Electric Vehicle Infrastructure
Terra DC Wallbox UL

The UL certified Terra DC Wallbox is a compact 24 kW DC fast charger perfect for commercial parking, auto dealerships, workplace facilities and fleets.

With its low-power, high-voltage architecture, the Terra DC Wallbox can be installed at sites with defined or limited available power service – while offering 920 VDC charging capability for every EV model.

Future-proof "Destination DC" charging
The Terra DC Wallbox is a compact 24 kW DC fast charger with one or two outlets supporting CCS and CHAdeMO protocols.

Operating the Terra DC Wallbox is easy thanks to a full color, daylight readable touchscreen display. This includes starting and stopping of charge sessions, progress indication during charging, help menus, language selection, and PIN code access control.

As connectivity is the key to successful EV charging installations, the Terra DC Wallbox features ABB Ability Connected Services to enable authentication, payment, monitoring, remote diagnostics and repair, as well as over-the-air updates and upgrades.

Applications
• Commercial, retail parking
• Automotive dealers
• Right-of-way parking
• Office, workplace, campus
• Delivery fleets
• High voltage battery EV fleets
• Sites with sensitive load concerns

Benefits of low power DC solutions
Low power DC is an ideal solution for use cases demanding shorter charging times and higher charging asset utilization than can be provided by AC charging solutions. With a 24 kW compact DC solution, charging needs can be met in balance with load demands and infrastructure costs.

In AC charging solutions, the EV's onboard converter is usually the limiting factor on the charging power that can be supplied to the car. With typical onboard ratings ranging from 3 kW to 11 kW, any additional power the AC charger could provide is left unused. With the Terra DC Wallbox, 24 kW peak DC power is provided directly to the battery, bypassing the limitations of an EV's onboard converter.

High voltage charging capabilities
As electric vehicles and their use cases grow, high voltage DC charging has become more important to increase charging power while ensuring the highest safety, usability and utilization from charging assets. The Terra DC Wallbox can meet EV battery capabilities up to 920 VDC to enhance power output across a wider range of today's and tomorrow's EVs, including both passenger and fleet vehicles.

Main features

- Future-proof DC output voltage range from 150 to 920 VDC supporting EVs today and in the future
- Enables CCS1 only or CCS1 and CHAdeMO
- Daylight readable 7" full color touchscreen display
- Future proof connectivity:
  - OCPP 1.6 and Smart Charging Profiles
  - Capability for remote services and updates
- Compact design
- Robust all-weather enclosure for indoor and outdoor use
- RFID reader

Key optional features

- On-screen PIN code authorization
- Input current limiting software to match site requirements
- Web tools for statistics, configuration, access management, remote diagnostics and repair
- Integration with back offices and payment platforms
- Customized branding possibilities
- Pedestal mounted option available

Configurations

The Terra DC Wallbox is available in the following configurations:
- Single outlet CCS1
- Dual outlet CCS1 + CHAdeMO
- Single-phase, 208-240 VAC
- Three-phase, 480 VAC

Specifications

Electrical

AC Input voltage range	(1) 208-240 VAC +/- 10% (60 Hz) (2) 480Y / 277 VAC +/- 10 % (60 Hz)
AC input power connection	(1) 1-phase: L1, L2, GND (2) 3-phase: L1, L2, L3, N, GND
AC input current* and max power	(1) 100 A; 20.8-24 kVA (2) 32 A; 26.6 kVA 35 A; 26.6 kVA at 432 VAC (-10 % dip) Current limiting options available
Recommended upstream circuit breaker	(1) 125 A (2) 50 A
Power Factor*	>0.96
Current THD*	IEEE 519 Compliant; 5%
DC output power	(1) 19.5 kW at 208 V (1) 22.5 kW at 240 V (2) 24 kW peak; 22.5 kW continuous
DC output voltage	CCS1: 150 - 920 VDC CHAdeMO: 150 - 500 VDC
DC output current	60 A
Efficiency*	94%

Interface and Control

Charging protocols	CCS1 and CHAdeMO
User interface	7" full color touchscreen display
RFID system	ISO/IEC14443A/B, ISO/IEC15693, NFC reader mode, Mifare, Calypso
Network connection	GSM / 4G modem 10/100 Base-T Ethernet
Communication	OCPP 1.6 Core and Smart Charging Profiles; Autocharge via OCPP
Support languages	English (others available on request)

Environment

Operating temperature	-35 °C to +45 °C (+45 °C to +55 °C with linear derating)
Recommended storage conditions	-10 °C to +70 °C / 14 °F to +158 °C (dry environment)
Protection	IP54, NEMA 3S; indoor and outdoor
Humidity	5% to 95%, non-condensing
Altitude	2500 m (8200 ft)

General

Charge cable	7 m (23 ft)
Dimensions (H x W x D)	770 x 584 x 300 mm / 30.3 x 23 x 11.8 in
Weight	60kg / 132 lbs excluding backplate (10 kg / 22 lbs) and cables
Compliance and safety	UL 2202, CSA No. 107.1-16, NEC Article 625, EN 61851, EN 62196; CHAdeMO 1.2; DIN 70121, ISO 15118; IEC 61000-6-3, (2) EMC Class B

(1) Single phase configuration
(2) Three phase configuration

* Data shown at nominal output power

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