

**California Type Evaluation Program**  
**Certificate of Approval**  
**Weighing and Measuring Devices**

**For:**

Electric Vehicle Fueling Systems (EVFS)

DC only

Models:

Terra 94

Terra 124

Terra 184

**Submitted By:**

ABB E-Mobility B.V.

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Email: [us-chargerdesk@abb.com](mailto:us-chargerdesk@abb.com)Web site: <https://e-mobility.abb.com/>**Standard Features and Options****Standard Features:**

- Direct Current (DC) system in kilowatt-hour (kWh)
- Accuracy Class 2.0 for DC with 1% accuracy or better
- Maximum Rate of Energy Transfer: 90kW DC/ 120kW DC/ 180kW DC
- Maximum Current Deliverable: 200 /400 amperes (A)
- Minimum Measured Quantity (MMQ): 0.5 kWh
- Voltage Rating:
  - Combined Charging System 1 (CCS-1): 150 - 920V DC
  - CHArge de Move (CHAdEMO): 150 - 500V DC
  - North American Charging Standard (NACS): 150 - 920V DC
- 0.0001 kWh registration display
- Software version 1.7.4.50 or higher
- Continuous display for energy delivery and price computing
- Non-resettable totalizer and downloadable event log
- Activation via credit card reader and radio-frequency identification card (RFID)

**Options:**

- Single or dual outlet with CCS, CHAdEMo or NACS cable management systems.
- Standard 400A or optional 200A charging cables

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.



Kristin Macey, Director

Effective Date: March 8, 2023

### ABB E-Mobility B.V.

Electric Vehicle Fueling Systems / Terra 94, Terra 124, Terra 184

**Application:** For use as an Electric Vehicle Fueling System (EVFS) in commercial applications under the California Code of Regulations (CCR) and National Institute Standards and Technology (NIST) Handbook 44 Section 3.40, by reference. EVFS are also known as Electric Vehicle Supply Equipment (EVSE).

**Identification:** The required EVFS identification label is located on the right side of the charger towards the back (**Figure 1**).

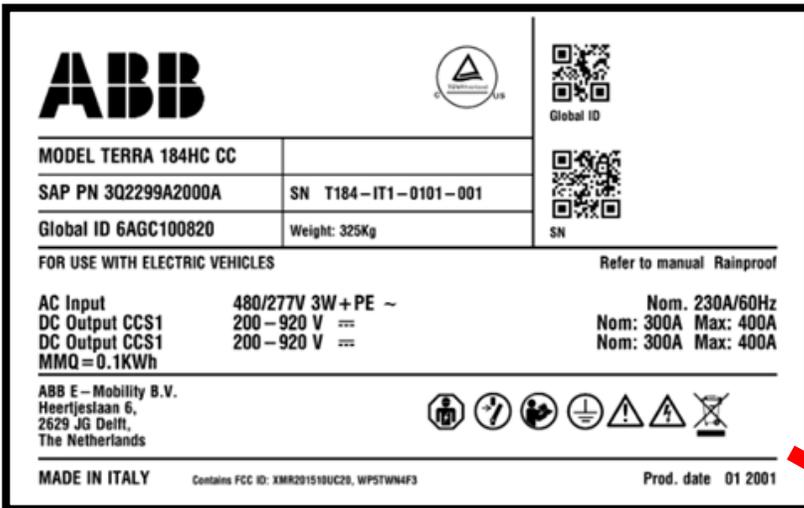
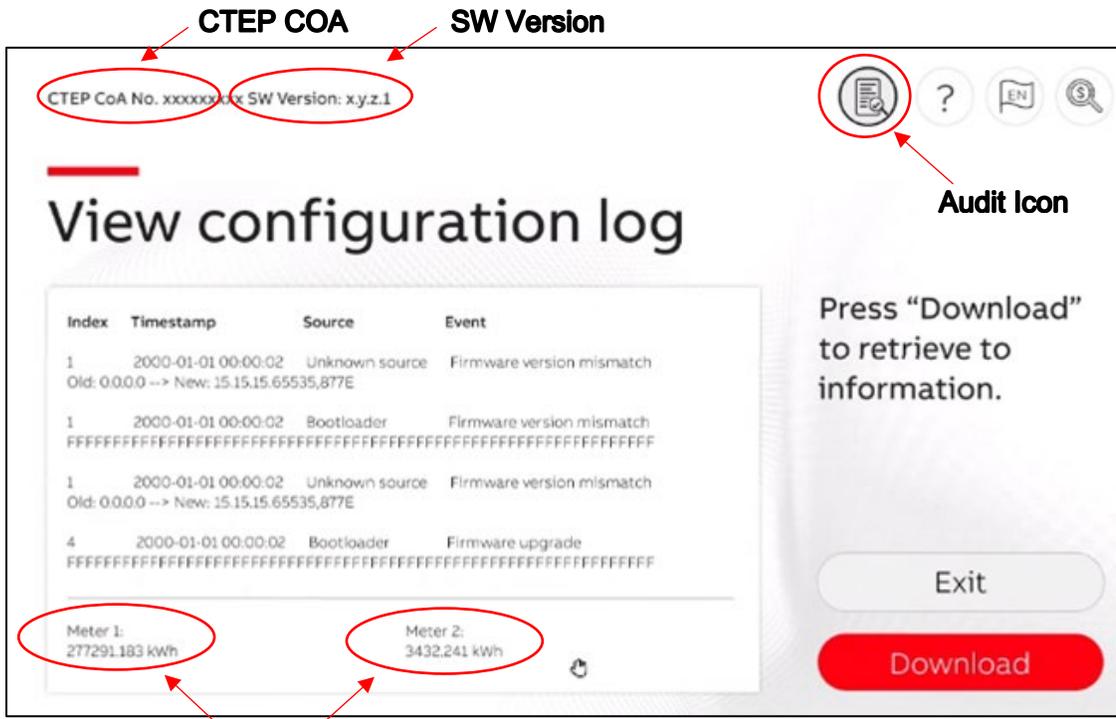


Figure 1. ID label and location

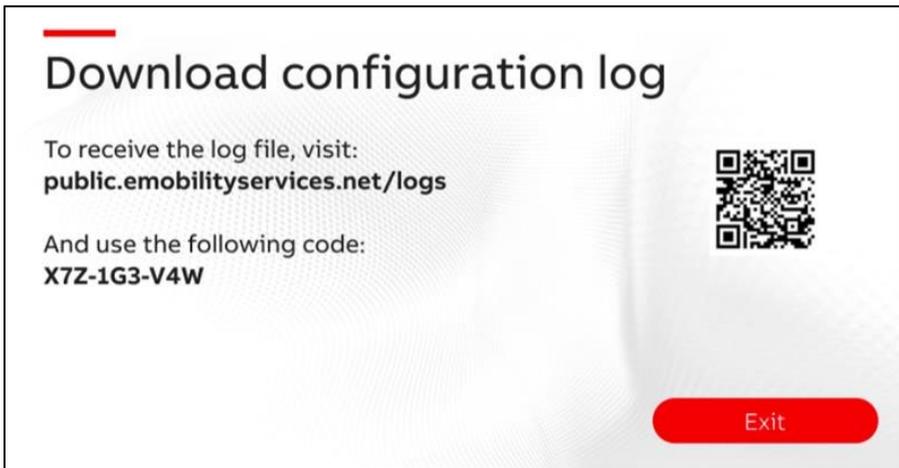
The CTEP Certificate of Approval (COA) number, software version, totalizer values and event log can all be viewed on the display screen. First, ensure the idle screen is active and that no connector is in use. Then press the “?” icon on the top right of the display screen for the “Help” page and press the audit icon (pictogram of a page with a magnifying glass) to display the “Audit” page. The CTEP COA and software version number can be found on the top of the screen. Pressing the View Logs button will show the most recent logbook events and display the totalizer values (for both charging ports) at the bottom of the screen (**Figure 2**).

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**Totalizers**      **Figure 2.** View Logs page

**Sealing:** The Terra DC EVFS has a Category 3 sealing provision and provides access to the event log via internet download and passcode provided by the EVSE. The View Logs page will display the most recent events; the full log can be downloaded by pressing the red “Download” icon. After using the quick response (QR) code or accessing the website provided on the download screen (**Figure 3**), enter the passcode that is provided, and the log will be available in portable document format (PDF). The event logger will contain Configuration and Calibration changes, as well as Other device notifications (**Figure 4**). When the device is out of service, the screen will display either an “Out of Order” message or the “Emergency Shutdown” screen. Nothing will happen if the screen is touched.



**Figure 3.** Download screen with web access page and passcode

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Index	Timestamp	Source	Description
176	2023-02-22T20:14:53.000Z	Configuration	Persistent data update TIME_ZONE +01:00
175	2023-02-22T20:14:43.000Z	Configuration	Persistent data update REGION_CODE USA
174	2023-02-22T20:05:38.000Z	Configuration	Persistent data update REGION_CODE DEU
173	2023-02-22T20:05:38.000Z	Configuration	Persistent data update TIME_ZONE +01:00

**Figure 4.** Sample of Event Logger with configuration updates

**Operation:** A charging session may be activated by credit card or RFID. After activation, the user is prompted to enter a phone number which will provide access to the receipt after the charging session. Receipts are provided by text message. The manufacturer provides remote start and stop capability for Electric Vehicle Service Provider (EVSP) Applications (App). Should the user need additional assistance, the EVSP phone number is available on the Help page.

In the event of a power loss or unauthorized disconnection from the vehicle, the EVFS will terminate the charging session. The receipt will be made available to the user via text message only after power has been restored and the last bit of the information relating to the charging session is retrieved by the billing provider. The EVFS may also be equipped with an Emergency Stop button located on the front of the charger, if an unexpected issue occurs.

**Test Conditions:** The emphasis of the evaluation for ABB's Terra DC EVFS system focused on device design, performance, markings, sealing, and energy measurement accuracy. Testing was performed on the Terra 94 and Terra 184; the lowest and highest power models. For the Terra 94, measurements were taken at 10% Maximum Deliverable Amperes (MDA): 20A over 0.5 kWh, and at 70% MDA: 140A over 1.0 kWh. For the Terra 184 model, measurements were taken at 10% MDA: 40A over 0.5 kWh, and 35% MDA: 140A, over 1.0 kWh. Permanence testing was performed after 200 kWh of throughput usage. This DC system used a Ford Mach E Electric Vehicle as the test load and the test conditions reflect the loads presented by the vehicle. No Load and Starting Load tests are unable to be performed using this method.

**Evaluated By:** J. Burbridge (CA)

**Type Evaluation Criteria Used:** *California Code of Regulations, Title 4, Division 9, Chapter 1, Article 1. General Code 1.10. and Section 3.40. 2023 Edition*

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

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**Example(s) of the Device:**



**Terra 94:** charges one EV up to 90kW



**Terra 124:** charges one EV up to 120kW or two EVs up to 60 kW



**Terra 184:** charges one EV up to 180kW or two EVs up to 90 kW