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INSTALLATION MANUAL

ABB Pedestal & Cable Retractor

Guide to Installing the Pedestal & Cable Retractor



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Introduction

Installation of Pedestal & Cable Retractor for ABB EVSE

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Intended Document Users

This document is intended to be used by:

- Customers who purchased an AC pedestal or are in the process of ordering and want to know in more detail how it has to be installed.
- Contractors who are responsible for site preparation and/or installation of an AC Pedestal.

Safety Warnings & Notices

Signs and Their Meanings



Installation Safety

1. Always switch off the external group switch upstream (Main breaker, RCD, and disconnecter) before performing any installation, disassembly, repair, or replacement of components.
2. Do a voltage check and make sure that the electrical power is disconnected from the system.
3. When the system is in an open or dangerous condition, do not allow unqualified persons to go near it. Instruct and warn people about the potential harmful high voltages.

The following signs are used on the equipment and in this manual.



Danger

Identifies a hazard that could result in severe injury or death through electrocution.



Environmental Damage

Identifies a hazard that could result in environmental damage and/or environmental pollution.



Warning

Identifies a hazard that could result in severe injury or death.



Notice

Contains remarks, suggestions, or advice.



Warning

Identifies a hazard that could result in injury due to the presence of rotating or moving parts.



Tilting & Handling

The AC pedestal weighs about 70 lbs. Handling instructions:

1. Consider always two people to unpackage and install.
2. Do not drop the AC pedestal.



Warning

Identifies a hazard that could result in injuries in which some body parts are pinched or crushed.



Sharp Edges

There could be sharp metal edges inside the AC pedestal. It is recommended to wear mesh protective gloves when working on the AC pedestal.



Caution

Identifies a hazard that could result in damage to the machine, other equipment, and/or environmental pollution.



Electric Hazards

The ABB Charging Station contains conductors under hazardous electrical voltages. The terminals on the internal connection points may carry hazardous voltages, even if all circuit breakers are switched off.

Owner Responsibilities

Requirements for the owner & site operator

The owner and site operator are required:

- To operate the charge station pedestal and cable retraction system with the protective devices installed and to make sure all protective devices are correctly installed after carrying out installation or maintenance.
- To write an emergency plan that instructs people what to do in case of emergency.
- To prepare the site where the charge station will be installed, according to the requirements described in this guide.
- To make sure that there is enough space around the charger to carry out maintenance work.
- To appoint a person responsible for the safe operation of the charge station and for the coordination of all work.
- The owner is cautioned that changes or modifications not expressly approved by ABB could void the owner's authority to operate the equipment and ABB's warranty policy.
- Neither ABB nor its affiliates shall be liable to the purchaser of this product or third parties for damages, losses, costs or expenses incurred by purchaser or third parties as a result of: an accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product, or failure to strictly comply with ABB operating and maintenance instructions.

Environment and Disposal of Waste

Notice

Always observe the local rules and regulations with respect to processing (non-reusable) parts of the AC pedestal.

Caution

The installation company is responsible for design and installation according to local regulations.

Site Design

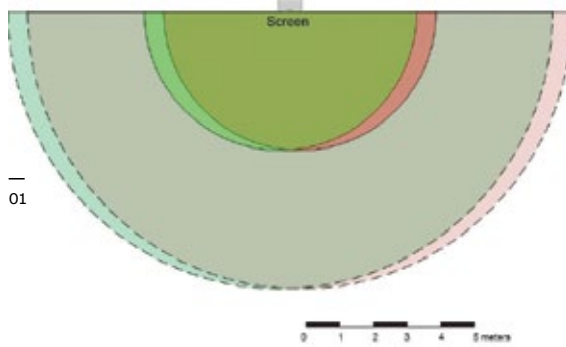
A site for EV charging can be designed in many different configurations

This section is intended to give some useful information on the placement of a charger with respect to parking spaces and the vehicle inlets for the charging cable.

- 01 The figure shows an example with the charger in the center and how far it can reach out
- 02 The figure shows the charging inlet locations of important EVs
- 02 The figure shows some possible site design situations

Cable Reach

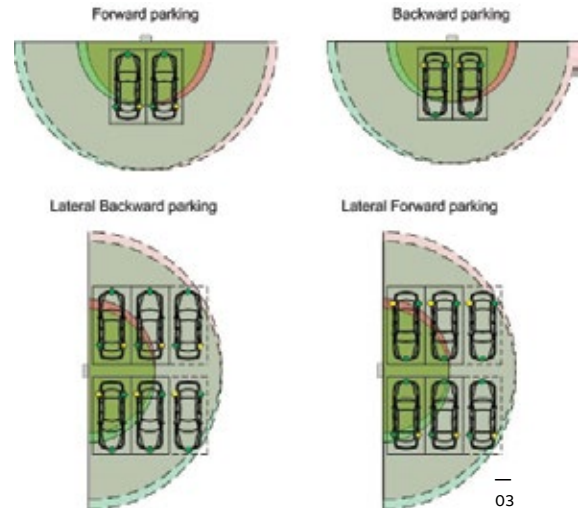
The charging cables of the AC charger can reach up to 7 meters / 25 feet long.



— 01

Note

This makes some positions of the charger with respect to the parking space more favorable than others. Please keep this in mind when designing a site.

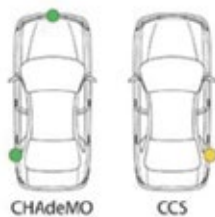


— 03

Different Alignment Configurations

The charging inlets on a car can be located at different positions. The most common cars have their inlets located either on the front of the car, or on the left or right back side.

Charging inlet locations of important EVs



— 02

Site Installation

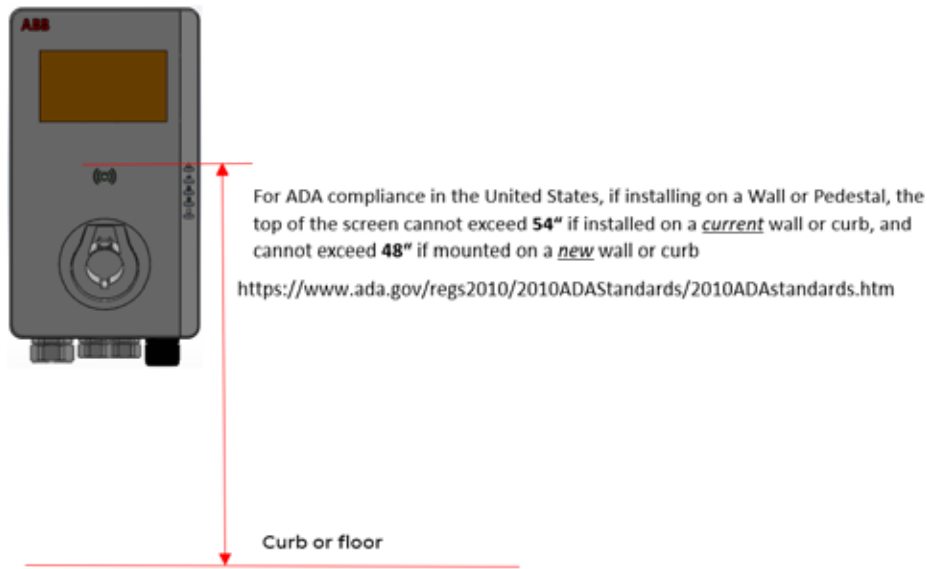
All pedestals are factory pre-drilled for installing one (1) or two (2) ABB EVSE units (specify when ordering). The post product is compatible with all ABB models (separate bracket may be required for some models).

Installation height is regulated by NEC®.

NEC® 2011 specifies: Outdoor (NEC® Article 625.30B) defines installation of an EV Charging Station as 24-48 inches above the grade (to any reach point).

Use appropriate tools and hardware to fasten equipment, see below.

01 The figure shows the height to floor measurements for ADA Compliance



Concrete, Pad, Power Feed, and Anchor Requirements

Provide an approved concrete or composite base with the top flush at ground level with 12"-30" conduit stub-up centered. The base size should be a minimum of 18" x 18" x 18" and can be poured or pre-cast / pre-made.

Installation of protective steel bollard post(s) and/ or curb stops to protect the charger from an automobile strike is recommended.

Using the provided drop-in anchors (with a concrete base), secure the pedestal to the base.

If using a composite base, such as the EV Charge Solutions 'No-Pour Base', secure per manufacturer's instructions.

<https://www.evchargesolutions.com/EV-Charge-Solutions-No-Pour-Base-p/evcs-a58.htm>

There is an option to run the power supply wires underground, feeding through the bottom opening in the pedestal or, if the conduits are run above ground, the wires may be brought in through the sides of the post using the lower 1" holes on each side of the pedestal base.

When using above ground conduits, use 3/4" NPT liquid-tight fittings to enter through 1" holes in lower section of the pedestal.

Feed-wire size shall be determined by a qualified electrician using industry standard calculations.

NOTE: Install the power feed and communication wires so they extend sufficiently above the ground for direct attachment to the EVSE (the charger).

Unpacking Wallbox, Mounting Preparations

Unpacking

The packaging of the AC Pedestal can be removed without the use of tools and be careful because it could pollute the environment.

1. The AC Pedestal has a 2-carton packaging system.
2. Open the tall 105-inch box and using 2 people, and carefully remove the post/retractor.
3. Open the 2nd carton and carefully remove the packing material and box containing the mounting bracket and hardware.
 - Place items in a safe place while preparing the site.
 - Properly dispose of packing materials.

Mounting Preparations

Unpack the contents of boxes and verify that all the following components are present:

Box Contents

Quantity	Component
One (1)	Pedestal Base Assembly (11.5" x 11.5" x 32.25")
One (1)	Retractor Assembly (10.0" x 2.56" x 95")
One (1)	Mounting Bracket (for single or dual) EVSE
One (1)	3" x 6" Plastic End Cap
Four (4)	1/4-20 x 1/2" Machine Button Head Screws with Two (2) Nuts
Two (2)	3/4" NM Flex Right-Angle Connector
Three (3)	3/4" NM Flex Straight Thru Connector
Fourteen (14)	10-32 x 1/2" Machine Button Head Screws with Nuts
Four (4)	Drop-In Anchors
Four (4)	Stainless Anchor Bolts with Washers
Four (4)	Conduit Hole Plugs
Two (2)	3/4 x 12" Liquid-Tight Flex Conduit
One (1)	Tube of Silicone with Applicator Tip
Two (2)	Rubber Spacer for Cable Clamps

Features & Care

Pedestal & Retractor Features

- Single / Dual mount pedestal
- Standard bolt pattern
- Aluminum pedestal post
- Aluminum pedestal base with 3" x 6" raceway
- Powder-coated for environmental durability
- Pedestal doubles as an electrical raceway

Cleaning of the Cabinet

The Terra DC Wallbox Charger is powder coated. This coating must be kept in good condition.

Clean the Terra DC Wallbox Charger three times a year in the following way:

- Remove rough dirt by spraying with low-pressure tap water.
- Apply a neutral or weak alkaline cleaning solution and let it soak.
- Remove dirt by hand with a non-woven nylon hand pad.
- Rinse thoroughly with tap water.
- Do a check on the coating and on the front cover for damage.

Single / Dual Pedestal & Cable Retractor System Installation Guide

1. Remove assembly from the two (2) packages. Remove the metal mounting bracket and hardware from its box and set aside.

2. Place the pedestal-base assembly onto the concrete (or composite) mounting base. A minimum base size of 18" x 18"x18" of reinforced concrete is recommended. Composite bases designed for EVSE installation are also an option, such as the EV Charge Solutions 'No-Pour Base'. <https://www.evchargesolutions.com/EV-Charge-Solutions-No-Pour-Base-p/evcs-a58.htm>

3. Center the base plate over the conduit if underground conduit is used and mark the four mounting hole locations onto the base. Remove the pedestal assembly.

4. Drill mounting holes in the base.

NOTE: The included drop-in anchors require a 5/8" hole.

5. Clean debris from the holes and install drop-in anchors using the proper setting tool (not included).

6. Place the pedestal-base assembly onto the concrete base while completing (a) or (b) below. Bolt-down the pedestal base using the included stainless-steel bolts and washers, making sure the base is level. Shim base plate if necessary (shims not included).

a) If conduit is stubbed up through base from underground routing, feed the power and communication wires through the opening in the base of the 3" x 6" raceway.

b) If conduit is above ground, remove hole plug(s) and connect conduits to the lower 1" holes in the sides of the 3" x 6" raceway using 3/4" NPT connectors.

Attach the retractor assembly to the pedestal base lower plate by inserting 1/4-20 machine button head screws into the threaded base plate. Attach the retractor to the 3x6" raceway using 1/4-20 machine button head screws and "cap nuts".

Do not over-tighten!

7. Install the 90-degree conduit NM connectors on the raceway (one for single EVSE post and two for dual EVSE post). Feed the power wires (L1, L2, and GND) through the NM connectors.

8. Install the top cap onto the raceway and secure it using a thin bead of silicone adhesive (included). Feed wires through the top cap hole using Seal Tight conduit and connectors.

9. Mount the aluminum (single or dual) ABB mounting bracket onto the retractor post using four (4) 10 – 32 x 1/2" screws. Install (one or two) ABB EV chargers onto the bracket using the bracket supplied with the ABB charger and the included 10 – 32 x 1/2" screws.

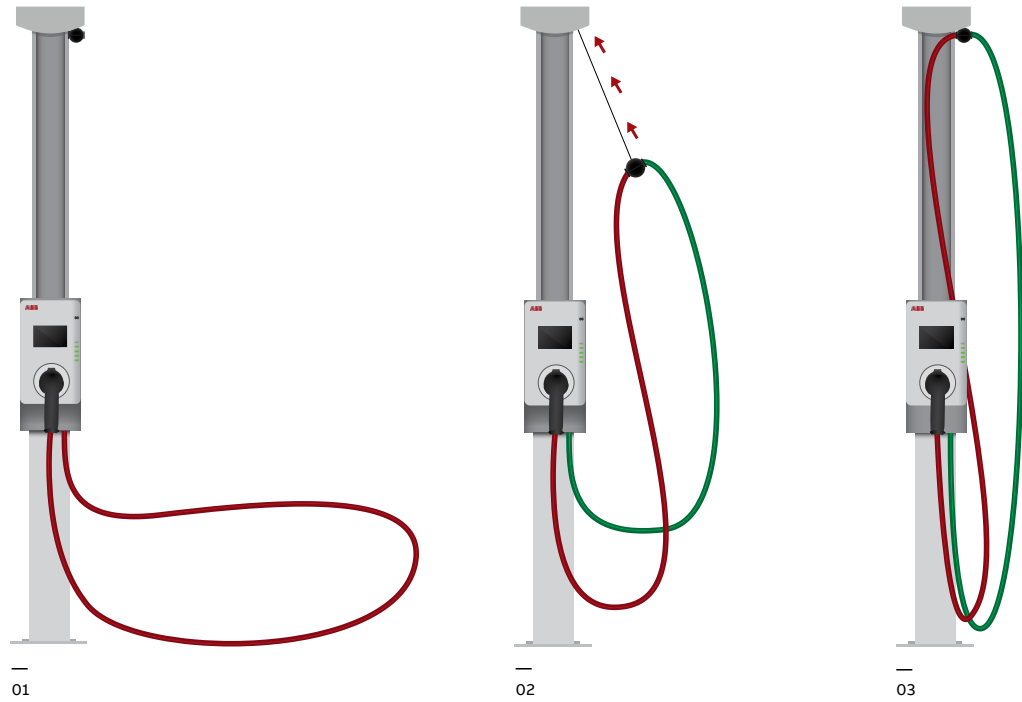
10. Place ABB charger(s) onto the bracket(s).

11. Remove the front cover of the charger(s). Attach the power wires (L1, L2, and GND) as per the ABB Installation and Operations Manual. Use the included Seal-Tight conduit and fittings between the raceway and charger(s).

Once the wires are connected, reattach the access covers. Be sure to use a proper wire length to allow the charger cover to reattach without pinching or obstruction.

12. Attaching cable clamp to charging cable:

- 01 Figure 1.1
Cable Unwound
—
02 Figure 1.2
Charging Cable
Midway Point
—
03 Figure 1.3
Cable Hovers
Above Ground



12-A: Ensure the charging station is properly installed to the pedestal/retractor system.

12-B: Remove the bottom half of the cable clamp by removing the two screws and set aside.

12-C: Unravel the charging cable by removing any twists and holster the charging station connector to the connector dock (see Figure 1.1 Cable Unwound).

12-D: Find the approximate mid-way point of the charging cable that allows both loops to be off the ground. Without tightening the screws all the way, loosely attach the cable clamp to the charging cable and retract to starting point. The cable should freely slide/move within the clamp (see Figure 1.2 Charging Cable Midway Point).

12-E: Slide the cable positioning until you've achieved a loop from charging station to clamp:

- Both loops should hover above the ground (see Figure 1.3 Cable Hovers Above Ground).

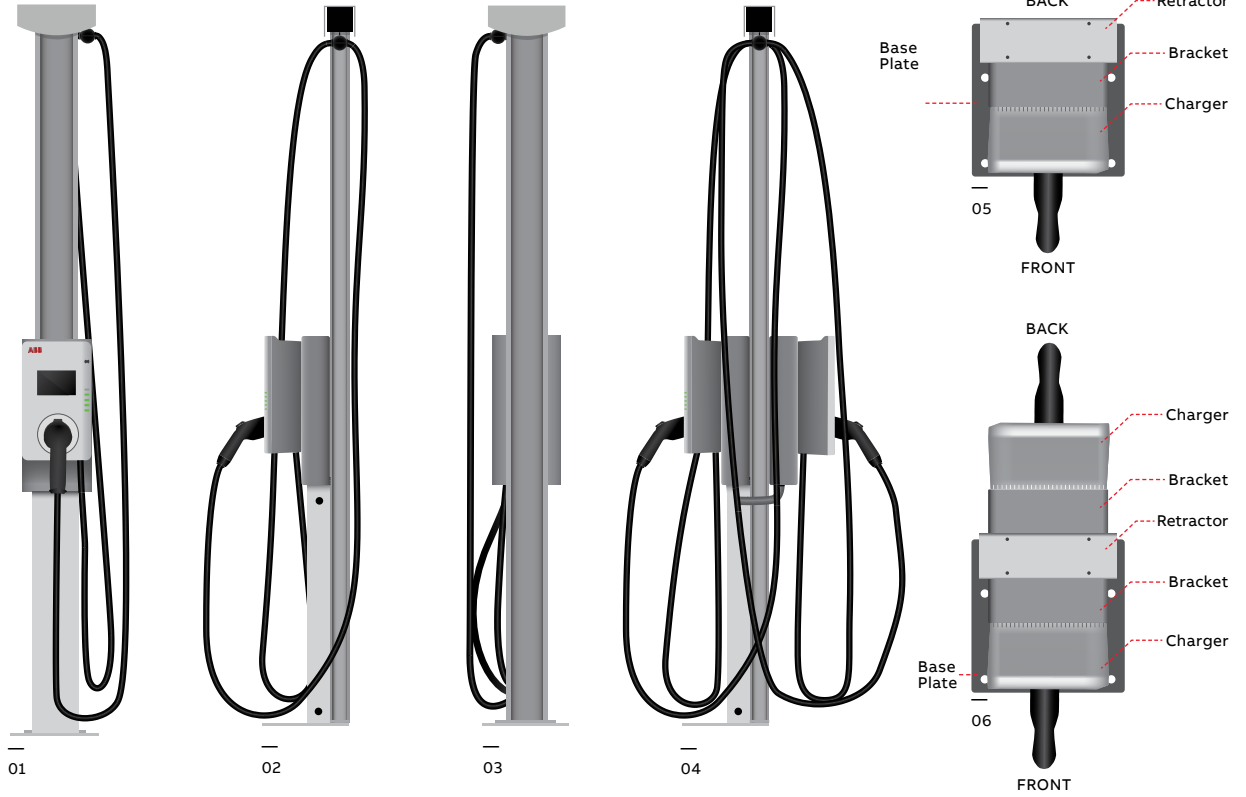
12-F: Using the included rubber square, insert between the cable clamp and cable, creating a tight grip on the cable as you tighten the screws (electrical tape can also be used). **The cable should not move within the clamp!**

12-G: For Dual Cable Retractor Systems, repeat steps 1-12F on opposite side of the post.

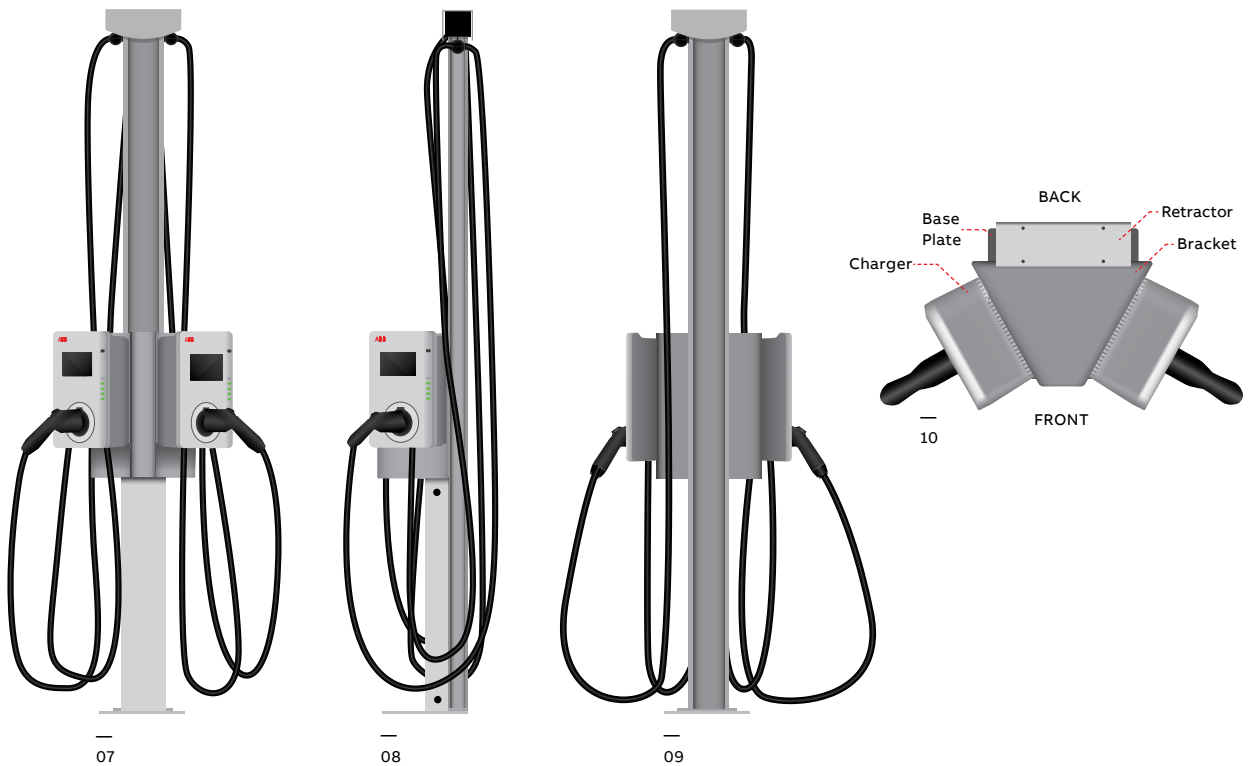
Single and Dual Mounting Configurations

Configuration Overview

- 01 Single Bracket Front View
- 02 Single Bracket Right Side View
- 03 Single Bracket Back View
- 04 Single Bracket R Side View (2 Single Brackets back-to-back)
- 05 Single Bracket Top View
- 06 Single Bracket Top View (2 Single Brackets back-to-back)

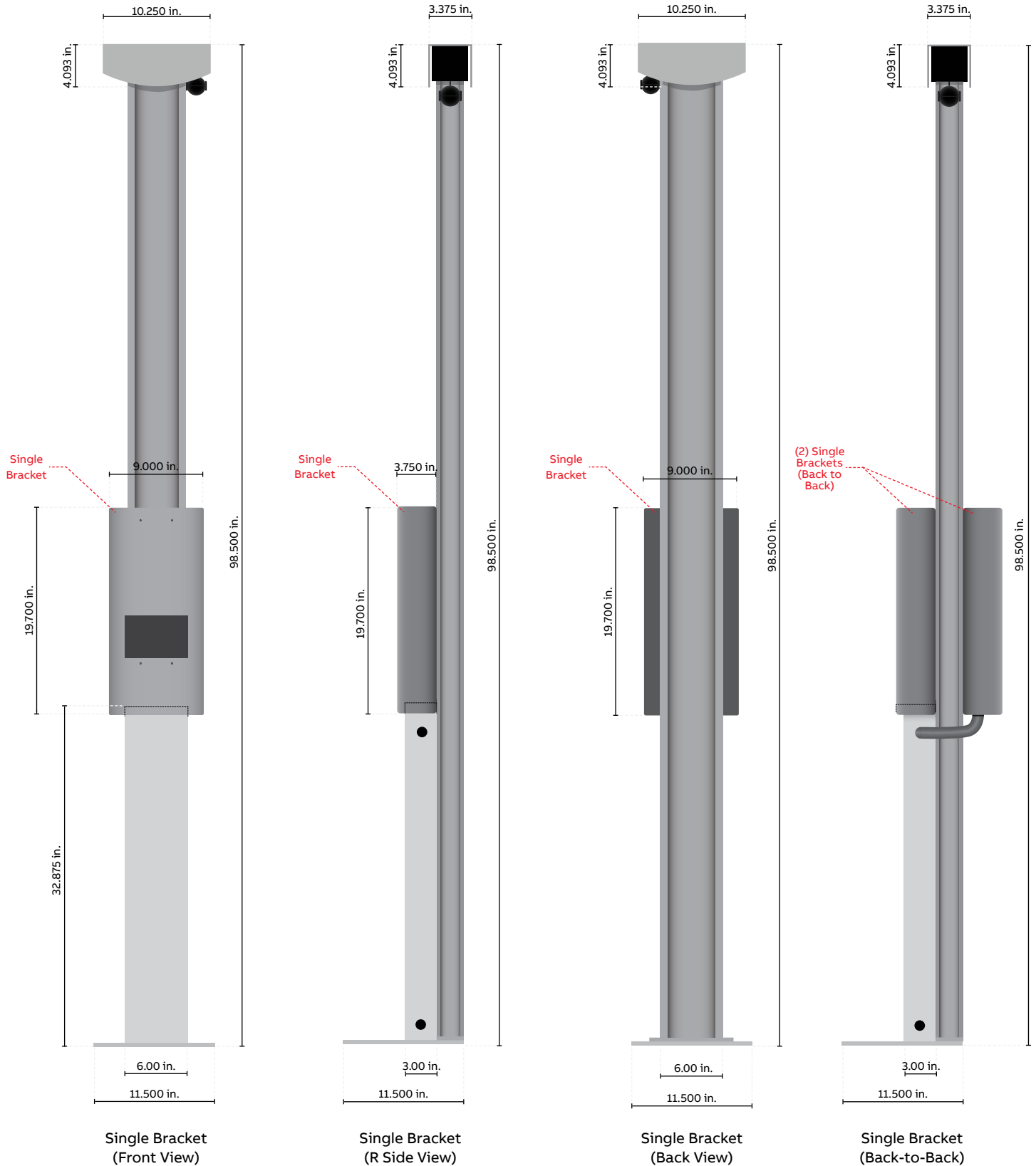


- 07 Dual Bracket Front View
- 08 Dual Bracket Right Side View
- 09 Dual Bracket Back View
- 10 Dual Bracket Top View



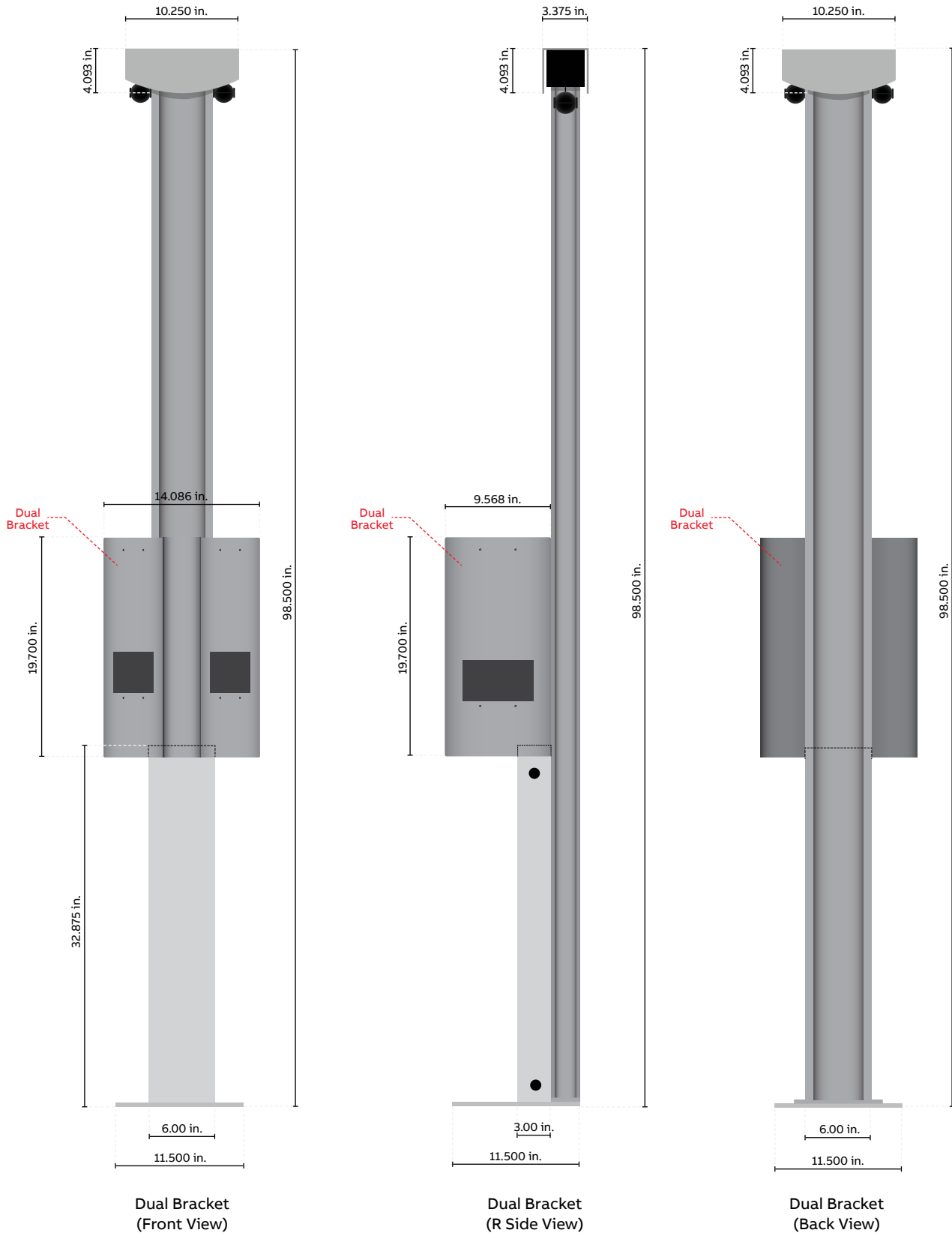
Single ABB EVSE Mounting

Single Retractor and Pedestal Dimensional Overview



Dual ABB EVSE Mounting

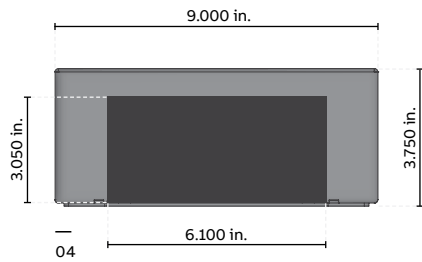
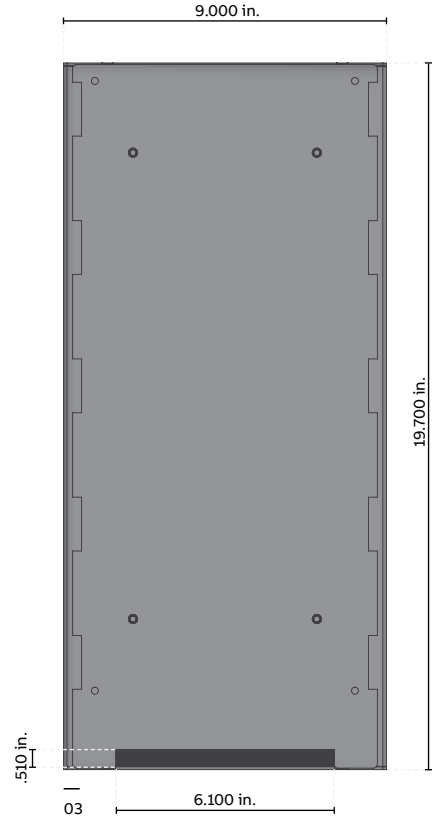
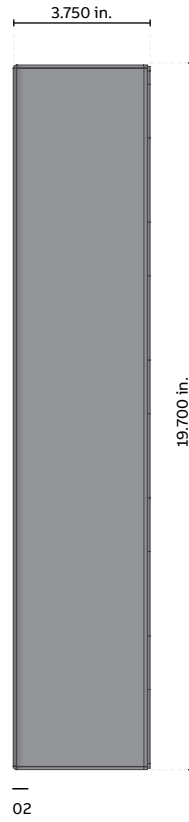
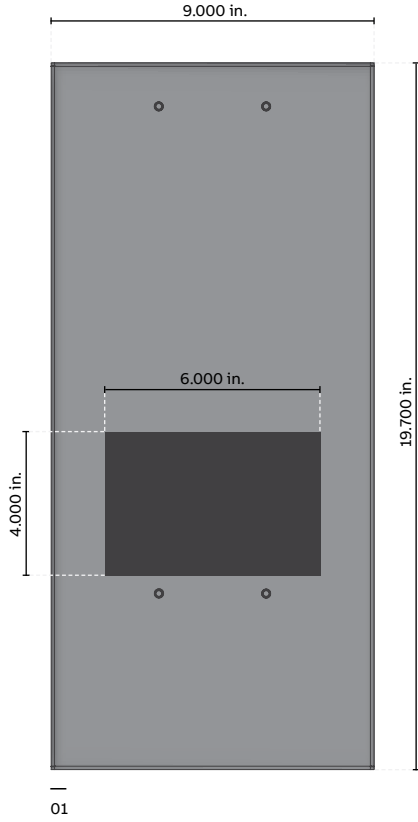
Dual Retractor and Pedestal Dimensional Overview



Single ABB EVSE Bracket

Single Bracket Dimensional Overview

- 01 Single Bracket Front View
- 02 Single Bracket R/L Side View
- 03 Single Bracket Back View
- 04 Single Bracket Bottom View
- 05 Single Bracket Angled View



Dual ABB EVSE Bracket

Dual Bracket Dimensional Overview

- 01 Dual Bracket Front View
- 02 Dual Bracket R/L Side View
- 03 Dual Bracket Back View
- 04 Dual Bracket Bottom View
- 05 Dual Bracket Angled View

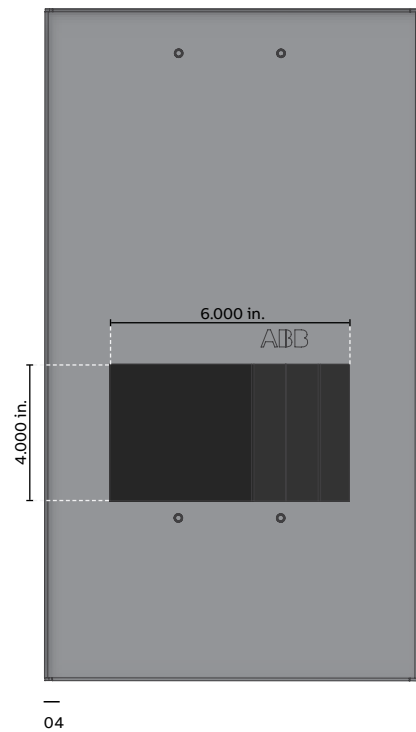
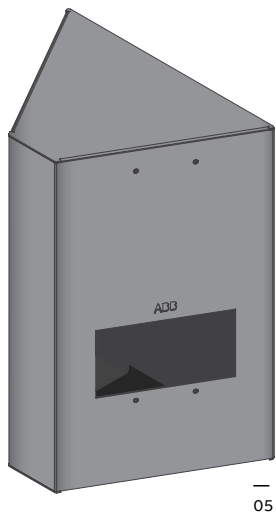
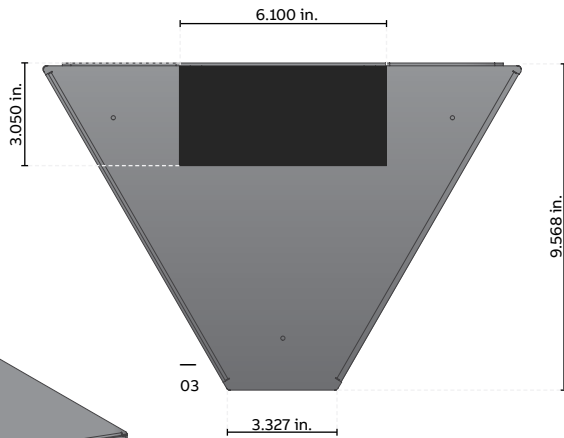
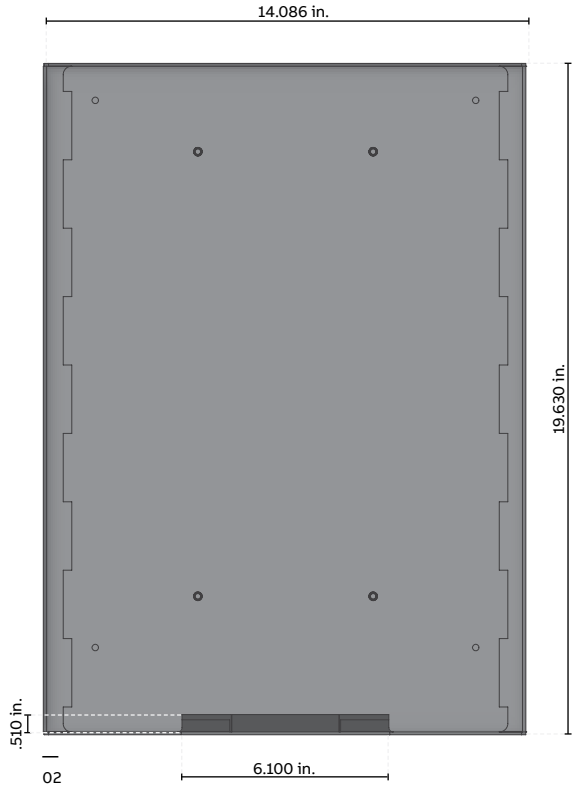
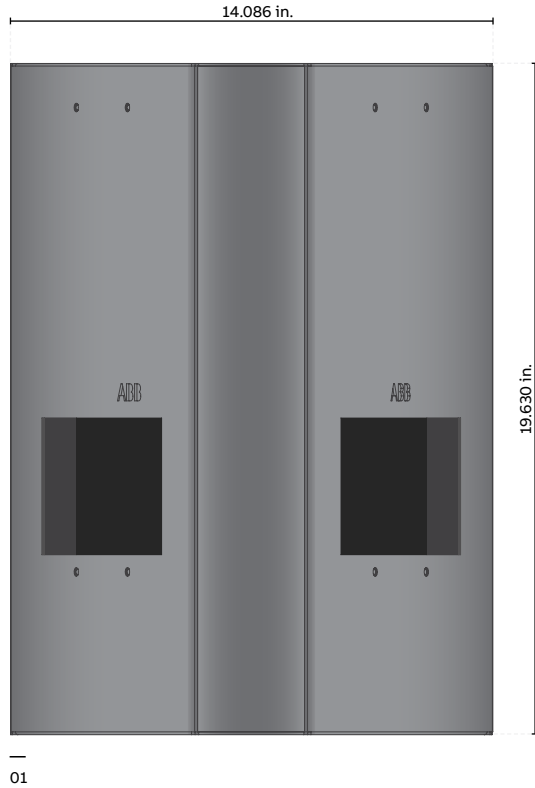


ABB EVSE Baseplate

Pedestal Baseplate Dimensional Overview

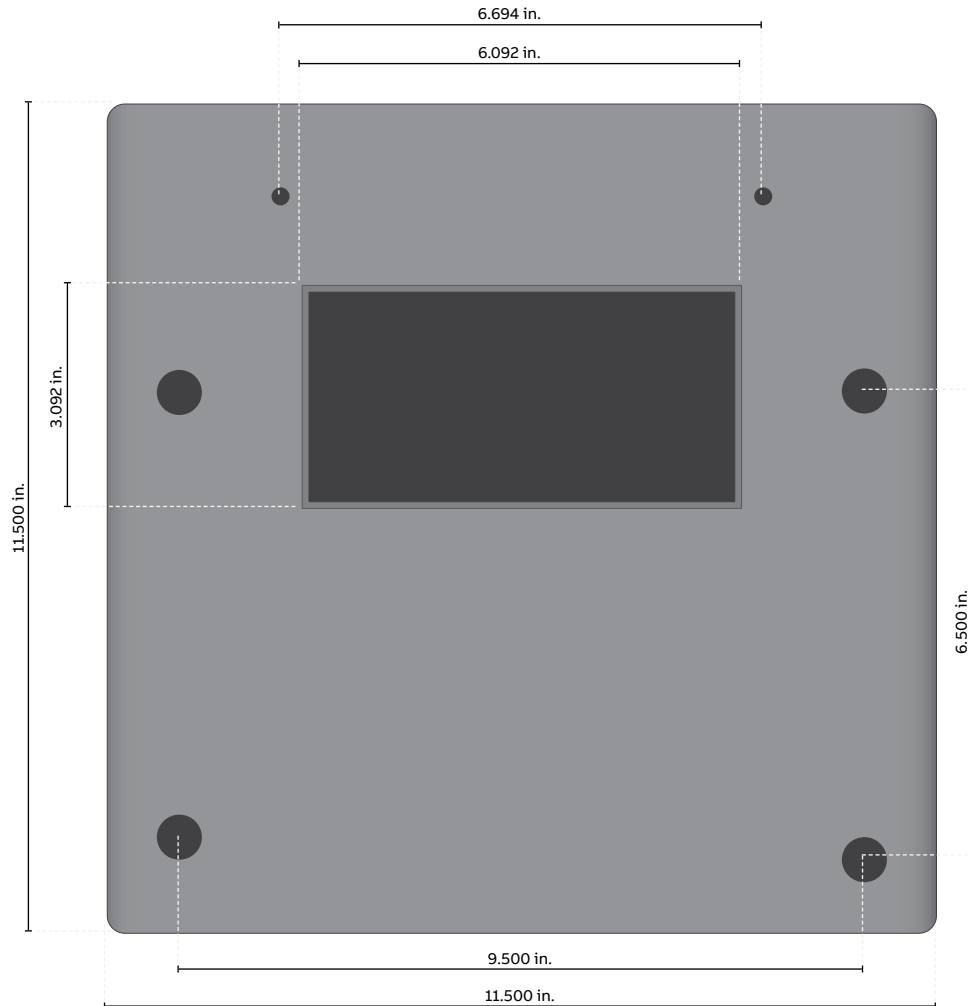




ABB E-mobility Inc.

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