drivers only. Children should not be allowed to use this Charging Dock. DO NOT allow children to play near the Charging Dock. Close supervision of children is necessary when the Charging Dock is used near children.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>Use the Charging Dock only to supply power to electric vehicles equipped with a compatible vehicle receptacle. If you do not know whether a vehicle is equipped with a compatible vehicle receptacle, check the owner’s manual.</td>
</tr>
</tbody>
</table>

State of California Proposition 65 Warnings

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WARNING</strong></td>
<td>This product contains a chemical known to the State of California to cause cancer.</td>
</tr>
<tr>
<td><strong>WARNING</strong></td>
<td>This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.</td>
</tr>
</tbody>
</table>
Charging Dock Safety Features

If, at any time, you feel the equipment to be unsafe, shut off the electricity at the Circuit Breaker or disconnect switch (if present) and immediately contact Customer Support. **DO NOT** use your Charging Dock until the problem can be identified and corrected.

Here is an example of a Power Distribution Panel Circuit Breaker.

![Figure 1: Sample 240 Volt Circuit Breaker](image)

The Charging Dock is designed for a permanently wired installation indoors (in a garage) or outdoors (in a carport or on a pedestal). The Charging Dock utilizes a 208-240 Volt AC single-phase electricity source to provide electricity to the vehicle’s charging system. The Charging Dock is designed with the safety of the end user as the highest priority and includes the following convenient safety features to protect against the risk of electric shock.

- The Charging Dock is designed with a permanent grounding system for personal safety
- The Charging Dock is equipped with a Ground Fault Circuit Interrupter (GFCI) reaction system to protect against electric shock. If the Charging Dock detects output current flowing through an incorrect path to ground, the Charging Dock will shut off power to the output cable and illuminate the TROUBLE indicator.
- The Charging Dock enclosure and cable assembly are completely insulated (no exposed live parts) to protect against electric shock.
- The Charging Dock connector and the vehicle receptacle are designed to prevent arcing and to not expose the user to live power if the cable is disconnected while a charge cycle is in progress.
Additional Safety Information

- When the Charging Dock connector is properly connected to the vehicle receptacle, the vehicle propulsion system is disabled. The output cable has a safety break-away feature in case the vehicle is moved or unintentionally rolls away from the parking location with the cable connected to the vehicle. The safety break-away feature will allow output cable separation from the Charging Dock if the output cable is yanked or pulled with excessive force.

- The output cable should be coiled up on the hanger when not in use to minimize damage to the cable and eliminate the possibility of tripping.

<table>
<thead>
<tr>
<th>WARNING</th>
<th>If the output cable becomes separated from the Charging Dock, DO NOT ATTEMPT TO REPAIR THE CABLE YOURSELF.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contact Customer Support at 1.888.833.2148 to arrange for service.</td>
</tr>
</tbody>
</table>

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About your Charging Dock

The Charging Dock is not a battery charger, but rather an easy-to-use home charging station. It supplies 208 - 240Volt AC power to your electric vehicle.

The Charging Dock is designed to control and monitor energy delivery from the residence’s electrical service wiring to your electric vehicle. The vehicle monitors current and battery state of charge to ensure the quickest, safest transfer of power to recharge the vehicle propulsion battery.

*Figure 2: Charging Dock System Diagram*
Operating Your Charging Dock

Overview

You can safely and conveniently connect the Charging Dock connector to your vehicle’s charge receptacle for battery recharging. When the Charging Dock connector is connected to the vehicle receptacle, a communication link is established between the vehicle and the Charging Dock. The charge cycle initiation is automatic and is subject to the demand of the vehicle.

During a charge cycle, the vehicle controls the charging rate. The vehicle will tell the Charging Dock to stop supplying power to the vehicle when the battery is fully charged.

If necessary, you can interrupt the charge cycle by pressing STOP on the Charging Dock. As long as the Charging Dock connector remains connected to the vehicle, you can restart an interrupted charge cycle by pressing START.

The Charging Dock has five indicators on the faceplate that indicate:

a.) The status of the charge cycle, and

b.) whether an error condition has been detected.

If an error is detected, the Charging Dock will stop AC power flow to the vehicle and illuminate the TROUBLE indicator.
Front Panel

![Figure 3: Front Panel Controls and Indicators](image)

All indicator lights are green with the exception of the TROUBLE indicator (5), which, if illuminated, is red.

<table>
<thead>
<tr>
<th>Item</th>
<th>Indicator Status</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POWER PRESENT</td>
<td>When indicator light is ON, AC power is present.</td>
</tr>
<tr>
<td>2</td>
<td>READY TO CHARGE</td>
<td>When indicator light is ON, the Charging Dock is ready for use.</td>
</tr>
<tr>
<td>3</td>
<td>VEHICLE CONNECTED</td>
<td>When indicator light is ON, connector is in place and vehicle is communicating with the Charging Dock</td>
</tr>
<tr>
<td>4</td>
<td>VEHICLE CHARGING</td>
<td>When indicator light is ON, contactor has closed and vehicle is accepting charge current from Charging Dock</td>
</tr>
<tr>
<td>5</td>
<td>TROUBLE</td>
<td>When indicator light is ON, an error has occurred that requires your attention.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Control Function</th>
<th>Item</th>
<th>Control Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Connector Latch</td>
<td>8</td>
<td>START</td>
</tr>
<tr>
<td>7</td>
<td>Connector</td>
<td>9</td>
<td>STOP</td>
</tr>
</tbody>
</table>
Getting Started

Operating the Charging Dock is designed to be safe and simple. Starting a charge is as easy as plugging the Connector into the vehicle receptacle.

- **POWER PRESENT** indicator (1) illuminates when utility power is present at the Charging Dock. This indicator should always be illuminated if the Circuit Breaker (refer to Figure 1) and Safety Disconnect Switch (if required) are both ON.

- **READY TO CHARGE** indicator (2) illuminates when the Charging Dock is ready for use. Unless your vehicle is connected to the charger, the READY TO CHARGE indicator should always be illuminated.

- **VEHICLE CONNECTED** indicator (3) illuminates when the Charging Dock connector is correctly connected to the vehicle and the vehicle is communicating with the Charging Dock.

- **VEHICLE CHARGING** indicator (4) illuminates when the Charging Dock is supplying utility power to the vehicle. This indicator, on solid early in the charge cycle, will begin blinking at a constant rate as the charge nears completion. This indicator turns off when the charge cycle is completed.

- **TROUBLE** indicator (5) illuminates when the Charging Dock has detected an error.

Before Vehicle Charging

**NOTE**

If the display panel indicators do not operate as described below, refer to the TROUBLESHOOTING section of this manual.

The Charging Dock display panel should look like this:

```
POWER PRESENT  
READY TO CHARGE 
VEHICLE CONNECTED
VEHICLE CHARGING
TROUBLE

Figure 4: READY TO CHARGE
```

To Begin a Charging Cycle

1. Both the **POWER PRESENT** (1) and **READY TO CHARGE** (2) indicators will be illuminated when the Charging Dock is in an idle state.

2. Press the Connector Latch (6) and slide the Connector (7) away from the

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To Connect to the Vehicle

1. Insert the Connector fully into the vehicle’s charging receptacle.

2. The VEHICLE CONNECTED (3) indicator lights up when the Charging Dock establishes a communication link between itself and the vehicle.

Once connected, the Charging Dock display panel should look like this:

- POWER PRESENT
- READY TO CHARGE
- VEHICLE CONNECTED
- VEHICLE CHARGING
- TROUBLE

*Figure 5: VEHICLE CONNECTED*
During Vehicle Charging

The vehicle will automatically start charging after the connection is made, dependent upon vehicle demand.

The Charging Dock display panel should look like this:

- POWER PRESENT
- READY
- TO CHARGE VEHICLE
- CONNECTED VEHICLE
- CHARGING
- TROUBLE

*Figure 6: VEHICLE CHARGING*

Reading the Display

The Charging Dock automatically supplies power to the vehicle as needed. The VEHICLE CONNECTED (3) and VEHICLE CHARGING (4) indicators should be illuminated.

While the charge cycle is in process, the VEHICLE CHARGING (4) indicator will flash to indicate the rate of charge:

- When the VEHICLE CHARGING (4) indicator is on solid, the vehicle is early in the charge cycle and accepting high levels of current
- When the VEHICLE CHARGING (4) indicator blinks, the vehicle is approaching the end of the charging cycle and is accepting low levels of current
- When the VEHICLE CHARGING indicator turns OFF, the vehicle is fully charged
To Stop a Charging Cycle

You can stop a charging cycle at any time in either of two ways:

1. Press STOP (9) to pause charging. The READY TO CHARGE (2) indicator will blink, and the VEHICLE CHARGING (4) indicator will turn OFF.

2. To resume charging, press START (8). The READY TO CHARGE (2) indicator will stop blinking, and the VEHICLE CHARGING (4) indicator will turn back ON.

3. The alternate method to stop charging is to press and hold the Connector Latch (6) and remove the Charging Dock Connector (7) from the vehicle receptacle.

When Charging Is Complete

The Charging Dock display panel should look like this:

POWER PRESENT READY ☑
TO CHARGE VEHICLE ☑
CONNECTED VEHICLE ☑
CHARGING ☐
TROUBLE ☐

*Figure 7: CHARGE COMPLETE*

To Disconnect from the Vehicle

1. Check the display on the Charging Dock. The VEHICLE CHARGING (4) indicator should be OFF, and the Vehicle Connected (3) and Ready to Charge (2) indicators should still be ON.

2. Press and hold the Connector Latch (6) and remove the Connector (7) from the vehicle. Return the Connector (7) to the Charging Dock storage socket.
Congratulations! The vehicle is charged.

TROUBLE indicator

When the Charging Dock detects an error, the display panel may look like either of the illustrations shown here, depending on whether or not the Charging Dock is connected to the vehicle.

<table>
<thead>
<tr>
<th>POWER PRESENT READY</th>
<th>TO CHARGE VEHICLE</th>
<th>CONNECTED VEHICLE</th>
<th>CHARGING</th>
<th>TROUBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 8: TROUBLE – NOT CONNECTED TO VEHICLE

<table>
<thead>
<tr>
<th>POWER PRESENT READY</th>
<th>TO CHARGE VEHICLE</th>
<th>CONNECTED VEHICLE</th>
<th>CHARGING</th>
<th>TROUBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 9: TROUBLE – CONNECTED TO VEHICLE

In either case, if the TROUBLE indicator is illuminated, the Charging Dock will not deliver power to the vehicle. The error must be corrected before a charging cycle can begin or continue. Refer to Troubleshooting section for more information.
Auto-Restart

The Auto-Restart feature helps ensure that your vehicle will be charged and ready for use when needed. If a charge is interrupted due to a temporary error condition, the Charging Dock will automatically clear any error codes when the cause of the temporary error condition returns to normal and then attempt to restart the charge. The TROUBLE indicator remains lit while the cause of the temporary error condition is active or awaiting a time-out delay.

The exception to immediate Auto-Restart is when the interrupt is due to a GFCI event. To allow charging after GFCI events caused by line surges or other disturbances, the Charging Dock will restart 15 minutes after a GFCI event, assuming the event did not occur immediately upon connecting power to the vehicle on board charger. The Charging Dock is limited to four automatic restarts after a GFCI event during a charge cycle.

Power Outage Recovery

This feature prevents the utility’s grid from experiencing a large surge from multiple Charging Docks in your area resuming charging simultaneously when utility power is restored after an outage. If a charging cycle is in progress when a utility power outage occurs, after utility power is restored, the Charging Dock will re-start the charge cycle after a brief delay.

To resume a charging cycle immediately after utility power is restored, press START. This will bypass the automatic delay.

Troubleshooting

MANY PROBLEMS CAN BE RESOLVED USING THE TROUBLESHOOTING SECTION. IF YOU BELIEVE THAT YOUR CHARGING DOCK NEEDS FURTHER SERVICE OR REPAIR AFTER ATTEMPTING TROUBLESHOOTING, PLEASE CALL CUSTOMER SERVICE AT 1.888.833.2148. DO NOT ATTEMPT TO REPAIR OR SERVICE THE CHARGING DOCK YOURSELF. THERE ARE NO USER SERVICEABLE PARTS INSIDE.

If you experience problems with your Charging Dock or your vehicle battery does not charge properly, refer to the table below for instructions.

| NOTE | The Charging Dock is one half of the Electric Vehicle’s charging system. A charger on board the vehicle is the other half. TROUBLE indicators may be triggered by several sources including the Charging Dock, the utility service, the vehicle, or temperature extremes. See Troubleshooting tips below. |

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Remedy</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Issue Description</th>
<th>Possible Solutions</th>
</tr>
</thead>
</table>
| POWER PRESENT indicator is not illuminated.                                       | • Cycle utility power to the Charging Dock by moving the Circuit Breaker (refer to Figure 1) switch to the “OFF” position and then back to the “ON” position.  
  • Turn the disconnect switch ON (if present).  
  • If the problem persists, call for service. |
| READY to CHARGE indicator never illuminates and VEHICLE CHARGING or TROUBLE indicators are not illuminated. | • Cycle utility power to the Charging Dock by moving the Circuit Breaker (refer to Figure 1) switch to the “OFF” position and then back to the “ON” position.  
  • If the problem persists, call for service. |
| VEHICLE CONNECTED indicator does not illuminate when the Charging Dock is connected to the vehicle. | • Reseat the Charging Dock connector by unplugging it and reinserting it fully into the vehicle receptacle. Ensure that the connector latch engages completely.  
  • Inspect the Charging Dock output cable and connector terminals for damage. If damaged, discontinue use immediately and call for service to have the damaged equipment replaced.  
  • Inspect vehicle receptacle for damage. If damaged, discontinue use immediately and report the problem to your nearest dealership. |
<table>
<thead>
<tr>
<th>Issue Description</th>
<th>Action Step</th>
</tr>
</thead>
</table>
| Vehicle Charging indicator does not illuminate.                                  | • If this occurs when the vehicle is connected and is charging, call for service.  
• If this occurs when the vehicle is connected but is not charging:  
  • Attempt to charge the vehicle using the Emergency/Portable Cord Set.  
    • If a charge cycle starts, call for service.  
    • If charge cycle does not start, report the problem to your nearest dealership.                                                                 |
| Trouble indicator blinking rapidly. (System error)                                | • Press “STOP”.  
• If the TROUBLE indicator stops blinking, press “START”.  
• If the TROUBLE indicator does not stop blinking  
  • Shut off utility power to the Charging Dock at the Circuit Breaker (refer to Figure 1)/disconnect switch  
  • Disconnect the Connector from the vehicle  
  • Call for service.                                                                 |
| Trouble indicator is on solid (Charging Dock error).                              | • Cycle power OFF, then ON at Circuit Breaker (refer to Figure 1) or disconnect switch.  
  • If the fault persists, DO NOT USE THE Charging Dock  
  • Shut down power at Circuit Breaker (refer to Figure 1).  
  • Call for service.                                                                 |
| Trouble indicator is pulsing two blinks (Vehicle error).                          | • Cycle utility power to the Charging Dock by moving the Circuit Breaker (refer to Figure 1) switch to the “OFF” position and then back to the “ON” position”.  
  • If the fault persists call for service                                                                 |
| Trouble indicator is pulsing three blinks (Utility error).                        | • Cycle utility power to the Charging Dock by moving the Circuit Breaker (refer to Figure 1) switch to the “OFF” position and then back to the “ON” position”.  
  • If the fault persists, report issue to utility company.                                                                 |
| Trouble indicator is pulsing four blinks (Temperature error).                    | • Most likely caused by the Charging Dock being mounted near an external heat source (furnace, water heater, etc,) or in direct sunlight  
  • Remove the heat source if possible.  
  • Provide shade from direct sunlight  
  • If the fault persists, call for service.                                                                 |
Care and Maintenance

Your Charging Dock is designed for carefree operation. Other than cleaning the exterior of the Charging Dock housing, there are no user serviceable components inside.

| NOTE | To clean the Charging Dock, wipe it with a cloth dampened with water or a mild detergent solution suitable for use on automobile paint. Do not use chemicals or solvents. Do not submerge the Charging Dock. It is recommended to turn off the power to the Charging Dock at the Circuit Breaker (refer to Figure 1) and Disconnect Switch before cleaning it. |
Installation

**DANGER**

**ELECTRIC SHOCK CAN KILL.**

Touching live electrical parts can cause fatal shocks or severe burns.

The input power circuitry and internal circuits are live whenever input power is on.

An incorrectly installed or improperly grounded unit is a hazard.

**DANGER**

It is recommended that only a licensed, qualified electrician perform the installation of your Charging Dock. The installation shall be performed in accordance with the National Electrical Code (NEC) and local codes and ordinances.

**DANGER**

**GROUNDING INSTRUCTIONS**

This unit is to be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor is to be run with the power circuit conductors and connected to an equipment grounding terminal or lead on the Charging Dock ground strip. Connections to the Charging Dock shall comply with all local codes and ordinances.

**WARNING**

**BEFORE BEGINNING WORK**

Read all instructions and cautionary markings on the Charging Dock assembly.

Read and understand these Manufacturer’s instructions.

**WARNING**

This is a single phase device. Do not connect all three phases of a three phase feed.

**WARNING**

The two phases must each measure 120 Volts AC to Neutral. Earth ground must be connected to Neutral at only one point. This connection is typically at the utility entry power distribution panel.

**WARNING**

Warranty is void if the Charging Dock is wired improperly.

**Tools Required for Installation**

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Screwdriver - Standard</td>
</tr>
<tr>
<td>1</td>
<td>Screwdriver - Philips</td>
</tr>
<tr>
<td>1</td>
<td>Screwdriver - Electrician</td>
</tr>
<tr>
<td>1</td>
<td>Screwdriver - #10 Torx</td>
</tr>
<tr>
<td>1</td>
<td>Torpedo Level</td>
</tr>
<tr>
<td>1</td>
<td>Torque Wrench</td>
</tr>
<tr>
<td>1</td>
<td>Ratchet Set</td>
</tr>
<tr>
<td>1</td>
<td>Channel Lock Pliers</td>
</tr>
<tr>
<td>1</td>
<td>Wire Stripping Pliers</td>
</tr>
<tr>
<td>1</td>
<td>Cutting Pliers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Measuring Tape</td>
</tr>
<tr>
<td>1</td>
<td>Utility Knife</td>
</tr>
<tr>
<td>1</td>
<td>Multimeter</td>
</tr>
<tr>
<td>1</td>
<td>Torque Screwdriver</td>
</tr>
<tr>
<td>1</td>
<td>Small Hammer</td>
</tr>
<tr>
<td>1</td>
<td>Duct Tape</td>
</tr>
<tr>
<td>1</td>
<td>M8 Allen Head Adapter</td>
</tr>
<tr>
<td>1</td>
<td>1.25&quot; Hole Saw</td>
</tr>
<tr>
<td>1</td>
<td>3/8 inch electric drill</td>
</tr>
</tbody>
</table>
Included Hardware Kit

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting plate assembly</td>
<td>2</td>
<td>13/32 flat washers</td>
</tr>
<tr>
<td>2</td>
<td>M10 – 1.5 x 25mm socket head screw</td>
<td>9</td>
<td>Stainless steel cover screws</td>
</tr>
<tr>
<td>2</td>
<td>11 mm flat washer</td>
<td>2</td>
<td>#8 x 2 ½” pan head wood screws</td>
</tr>
<tr>
<td>2</td>
<td>3/8” x 2 ½” lag bolts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 11: Hardware kit

Installation Procedure

**WARNING** AV recommends that only a licensed, qualified electrician perform the installation of your Charging Dock.

Prior to installation, obtain all required permits from the local permitting authority. Remove the Charging Dock and connector cable from the carton and inspect for:

- Damage, such as a cracked or broken Charging Dock housing or cover, cracked or broken connector, or a damaged output cable.
- Missing parts. Refer to the parts list in the package

If the Charging Dock or connector cable has been damaged during shipment, keep the shipping carton and packing materials. File a claim with the freight carrier and/or insurance company in the event of shipping damage. Note any missing parts and contact Customer Service at 1.888.833.2148 for assistance on obtaining replacement parts.

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25197-03_03.
Charging Dock Mounting Procedure

Figure 12: Rear Utility Wiring Entry Location

Figure 13: Bottom Utility Wiring Entry Location

Only one service wiring entry point into the Charging Dock is permitted. Location “A” will allow rear wiring entry and location “B” will allow lower wiring entry. Refer to Figures 12 and 13. Identify the preferred wiring entry location in the Charging Dock and drill the hole at the dimple for the wiring entry. Do not exceed the maximum limit on conduit size.
To Install The Mounting plate:

1. Locate the Mounting Plate over a vertical wall stud, suitable masonry wall, or optional post mounting.

2. Position the Mounting Plate to a height of approximately 48 in (122 cm) from the floor to the bottom of the mounting plate as shown in Figure 14.

3. Drill the mounting holes into the wall/post.

| NOTE | The Charging Dock is supplied with lag bolts and flat washers for a wood frame wall stud mounting. Suitable fasteners may be needed for other mounting types. |

4. Use two lag bolts (1) and two flat washers (2) to attach the mounting plate at location (C) to the stud, suitable masonry wall, or post mounting.
To Install the Charging Dock to the Mounting plate:

1. Remove the cover assembly from the Charging Dock.

2. Lay the Charging Dock on a flat surface.

3. Disconnect the output cable pilot wire connector at the lower left corner of the contactor. Refer to Figures 15 and 16.

4. Move the output cable pilot wire aside for access to the lower Charging Dock mounting hole.

---

**Figure 15:** Pilot wire connected

**Figure 16:** Pilot wire disconnected

**Figure 17:** Lower Charging Dock lower mounting hole
To Install the Charging Dock to the Mounting plate:

1. Hang the cover assembly on the Charging Dock housing with the hooks provided.

2. Place the Charging Dock onto the Mounting plate.

3. Attach the Charging Dock to the mounting plate with two socket head screws (3) and two flat washers (4) to the plate holes. Torque the screws to 50 in/lb (5.65 Nm) using the proper torque wrench. Refer to Figures 19 and 20.

4. Reconnect the output cable pilot wire connector at the lower left corner of the contactor. Refer to Figures 15 and 16.
Figure 19: Charging Dock mounted onto mounting plate

Figure 20: Attaching screw detail
Charging Dock Wiring Procedure

Refer to Figure 23 for the following steps.

1. Connect the two power phase wires (2) from the power distribution panel to the Charging Dock terminal block (3). Torque the terminal block screws to 20 in/lb (2.26 Nm).

2. Connect the service ground wire (4) to the ground terminal strip (1). Torque the ground terminal strip screw to 20 in/lb (2.26 Nm).

*Figure 23: Charging Dock utility wiring shown through location (B).*
Circuit breaker installation procedure

<table>
<thead>
<tr>
<th><strong>DANGER</strong></th>
<th>Ensure that the Circuit Breaker (refer to Figure 1 for example) is in the <strong>OFF</strong> position prior to installation to prevent electric shock.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Observe all safety precautions and install the circuit breaker (refer to Figure 1) into the power distribution panel.</td>
<td></td>
</tr>
<tr>
<td>2. Connect the service ground wire to the ground strip inside the power distribution panel. Connect the power phase wires to the circuit breaker (refer to Figure 1) terminals.</td>
<td></td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Torque all circuit breaker screws to the circuit breaker manufacturer’s specifications. Torque the power distribution panel ground terminal fastener to the power distribution panel manufacturer’s specifications.</td>
</tr>
</tbody>
</table>

Final assembly

<table>
<thead>
<tr>
<th><strong>NOTE</strong></th>
<th>To avoid having to reopen the Charging Dock panel, it is suggested to have the electrical inspector complete inspection of the Charging Dock wiring before closing the Charging Dock and power distribution panel.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WARNING</strong></td>
<td>Verify that the wires from the front cover circuit board are routed to prevent pinching between the housing and cover during assembly. Refer to Figure 24.</td>
</tr>
<tr>
<td>1. Install the Charging Dock cover as shown in Figure 25.</td>
<td></td>
</tr>
<tr>
<td>2. Attach the Charging Dock cover to the Charging Dock with nine screws (5). Torque the screws (5) in a star pattern to 12 +/- 1.5 in/lb (1.36 Nm).</td>
<td></td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Tighten screws by hand. <strong>Do not use power screw driving equipment.</strong></td>
</tr>
</tbody>
</table>
Figure 24: Front Cover Circuit board wiring

Figure 25: Charging Dock cover screw locations

(5) 9 screws required
3. Install the trim ring (6) by snapping it into the groove in the Charging Dock faceplate to cover the screws.

| NOTE | In order to remove the trim ring (6), insert a flat head screwdriver into the opening at location (D). Refer to Figure 26. |
Figure 28: Charging Dock and hanger

**NOTE**
The hanger is supplied with screws for a stud mounting. Suitable fasteners may be needed for other mounting types.

**NOTE**
Drill mounting holes through from the rear of the hanger as required.

4. Using at least two of the provided fasteners, attach the output cable hanger to the wall stud, dry wall, masonry wall surface, or pedestal 12 inches (31 cm) below the Charging Dock so that it is in line with the Charging Dock mounting location.

Figure 29 Charging Dock hanger detail

5. Reinstall the power distribution panel cover.
Charging Dock Initial Power Up Procedure

1. Turn the distribution panel Circuit Breaker (refer to Figure 1) ON.
2. Observe the Charging Dock front panel for the following conditions:
   • POWER PRESENT indicator is illuminated
   • READY TO CHARGE indicator is illuminated
   • VEHICLE CONNECTED, VEHICLE CHARGING, and TROUBLE indicators (3) are NOT Illuminated

   ![Charging Dock initial power-up indicators](image)

Front panel indicator test procedure

1. Press START and STOP simultaneously for three seconds.
2. All Indicator lights should illuminate for five seconds.
3. After the timer expires, the POWER PRESET and READY TO CHARGE indicators remain illuminated.

   If the indicators do not operate as stated above, refer to the TROUBLESHOOTING section of the User’s Manual.

Completing the Installation

When the Charging Dock installation is completed, perform the following tasks:

1. Complete and Return Warranty Information Card.
2. Notify the local permitting authority of Charging Dock installation completion for inspection.

Congratulations! Installation is complete.
Customer Support Information

Customer Support Phone Number: 1.888.833.2148

Record your Charging Dock serial number here. ________________________________

SPECIFICATIONS

Line Input Power: 208-240 Volt AC single-phase, 60 Hz

Output Current: 32A

Circuit Breaker Rating: 40 Amp

Power draw at idle: < 5W

Weight (with 15 ft. cable): 10.1 lbs (4.7 kg)

Weight (with 25 ft. cable): 13.1 lbs (5.94 kg)

Operating Temperature Range: -30°C to +50°C

Storage and Transportation Temperature Range: -40°C to + 60°C

Environmental Rating: NEMA 3R, IP56

Vehicle – Charging Dock communication protocol - SAE J1772 compliant

Connector: SAE J1772 compliant

Regulatory Compliance: UL, FCC Part 15