

California Type Evaluation Program
Certificate of Approval
Weighing and Measuring Devices

For:

Electric Vehicle Fueling Systems (EVFS)
DC only

Models: C50Sw NA yzz

Where 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: 50kW
- Maximum Current Deliverable (MCD): 150 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/or SAE J3400 (NACS)
- 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 Schnepf, Director
Effective Date: July 23, 2025

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Electric Vehicle Fueling Systems / Model: C50Sw 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 left 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**).

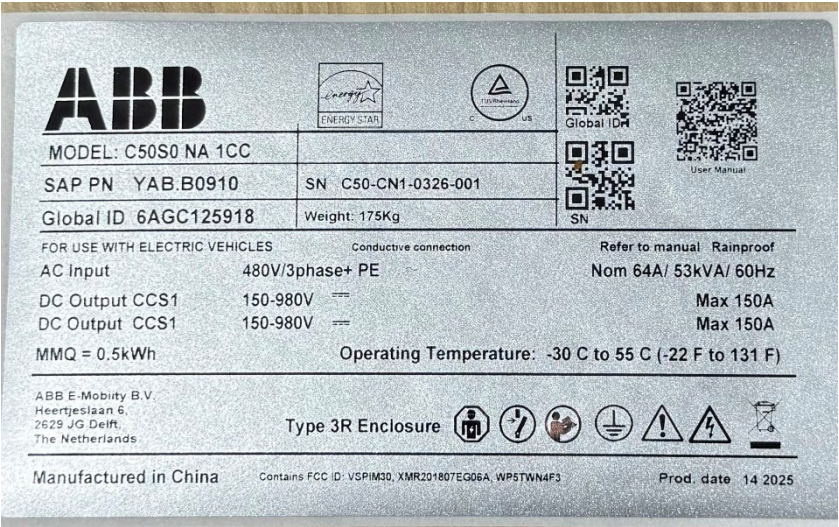


Figure 1. ABB ID label example

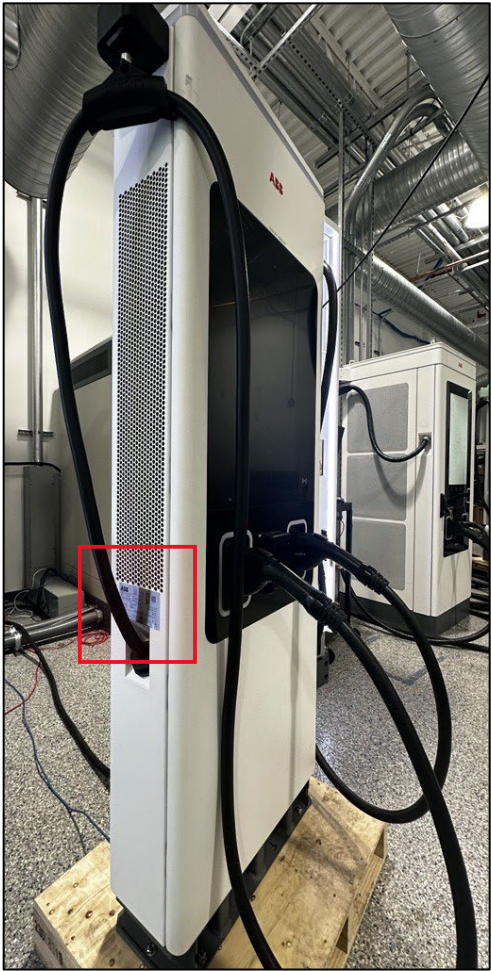


Figure 2. Left side, when facing EVFS

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Figure 3. Help Menu location example

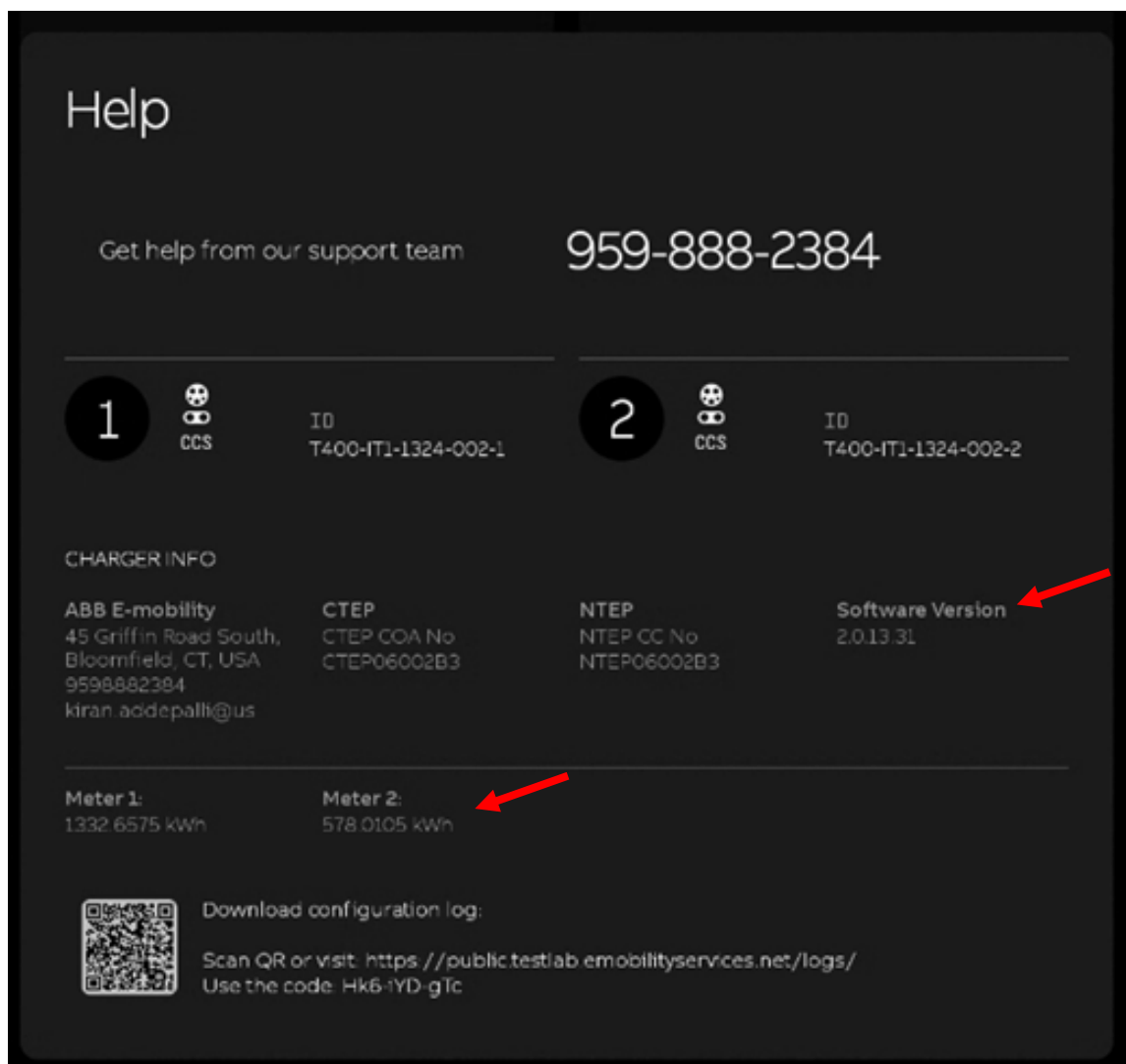


Figure 4. Software version and totalizer values for each port

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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**).

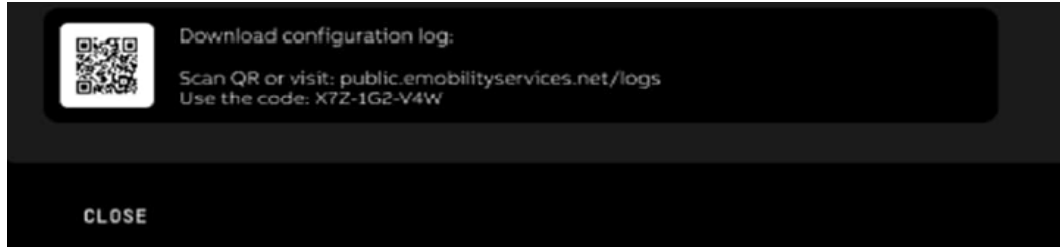


Figure 5. Example event log location with example code



Device: C50-CN1-0326-001,
Component Id: 1,
Vendor: ABB E-mobility,
Vendor address: 45 Griffin Road South, Bloomfield, CT, 6002, USA,
Vendor phone: 9598882384,
Vendor email: kiran.addepalli@us.abb.com

Index	Timestamp	Source	Description
35	2025-06-11T16:47:51.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
34	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG1
33	2025-06-09T20:29:23.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
32	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG1
31	2025-06-06T21:41:16.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
30	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG1
29	2025-06-06T21:22:46.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
28	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG2
27	2025-06-06T21:11:06.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
26	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG1
25	2025-06-06T19:59:40.000Z	Other	Meter state mismatch Unexpected DZG meter ongoing transaction
24	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG2
23	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
22	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
21	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
20	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
19	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
18	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
17	2000-01-01T00:00:00.000Z	Other	Firmware upgrade failed Failed attempts: 1
16	2000-01-01T00:00:00.000Z	Other	Firmware version mismatch Old: 3.5.0.58 --> New: 1.0.6.14
15	2000-01-01T00:00:00.000Z	Calibration	Firmware upgrade EC4BB09BD2339F0276094CA457FD5BD43427D6FE291CB4735626A476672F45F8
14	2000-01-01T00:00:00.000Z	Configuration	Persistent data update EVENT_COUNTER 3
13	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG2
12	2000-01-01T00:00:00.000Z	Other	Meter energy flow outside session DZG1
11	2025-03-26T09:30:10.000Z	Configuration	Persistent data update REGION_CODE USA
10	2025-03-26T09:30:10.000Z	Calibration	Persistent data update CABLE_RES_DC_METER_2 2
9	2025-03-26T09:30:10.000Z	Calibration	Persistent data update CABLE_RES_DC_METER_1 2
8	2025-03-26T09:30:10.000Z	Configuration	Persistent data update EVENT_COUNTER 2
7	2025-03-26T09:30:10.000Z	Configuration	Persistent data update NTP_PORT 123
6	2025-03-26T09:30:10.000Z	Configuration	Persistent data update NTP_IP_ADDRESS 127.0.0.1
5	2025-03-26T09:30:10.000Z	Configuration	Persistent data update TIME_ZONE Z
4	2025-03-26T09:30:10.000Z	Configuration	Persistent data update CHARGER ID C50-CN1-0326-001
3	2000-01-01T00:00:00.000Z	Configuration	Persistent data update EXPECTED_METERS DZG1 DZG2
2	2000-01-01T00:00:00.000Z	Other	Firmware version mismatch Old: 0.0.0.0 --> New: 3.5.0.58
1	2000-01-01T00:00:00.000Z	Calibration	Firmware upgrade

Figure 6. Example event log

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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”.

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 a Model C50Sw NA yzz configured with a CCS1 connector. Test measurements taken at 30A, 50% MDA, 75A and 73% MDA: 110 A, over 0.5 kWh per the marked MMQ. 30A testing was conducted at 700V while high load testing (73% MDA) was conducted using a vehicle with a battery management architecture of 400V. Event log functionality was verified for compliance and accuracy. Activation methods in addition to receipt delivery and content was evaluated.

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:

