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

**For:**

Electric Vehicle Fueling Systems (EVFS)
DC only

Models: TDC400-x NA yzz or Ax00Sw NA yzz

Where x, w and yzz can be any alphanumeric value and does not affect the metrology of the device

**Submitted By:**

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**Standard Features and Options**

**Standard Features:**

- Direct Current (DC) system in kilowatt-hour (kWh)
- Accuracy Class 2.0 for DC with 1% accuracy tolerance or better
- Maximum Rate of Energy Transfer: 400kW
- Maximum Current Deliverable (MCD): 600 amperes (A)
- Minimum Measured Quantity: 0.5kWh
- Voltage Rating: DC 150 – 980 VDC
- 0.0001 kWh registration and non-resettable totalizer
- Temperature Rating: - 30° C to 55° C
- Software (SW) Version: 2.0.13.31 or higher that increments sequentially and follows the format “X.X.XX.XX”
- Dual port charging with Combined Charging System- type 1 (CCS1) and North American Charging Standard (NACS) connectors
- Cloud data storage through cellular and ethernet communication
- Activation via payment card, and Radio Frequency Identification (RFID),

**Options:**

- Point of Sale (POS) terminal

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.

Kevin Schnepp, Director
Effective Date: May 30, 2025

**ABB E-Mobility B.V.**
Electric Vehicle Fueling Systems / Models TDC400-x NA yzz or Ax00Sw NA yzz

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

**Identification:** The ABB identification label (***Figure 1***) is located on the right side, when facing the EVFS (***Figure 2***). The software version number and totalizer values are displayed under the "Help" menu (***Figure 3***) found at the bottom of the user interface. An example of the "Help" menu is displayed in (***Figure 4***).

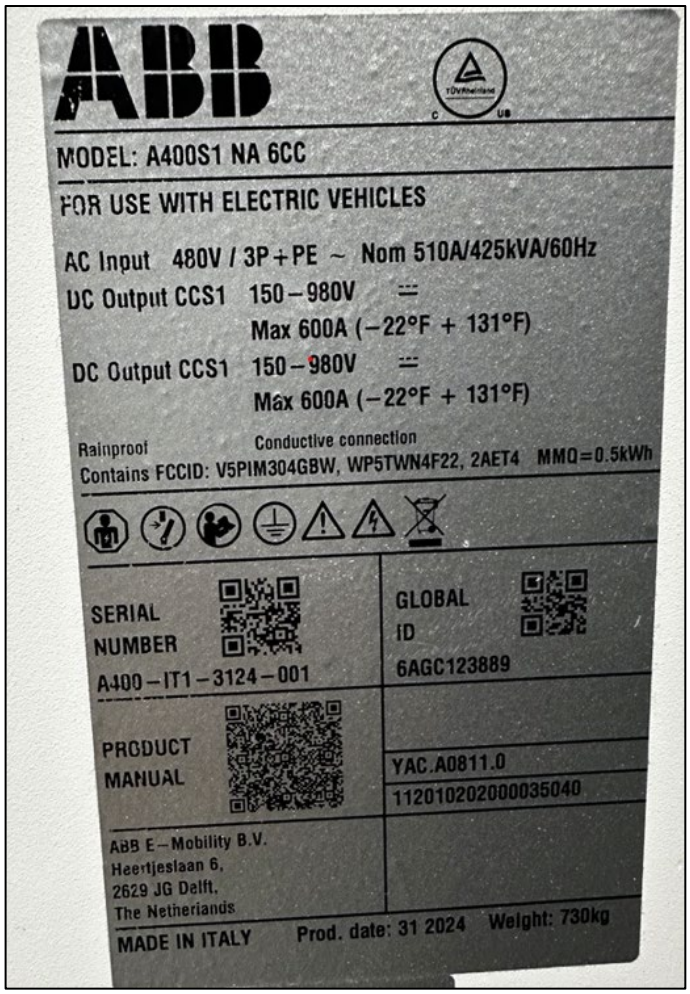


***Figure 1.*** ABB ID label example

***Figure 2.*** Right side, when facing EVFS

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***Figure 3.*** Help Menu location example

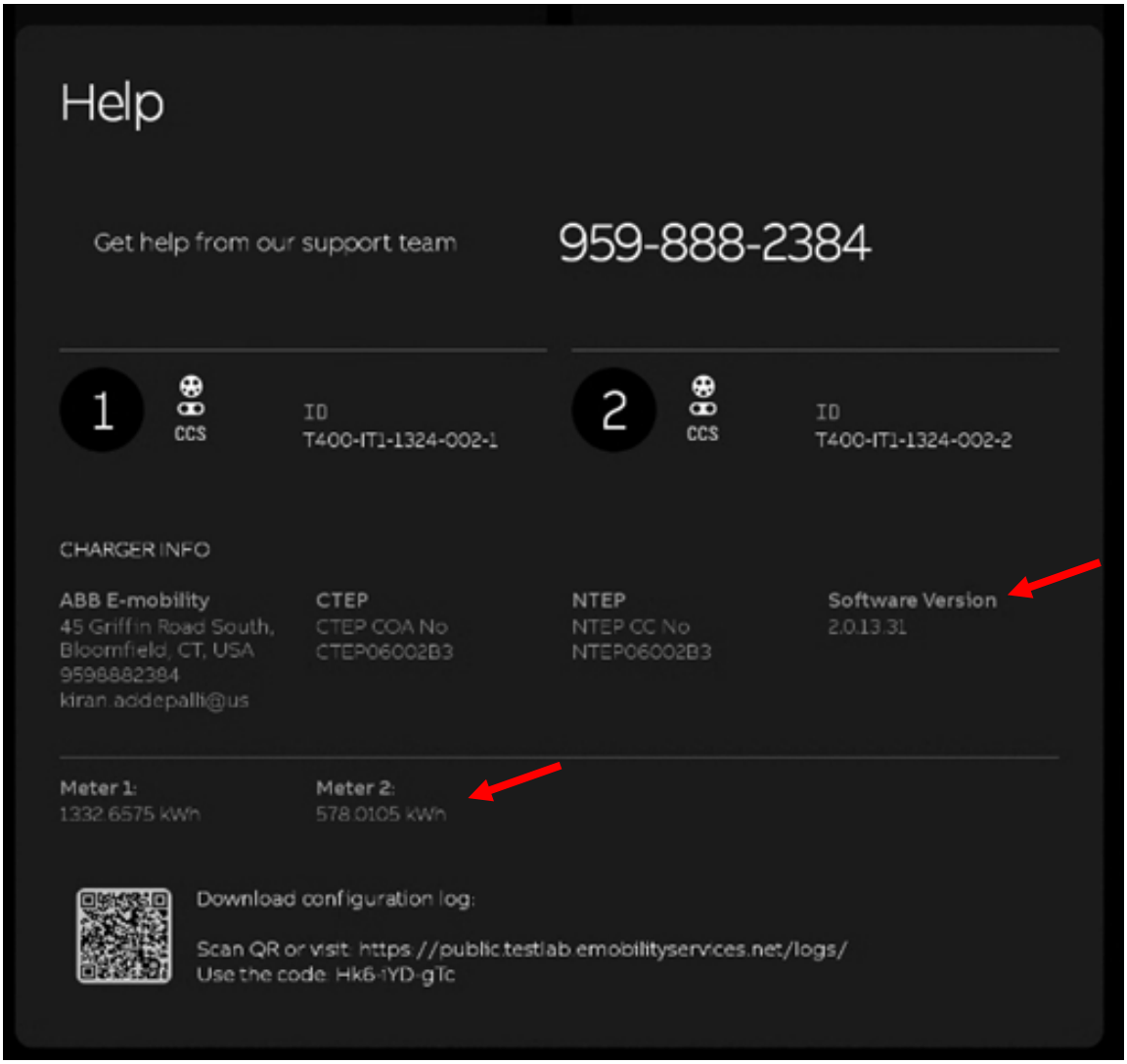


***Figure 4.*** Software version and totalizer values for each port

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**Sealing:** This EVFS is a Category 3 device and provides access to the event log via internet download and passcode provided on the display. The event logbook can be accessed from the quick response (QR) code or website listed on the “Help” screen (***Figure 5***). The event logbook will be available in portable document format (pdf) and may contain “Configuration,” “Calibration,” and other device updates (***Figure 6***).

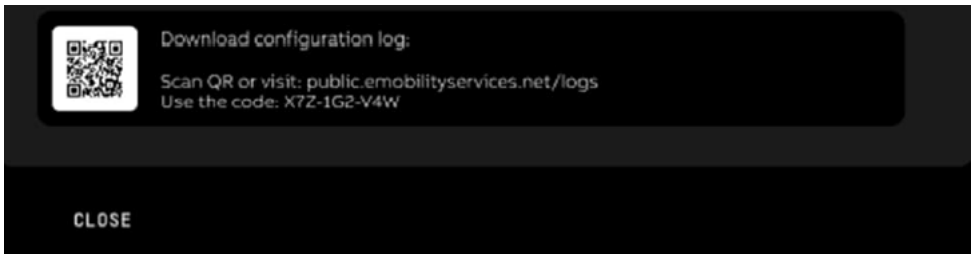


***Figure 5.*** Example event log location with example code

| | | | |
|---|---|---|---|
| 47 | 2000-01-01T00:00:00.000Z | Configuration | Persistent data update EVENT_COUNTER 7 |
| 46 | 2000-01-01T00:00:00.000Z | Other | Firmware upgrade failed Failed attempts: 131 |
| 45 | 2000-01-01T00:00:00.000Z | Configuration | Persistent data update EXPECTED_METERS DZG1 DZG2 |
| 44 | 2000-01-01T00:00:00.000Z | Other | Meter energy flow outside session DZG1 |
| 43 | 2000-01-01T00:00:00.000Z | Other | Meter energy flow outside session DZG2 |
| 42 | 2000-01-01T00:00:00.000Z | Other | Firmware upgrade failed Failed attempts: 132 |
| 41 | 2024-07-09T20:16:45.000Z | Configuration | Persistent data update REGION_CODE USA |
| 40 | 2024-07-09T20:16:45.000Z | Calibration | Persistent data update CABLE_RES_DC_METER_2 2 |
| 39 | 2024-07-09T20:16:45.000Z | Calibration | Persistent data update CABLE_RES_DC_METER_1 2 |

***Figure 6.*** Example event log

**Operation:** The ABB EVFS can be activated by two methods: payment card, and RFID. The display provides instructions for users to plug in their vehicle and initiate the transaction. Charging sessions can be set to stop based on cost, energy dispensed, or vehicle state of charge. To stop a session prematurely, press stop on the display screen. Payment card users are prompted to enter their mobile telephone number to receive their receipt via text message. RFID users must register for membership and provide an email to have access to activation and their session receipts which are delivered by email. The EVFS is not available for use during maintenance and will indicate on the screen that it is “Unavailable”.

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**Test Conditions:** The emphasis of the evaluation for the ABB DC EVFS focused on device design, performance, markings, sealing, repeatability, time-based fees, and energy measurement accuracy. The EVFS under test was configured with a CCS1 connector. Test measurements taken at 10% MDA: 60A, 50% MDA, 100A and 100% MDA: 200A, over 0.5 kWh, 0.5 kWh and 1.0 kWh, respectively. The 200A limitation was due to the standard used in conjunction with a vehicle as a load. 10% MDA testing was conducted at 700V while high load testing (100% MDA) was conducted using a vehicle with a battery management architecture of 400V. Event log functionality was verified for compliance and accuracy.

**Evaluated By:** J. Witt (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. Electric Vehicle Fueling Systems. 2025 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:**