PLEASE NOTE

DEPENDING ON PRINT TIMING RELATIVE TO PRODUCTION IMAGES] Images of the Single Port, and Multi – Port EVSE - RS are pre-production, prototype models; final production models may vary.

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This EVSE – RS Pedestal Mount Installation Manual includes the latest information available at the time of printing. AeroVironment, 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 provider could void the product warranty.

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FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
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 (i.e. digital phones, RF communications equipment, etc. could affect operation.

If interference to your Charging Dock is suspected, AeroVironment recommends the following steps be taken prior to contacting customer support for assistance.

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.

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Save These Instructions

This document is your guide to installing the Single Port and Multi-Port Electric Vehicle Supply Equipment (Model EVSE-RS™), in this manual, referred to as Single Port or Multi-Port Charging Dock. Keep these instructions for future reference.

The Single Port or Multi-Port Charging Dock systems are used for charging the propulsion battery in an electric vehicle (EV) or plug-in hybrid electric passenger vehicle (PHEV). The installation examples shown are for charging stations at fleet, employee, or public parking areas. AeroVironment also offers a full range of chargers for commercial, residential, industrial, and mobile applications.
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Warranty

**CHARGING DOCK LIMITED WARRANTY.** Charging Dock Products and accessories are warranted to the original Customer to be free of defects in material and workmanship for a period of thirty-six (36) months from the Acceptance Date. If a Proposal includes installation services by AV or AV’s authorized installation representative, AV warrants that the installation of the Charging Dock Products shall be free of defects in workmanship for a period of thirty-six (36) months from the Acceptance Date. 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 Charging Dock Products.

**THIS IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY AV WITH RESPECT TO THE CHARGING DOCK PRODUCTS AND INSTALLATION THEREOF, 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 AV IN SPECIFICATIONS, DRAWINGS OR OTHERWISE, AND WHETHER OR NOT AV’S CHARGING DOCK PRODUCTS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED FOR CUSTOMER’S USE OR PURPOSE.**

AV’s total warranty expense with respect to any Charging Dock Product and/or installation is limited to a maximum of the original purchase price of that Charging Dock Product and/or installation. AV’s liability under this warranty shall be limited to repairing or replacing defective Charging Dock Products, at AV’s option, without charge, FOB AV’s factory or authorized service station, any Charging Dock Product of AV’s manufacture. AV 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 shall 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 repair, Charging Dock Product installation or service by a person not certified in writing by AV, or if the Charging Dock Product was not operated or maintained in strict compliance with AV’s printed operating instructions. Any evidence of an attempt to disassemble or reverse engineer the Charging Dock Products will void the warranty. **AV is the final arbiter of the presence of facts that support a conclusion that the warranty is voided.**

To obtain service under this warranty, the defective Charging Dock Product must have: 1) been installed by AV or AV’s authorized installation representative and operated in compliance with AV’s printed operating instructions, 2) been registered with AV by Customer upon installation to activate the warranty, and 3) proof of purchase (including installation date), failure date, supporting installation and operation data.
Before attempting to service the system:

1) Turn utility power circuit breaker OFF.
2) Wait for at least 5 minutes to allow the high voltage to discharge.

CONTACT AV’S CUSTOMER SERVICE DEPARTMENT PRIOR TO PERFORMING ANY SERVICE ON THE UNIT.
Introduction

**WARNING**

Read and follow the instructions and warnings in this Manual before attempting to install this product. Failure to do so can result in serious injury or death. Keep this Manual for future reference.

Overview

The EVSE Model RS Multi - Port Charging System, referred to in this manual as the “Pedestal Mount Charging Dock”, is an automated, high voltage vehicle battery charging system specifically designed for quick (less than eight hours) recharging of on road electric and hybrid-electric non-commercial vehicle propulsion batteries.

Scope

This manual contains step-by-step instructions for the installation of the pedestal mounted Single Port and Multi - Port Charging Docks.

Safety

High voltage is present in the electric meter housing and power distribution panels of the building. This voltage can be fatal or cause serious personal injury. Take all proper precautions before making any connections or performing any other work inside these enclosures. Make sure you read and understand all instructions before you begin.

**Personal Protection Equipment (PPE)**

The installer must wear Personal Protection Equipment (PPE) that meets current ANSI, ASTM, and OSHA safety standards. For this section, PPE is defined as:

- Safety Glasses or Goggles to prevent eye injury
- Safety Shoes designed to
  - prevent an electrical path to earth ground in the event of accidental contact with high voltage
  - protect the feet from injury due to falling objects

During installation operations, the installer should also wear a hard hat for areas with low overhead clearances or confined spaces and gloves for areas where exposure to unfinished lumber is possible.

Symbol usage

Throughout this manual, take special note of the 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>
Safety Precautions - Read Before Use

The Charging Dock is designed with the safety of the end user as the highest priority. For this reason, Charging Dock installation 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.

Before attempting installation pursuant to the requirements of this section, the installer must read, understand, and observe the following safety precautions:

<table>
<thead>
<tr>
<th>DANGER</th>
<th>ELECTRIC SHOCK CAN KILL!</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Touching live electrical parts can cause fatal shocks or severe burns.</td>
</tr>
<tr>
<td></td>
<td>The input power circuitry and internal circuits are live whenever input power is on.</td>
</tr>
<tr>
<td></td>
<td>An incorrectly installed or improperly grounded unit is a hazard.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DANGER</th>
<th>GROUNDING INSTRUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This Charging Dock is to be connected to a grounded, metal, permanent wiring system, or an equipment-grounding conductor is to be run with circuit conductors and connected to the equipment grounding terminal on the Charging Dock. Connections to the Charging Dock shall comply with all local codes and ordinances.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WARNING</th>
<th>BEFORE BEGINNING WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Read all instructions and cautionary markings on the Charging Dock.</td>
</tr>
<tr>
<td></td>
<td>AeroVironment recommends that only a licensed qualified electrician perform the installation of the Charging Dock.</td>
</tr>
<tr>
<td></td>
<td>Read and understand these Manufacturer’s instructions and your employer’s safety practices manual.</td>
</tr>
</tbody>
</table>

| WARNING         | Local electrical codes must always be followed when installing a grounding stake. |

| WARNING         | This is a single phase device. Do not connect all three phases of a three phase feed to the terminal block. |

| 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. |

| NOTE            | Warranty may be void if the Charging Dock is wired improperly. |

State of California Proposition 65 Warnings

| WARNING         | This product contains a chemical known to the State of California to cause cancer. |
| WARNING         | This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. |
Preparation
**Unpacking and Component Inspection**

Prior to installation, obtain all required permits from the local permitting authority. Remove the Charging Dock components from the shipping containers and inspect for:

- damage, such as a cracked or broken Charging Dock housing, cover, or shroud assembly, cracked or broken connector, a damaged output cable, or bent sheet metal components.

- missing parts. Refer to the parts list in the package.

If any of the Charging Dock components have been damaged during shipping, keep the shipping containers and packing materials. File a claim with the freight carrier and/or insurance company for shipping damage. Note any missing parts and contact Customer Service at 1-888-833-2148 for assistance on obtaining replacement parts.

Refer to the Component Inspection Process (Figure 1), the fastener list (Table 1), and the conduit parts list (Table 2).

---

**Figure 1 Component Inspection Process**
### Fastener list

<table>
<thead>
<tr>
<th>Item name</th>
<th>Single</th>
<th>Dual</th>
<th>Quad</th>
</tr>
</thead>
<tbody>
<tr>
<td>#6 x 3/8” sheet metal screw, pan head, light grey</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>#8 x ½” sheet metal screw, pan head, unpainted</td>
<td>N/A</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>8-32 x 3/8”SEMS machine screw, light grey</td>
<td>4</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>8-32 x 3/8” SEMS machine screw, dark grey</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>8-32 Nylock nut, unpainted</td>
<td>N/A</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>10-32 x ½” machine screw, button head, dark grey</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td># 10 Flat washer, dark grey</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td># 10 Split lock washer, dark grey</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>10-32 x 3/8”machine screw, flat head, dark grey</td>
<td>N/A</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>(not used)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item name</td>
<td>Number required for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>Dual</td>
<td>Quad</td>
</tr>
<tr>
<td>¼” Flat washer, dark gray</td>
<td>N/A</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>¼” Flat washer, unpainted</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>¼” I.D. Belleville washer, unpainted</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>¼-20 x ¾”machine screw, pan head, unpainted</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>¼-20 x ¾”machine screw, pan head, dark grey</td>
<td>3</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>¼-20 x 1” cap screw, hex head, unpainted</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>¼” Split lock washer, unpainted</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>¼” Split lock washer, dark grey</td>
<td>N/A</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>¼-20 hex nut, unpainted</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Push rivet, dark grey</td>
<td>N/A</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>M10 x 1.5 socket head cap screw, unpainted</td>
<td>N/A</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>
### Table 1 Fastener list

<table>
<thead>
<tr>
<th>Item name</th>
<th>Number required for</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 mm Flat washer, unpainted</td>
<td>N/A 4 8</td>
</tr>
<tr>
<td>10 mm Split lock washer, unpainted</td>
<td>N/A 4 8</td>
</tr>
</tbody>
</table>

### Conduit Parts List

<table>
<thead>
<tr>
<th>Item name</th>
<th>Number required for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nipple, ¾” NPT X 2” long</td>
<td>1 N/A N/A</td>
</tr>
<tr>
<td>Plastic bushing, ¾” NPT</td>
<td>2 N/A N/A</td>
</tr>
<tr>
<td>Lock ring, 3/4” NPT</td>
<td>1 N/A N/A</td>
</tr>
<tr>
<td>Sealing lock ring, ¾” NPT</td>
<td>2 N/A N/A</td>
</tr>
<tr>
<td>Straight fitting, plastic, 3/4” NPT, with lock and O-rings</td>
<td>N/A 2 4</td>
</tr>
<tr>
<td>90° fitting, plastic, 3/4” NPT, with lock and O-rings</td>
<td>N/A 2 4</td>
</tr>
<tr>
<td>Flexible conduit, ¾” I.D. x 7.4” long</td>
<td>N/A 2 4</td>
</tr>
</tbody>
</table>

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Tools Required

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Screwdriver - #2 Philips</td>
</tr>
<tr>
<td>1</td>
<td>3/16 in Allen Wrench</td>
</tr>
<tr>
<td>1</td>
<td>5/16 in Allen Wrench</td>
</tr>
<tr>
<td>1</td>
<td>Level</td>
</tr>
<tr>
<td>1</td>
<td>Cutting Pliers</td>
</tr>
<tr>
<td>1</td>
<td>1 1/8&quot; hole saw or step drill</td>
</tr>
<tr>
<td>1</td>
<td>Torque wrench</td>
</tr>
<tr>
<td>1</td>
<td>7/16&quot; combination wrench</td>
</tr>
<tr>
<td>1</td>
<td>Ratchet Set</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Qty</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Screwdriver – #1 flat blade</td>
</tr>
<tr>
<td>1</td>
<td>Channellock pliers, 2” jaw</td>
</tr>
<tr>
<td>1</td>
<td>5/32 in Allen Wrench</td>
</tr>
<tr>
<td>1</td>
<td>3/8 in nut driver or socket</td>
</tr>
<tr>
<td>1</td>
<td>Wire Stripping Pliers</td>
</tr>
<tr>
<td>1</td>
<td>3/8 inch electric drill</td>
</tr>
<tr>
<td>1</td>
<td>Torque Screwdriver – 12 - 20 in/lb</td>
</tr>
<tr>
<td>1</td>
<td>square drive Torx tool set – sizes #10 through #30</td>
</tr>
</tbody>
</table>

Mounting Support

The pedestal must be located so that the Charging Dock output cable can easily reach the electric vehicle (EV) charging receptacle. To provide a stable base, the Charging Dock pedestal must be mounted on concrete and supported by ½” concrete bolts. Figures 3 and 4 provide detail regarding typical concrete pad, base, and elevated concrete caisson preparation.

The Single and Dual Charging Dock systems require one conduit. The Quad Charging Dock system requires two conduits. An installation template is included in the kit for the pedestal conduit and mounting bolt pattern. Prior to running the conduit and pouring the concrete mounting pad, use the template to orient the conduit(s) and set the J-bolts as required. Refer to Figure 2.
Figure 2 Pedestal and conduit installation template illustration

NOT TO SCALE

Installation Notes
1. This typical plan can be used for the Single, Dual and Quad Pedestal products.
2. When required, equipment disconnects should be installed near the pedestal in landscape or on building structure - not on the pedestal.
3. Branch Circuit Wiring MUST be continuous from disconnect or circuit breaker. NO SPlicing.
4. When equipment is delayed and installation is being prepared in advance to delivery, branch circuit wiring should be temporarily placed in a junction box at the termination point or left inside the structure at a transition point to avoid public access to exposed wires.

Leave wires at least 3' beyond the end of the conduit.
TOTAL WIRE LENGTH FROM PEDESTAL BASE = Approximately 7'

Leave conduit stubbed (12") above the concrete base to allow top access from the pedestal. Conduit should be approximately 12" below top of pole.

Conduit can be cut at a minimum of 5" for preparation; then install a coupling for pedestal mounting. When using this approach, branch circuit wiring should be pulled at time of equipment installation.

Use (4) ½" X 6" Epoxy Bolts (or equivalent) as the preferred method to secure pedestal base to concrete. Mounting methods are subject to AHU approval (Mounting bolts supplied by EC).

Minimum continuous concrete base at 6" deep X 30" Square

Trench Depth
(18" - 24" to top of conduit depending on application)

PVC Conduit to support up to (2) 40a, 206v or 240v circuits

(Fastener height above concrete)

30 in.

² in.

¹/₂ in.

Note: The information supplied in these sketches is to be considered a preliminary draft. All specific installation details (such as: rebar, grounding components, etc.) are to be determined by an engineering firm in consideration to local municipal codes and authority having jurisdiction when required.
Figure 3 Typical grade level concrete pad preparation

Figure 4 Typical grade level concrete base preparation

Leaving wires at least 3' beyond the end of the conduit
TOTAL WIRE LENGTH FROM PEDESTAL BASE = Approximately 1'

Installation Notes:
1. This typical plan can be used for the Single, Dual and Quad Pedestal products.
2. When required, equipment disconnects should be installed near the pedestal in landscape or on building/structure – not on the pedestal.
3. Branch Circuit Wiring MUST be continuous from disconnect or circuit breaker. NO SPLICING
4. When equipment is delayed and installation is being prepared in advance to delivery, branch circuit wiring should be temporarily placed in a junction box at the termination point or left inside the structure at a transition point to avoid public access to exposed wires.

NOT TO SCALE

Note: The information supplied in these sketches is to be considered a preliminary draft. All specific installation details (such as: rebar, grounding components, etc.) are to be determined by an engineering firm in consideration to local municipal codes and authority having jurisdiction when required.
Figure 5 Typical elevated concrete caisson preparation

**Installation Notes**
1. This typical plan can be used for the Single, Dual and Quad Pedestal products.
2. When required, equipment disconnects should be installed near the pedestal in landscape or on building/structure – not on the pedestal.
3. Branch Circuit Wiring MUST be continuous from disconnect or circuit breaker. NO SPLICING
4. When equipment is delayed and installation is being prepared in advance to delivery, branch circuit wiring should be temporarily placed in a junction box at the termination point or fast inside the structure at a transition point to avoid public access to exposed wires.

**NOT TO SCALE**

---

Note: The information supplied in these sketches is to be considered a preliminary draft. All specific installation details (such as, rebar, grounding components, etc.) are to be determined by an engineering firm in consideration to local municipal codes and authority having jurisdiction when required.
Installation
Figure 6 Single Port Charging Dock exploded view
Figure 7 Dual – Port Charging Dock exploded view
Figure 8 Quad Port Charging Dock exploded view
Pedestal Installation

For the Single Port Charging Dock, install the pedestal over the conduit so that the two conduit installation holes are facing forward. Refer to Figure 9.

For the Multi – Port Charging Dock, install the pedestal over the conduit so that the two conduit installation holes are facing left and the wide rear enclosure mounting holes are facing forward. Refer to the Figure 10.

Figure 9 Single Port Charging Dock pedestal mounting

Figure 10 Multi - Port Charging Dock pedestal mounting
### Installation Instructions

**NOTE**

In the views on this and the following page, the front of the pedestal stand is facing the installer.

1. For an elevated caisson installation only, install the cable hanger over the mounting J-bolts on the concrete caisson. Refer to Figure 11.

2. Install the pedestal (over the hanger on the elevated caisson only) onto the mounting pad bolts.

3. Verify that the pedestal is plumb. Repair as req’d.

4. Install the mounting nuts with flat and lock washers, onto the pedestal mounting bolts. Torque the pedestal mounting nuts to 75 ft/ft (55 Nm).

---

**Figure 11 Elevated caisson pedestal and hanger installation**

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**NOTE**

Single Port Charging Dock mounting holes are on the same side of the pedestal as the two conduit mounting holes only.

**Single Port sub-assembly**

1. Install the doubler plate onto the shroud. Torque the screws to 3 in/lb (0.34 Nm). Refer to Figure 12.

2. Slide the shroud and doubler plate sub-assembly onto pedestal tube.

3. Align the mounting plate over the doubler plate and pedestal mounting holes.

4. Insert the mounting screws through the plates into the pedestal holes. Refer to Figure 13.

5. Torque the screws to 70 in/lb (7.91 Nm).

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6. Install a sealing lock ring onto the threaded nipple, seal side out, 1/2” back from the end. Refer to Figure 14.

![Figure 14 Lock ring detail](image)

7. Insert the threaded nipple through the mounting and doubler plates into the pedestal.

8. Install and tighten the lock ring onto the threaded nipple from inside the pedestal tube.

9. Attach the plastic bushing to the threaded nipple hand tight. Refer to Figure 15.

![Figure 15 installing threaded nipple – top view](image)

10. Install the cord hanger onto the pedestal post. Torque the screws to 70 in/lb (7.91 Nm). Refer to Figure 16.
Single Port Charging Dock pedestal ground wiring procedure

1. Fabricate a ground wire and attach it to the ground wire lug. Refer to Figure 17. Torque the screw to 25 in/lb (2.82 Nm).

2. Facing the shroud, locate the ground wire lug mounting hole on the right side of the pedestal in the upper corner closest to the doubler plate. Refer to Figure 16.

3. Insert the ¼ - 20 unpainted hex head bolt through the hole in the pedestal tube.

4. Slide the ground wire and lug assembly over the retaining screw.

5. Secure the ground wire lug to the tube with the ¼ - 20 hex nut and Belleville washer (both unpainted). Refer to Figure 18. Torque the nut to 70 in/lb (7.91 Nm).

   | NOTE                  | Install the Belleville washer with the cupped side facing the ground lug.

6. Allow the fabricated ground wire to hang out of the top of the pedestal.

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Figure 18 Single Port ground lug location
Figure 19 Quad Port Charging Dock
**Multi – Port Main Enclosure sub-assembly**

| NOTE | The following instructions are for a Dual Port Charging Dock installation. For a Quad Port Charging Dock installation, perform each step twice except where otherwise specified. |

1. Attach the shroud base and two cable hangers to the bottom of the rear main enclosure. Torque the screws to 70 in/lb (7.91 Nm). Refer to Figure 20.

![Figure 20 Assembling Multi – Port cable hangers and shroud base](image)

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2. Attach the mounting plates to the Front Main Enclosure. Torque the screws to 34 ft/lb (25 Nm). Refer to Figure 21.

Figure 21 Charging Dock Mounting Plates

3. Attach the Rear Main Enclosure sub-assembly to the pedestal. Torque the screws to 70 in/lb (7.91 Nm). Refer to Figure 22

Figure 22 Rear main enclosure mounting
4. Feed the branch circuit wires through the lock rings, caps, pedestal conduit holes, and flexible conduit tube assemblies.

5. Attach the elbow end of each flexible conduit tube to its respective pedestal conduit hole. Secure the elbows to the pedestal with the lock rings. Refer to Figures 23 and 24.

Figure 23 Installing flexible conduit tubes

Figure 24 conduit elbow detail
6. Attach the Front Main Enclosure sub assembly to the Rear Main Enclosure. Torque the screws and nuts to 26 in/lb (2.94 Nm). Refer to Figures 25 through 27.

**Figure 25** Front Main Enclosure side attaching screws

---

8–32 Nylock hex nut

**Figure 26** Front Main Enclosure attaching studs

---

8–32 light grey SEMS machine screw (typical both sides)
Figure 27 Main Enclosure front attaching screw

8–32 light grey SEMS machine screw
Charging Dock mounting procedure

Wiring entry location

To Install the Charging Dock to the Mounting Plate:

1. Remove the cover and hang it on the Charging Dock housing with the hooks provided.
2. Disconnect the output cable pilot wire connector at the lower left corner of the contactor. Refer to Figure 29.

Figure 28 Front cover on hooks

Figure 29 Pilot wire disconnected
3. Move the output cable pilot wire aside for access to the lower Charging Dock mounting hole.

4. Identify the rear wiring entry location in each Charging Dock and drill a 1 1/8 inch hole at the dimple for the wiring entry. Refer to Figure 30.

![Figure 30 Utility wiring entry location](image)

3. For Single Port Charging Dock only:

   a. Attach the Charging Dock to the mounting plate holes (1) with two socket head screws (3) and two flat washers. Refer to Figure 31. Torque the screws to 50 in/lb (5.65 Nm).
b. Reconnect the output cable pilot wire connector.

c. Verify that the output cable pilot wire connector is held in position by the connector retainer. Refer to Figure 32.

d. Install the sealing lock ring (seal facing Charging Dock) onto the threaded nipple.

e. Install the plastic bushing onto the threaded nipple hand tight. Refer to Figure 34 for assembly detail.

f. Pull the utility wiring through the threaded nipple into the Charging Dock.
Figure 33 Single port Charging Dock lock ring and bushing installation

Figure 34 Single Port Charging Dock threaded nipple detail

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Threaded nipple</td>
</tr>
<tr>
<td>2</td>
<td>Plastic bushing</td>
</tr>
<tr>
<td>3</td>
<td>Lock ring</td>
</tr>
<tr>
<td>4</td>
<td>Sealing lock ring</td>
</tr>
<tr>
<td>5</td>
<td>Doubler plate</td>
</tr>
<tr>
<td>6</td>
<td>Mounting plate</td>
</tr>
<tr>
<td>7</td>
<td>Charging Dock housing</td>
</tr>
</tbody>
</table>
4. For Multi – Port Charging Dock installations only:

a. Route the utility wiring and flexible conduits through the main enclosure and mounting plates.

b. Attach each Charging Dock to its respective mounting plate holes with two socket head screws (3) and two flat washers (4). Refer to Figure 31. Torque the screws to 50 in/lb (5.65 Nm).

c. Reconnect the output cable pilot wire connector.

d. Verify that the output cable pilot wire connector is held in position by the connector retainer. Refer to Figure 32.

e. Pull the utility wiring into Charging Dock housings.

f. Attach the flexible conduits to the Charging Dock housings with lock rings. Refer to Figure 36.

Figure 35 Multi - port Charging Dock installation
Figure 36 Charging Dock flexible conduit connection detail
208 Volt Configuration

The Charging Dock circuit board must be specifically configured if the nominal utility voltage at the installation site is 208 VAC. The 208 Volt configuration procedure must be performed for each Charging Dock. To configure each circuit board for 208 VAC, follow this procedure.

1. Invert each Charging Dock cover so that the circuit board is facing you.
2. Locate the 208 - 240 volt jumper on the lower left corner of the circuit board under the EMI shield. Refer to Figures 37 and 38.

3. Cut the jumper. Verify that the cut ends do not touch each other.
4. 208 Volt Configuration is complete.

Figure 37 208/240 volt jumper location

Figure 38 208/240 volt jumper detail
Charging Dock wiring procedure

Refer to Figure 39 for steps 1 and 2.

1. Without cutting the wire, connect the branch circuit ground wire (4) to the lower ground terminal strip (1) on each Charging Dock. Torque the ground terminal strip screw to 20 in/lb (2.26 Nm).
2. Connect the two branch circuit 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).

Single Port Charging Dock pedestal ground wiring procedure

1. Cut the Charging Dock branch circuit ground wire at the pedestal tube.
2. Join the Charging Dock and branch circuit ground wires to the previously installed pedestal ground wire with a suitable wire nut (installer supplied).
Multi Port Charging Dock pedestal ground wiring procedure

1. Cut the dual Charging Dock branch circuit ground wires at the pedestal tube.
2. Fabricate a ground wire and attach it to the ground wire lug. Torque the screw to 25 in/lb (2.82 Nm).
3. Join both Charging Dock and both branch circuit ground wires to the fabricated ground wire with a suitable wire nut (installer supplied).
4. Repeat Steps 1, 2, and 3 if installing a Quad Charging Dock system.
5. Facing the main enclosure, locate the ground wire lug mounting hole on the right side of the pedestal in the upper corner between the flexible conduit elbows. Refer to Figure 40.

6. For a dual Charging Dock installation:
   a. Insert the unpainted bolt through the hole in the pedestal tube.
   b. Slide the ground wire lug over the retaining screw.
   c. Secure the ground wire lug to the tube with the ¼ - 20 hex nut and Belleville washer (both unpainted). Refer to Figure 40.
   d. Torque the nut to 70 in/lb (7.91 Nm).

   **NOTE**
   Install the Belleville washer with the cupped side facing the ground lug.

7. For a quad Charging Dock installation, refer to Figure 41 and:
   a. repeat steps 5 and 6 above for the second main enclosure.
   b. repeat steps a, b, c, and d above.

![Figure 40 Dual port pedestal ground wire lug installation](image-url)
**Charging Dock Validation Procedure**

Refer to the Charging Dock Validation procedure in the Charging Dock Installation and Service Manual.

**Charging Dock Final Assembly**

<table>
<thead>
<tr>
<th>NOTE</th>
<th>To avoid having to reopen the Charging Dock panel, it is recommended to have the electrical inspector complete inspection of the Charging Dock wiring before closing the Charging Dock and power distribution panel.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>WARNING</th>
<th>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 42.</th>
</tr>
</thead>
</table>

1. Install the Charging Dock cover and torque all screws) to 12 ±1 in/lb (1.36 Nm).

<table>
<thead>
<tr>
<th>NOTE</th>
<th>Do not use power screw driving equipment to tighten the cover screws!</th>
</tr>
</thead>
</table>

2. Install the trim ring by snapping it into the groove in the Charging Dock cover.

<table>
<thead>
<tr>
<th>NOTE</th>
<th>To remove the trim ring, insert a flat head screw driver into the opening at location (D). Refer to Figure 45.</th>
</tr>
</thead>
</table>

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Figure 42 Front cover circuit board wiring

Figure 43 Charging Dock cover screw locations
Figure 44 Charging Dock with Trim Ring

Figure 45 Trim Ring retaining tab location
Multi – Port Main Enclosure Final Assembly

1. Install the main enclosure top. Secure the top to the main enclosure as shown. Torque the screws to 26 in/lb (2.94 Nm). Refer to Figure 46.

2. Install the main enclosure front access cover. Torque the screw to 26 in/lb (2.94 Nm). Refer to Figure 47.
Multi – Port Shroud Installation

<table>
<thead>
<tr>
<th>NOTE</th>
<th>Skip Step 1 of this section if installing a Quad Charging Dock system.</th>
</tr>
</thead>
</table>

Shroud back

1. Install the shroud back onto the pedestal at the rear main enclosure. Torque the screws to 3 in/lb (0.34 Nm). Refer to Figure 48.

Figure 48 Installing Shroud Back onto pedestal
2. Install the Multi – Port Shroud over the Charging Docks. Torque the screws to 3 in/lb (0.34 Nm). Refer to Figures 49 and 50.

Figure 49 Installing Multi – Port Shroud

Figure 50 Multi – Port Shroud retaining screw locations - bottom view
3. Insert the push rivets and screws into the shroud as shown in Figure 51. Torque the screws to 10 in/lb (1.13 Nm).

Figure 51 Installing Dual Port shroud retaining hardware
NOTE The following instructions are for a Quad Port Charging Dock installation only.

1. Install the cosmetic strips over the joint between the shrouds.

2. Insert the push rivets and screws into the shroud as shown in Figure 52. Torque the screws to 3 in/lb (0.34 Nm).

Figure 52 Installing Quad Port shroud cosmetic strips and retaining hardware
Final Assembly

<table>
<thead>
<tr>
<th>NOTE</th>
<th>Multi – Port Charging Dock shown. The following steps apply to the Single Port Charging dock also.</th>
</tr>
</thead>
</table>

1. Install the cap onto the pedestal. Torque the screws to 3 in/lb (0.34 Nm). Refer to Figure 53.

![Figure 53 Installing Pedestal Cap](image1)

2. Install the pedestal base cover. Torque the machine screws to 26 in/lb (2.94 Nm). Torque the sheet metal screws to 12 in/lb (1.36 Nm). Refer to Figure 54.

![Figure 54 Installing pedestal base cover](image2)

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3. For a Single Port Charging Dock system, install three ¼ - 20 dark grey pan head screws into the unused pedestal holes at the locations shown. Lock and flat washers not required. Refer to Figure 55.

Figure 55 Single Port unused pedestal hole locations
4. For a Dual or Quad Port Charging Dock system, install two ¼ - 20 dark grey pan head screws into the unused pedestal holes at the locations shown. Lock and flat washers not required. Refer to Figures 56 or 57.

5. Verify that each output cable connector is secured in the Charging Dock receptacle.

6. Select the appropriate language Warning label for the installation site.
   a. Bi-Lingual English – French for Canadian installations
   b. Bi-Lingual English – Spanish for USA installations

7. Wrap the warning label around each output cable six inches below the connector so that it forms a “warning flag.” Refer to Figure 58.

8. Discard the unused warning label.

Installation is Complete.
Charging Dock Specifications (individual)

Line input power:
240V AC single-phase, 60 Hz

Output power:
30A at 240V, approximately 7200 Watts

Circuit breaker rating: 40 Amp

DO NOT use a Class A circuit breaker with the EVSE-RS Charging Dock.

Power draw at idle: < 5 watts

Weight (with 15 ft cable): 10.1 lbs (4.7 kg)
Weight (with 25 ft cable): 13.1 lbs (5.94 kg)

Color: White and Green

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

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

Environmental rating: NEMA 3, IP56