



Terra DC Wallbox UL Product guide

The Terra DC Wallbox is a compact 24 kW "Destination DC" charger for commercial, workplace and fleet applications.



- Future proof, high-voltage technology
- Reliable, compact and flexible design
- Safe and superior user experience
- Always connected, always smart

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With more than a decade of EV infrastructure experience, ABB E-mobility is leading the way to a future of zero emission mobility.

1M+

EV chargers
sold worldwide

in operation
across

85+
countries

A range of
chargers up to

450 kW

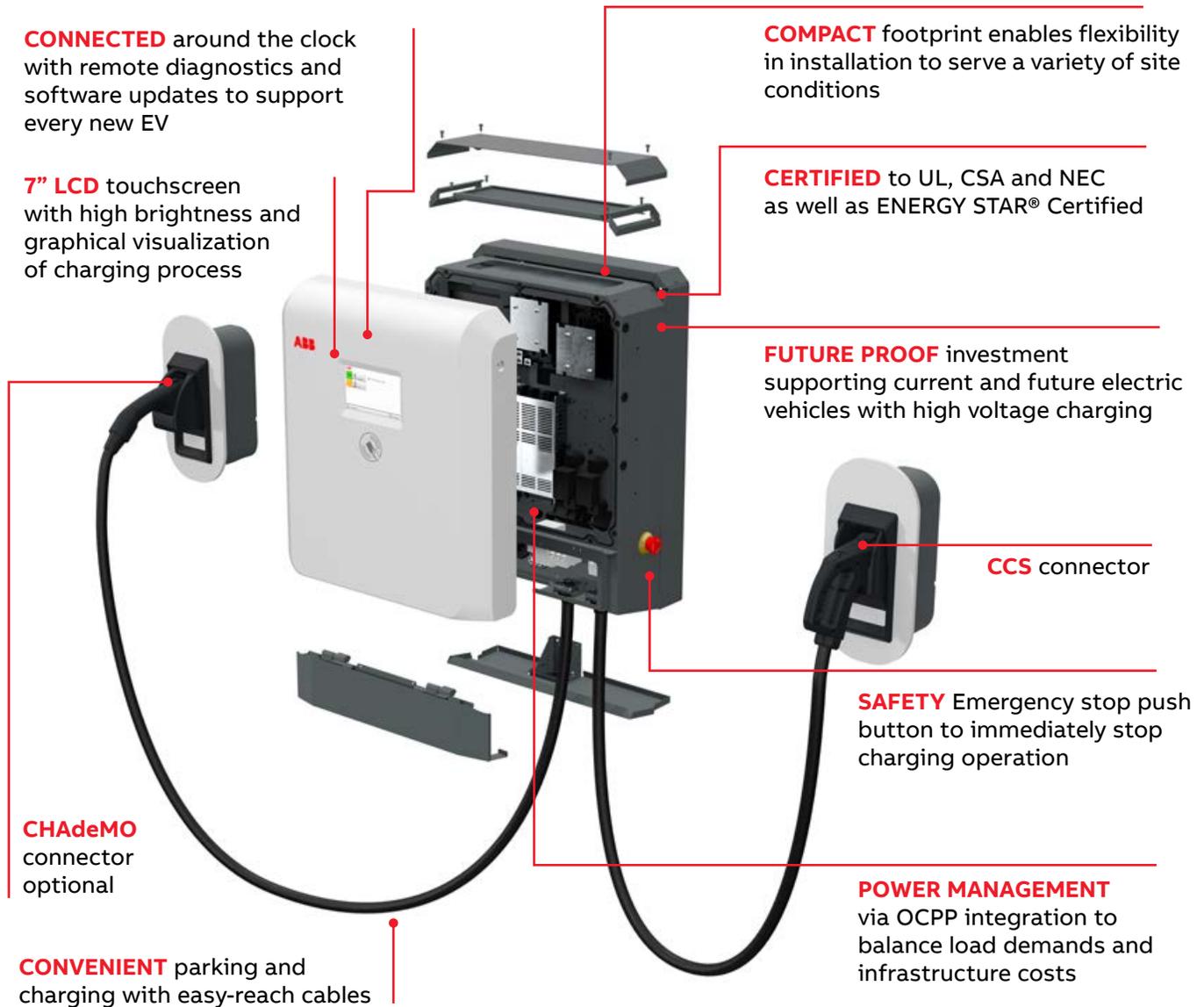
12+ years
of EV charging
field experience

24/7

connectivity offered
for remote services

Terra DC Wallbox

At a glance



CHARGING POWER

0 ... 22.5 kW
 24 kW (peak)
 1-phase 208/240 V
 3-phase 480 V

MAX CHARGING VOLTAGE

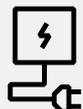
CCS 150 ... 920 VDC
 CHAdEMO 150 ... 500 VDC

DIMENSIONS

Height 770 mm / 30.3 in
 Width 584 mm / 23 in
 Depth 294 mm / 11.8 in
 Weight 60 kg / 132 lbs

Why Terra DC Wallbox?

Advanced, reliable, safe and smart



Future-proof, high-voltage technology

- Low investment, high utilization charging asset for public or fleet demands
- High-voltage charging range up to 920 V
- 60 A direct to battery charging, no onboard power conversion required
- Compatible with current and future EVs



Reliable, compact and flexible design

- Multiple configurations for every commercial or industrial power connection
- High degree of protection against harsh elements and operational environments
- Space-saving, easy to install and brand
- Wall-mounted or free-standing pedestal options



Safe and superior user experience

- User-friendly touchscreen interface for convenient charging
- Evaluated and tested to the highest independent standards
- Safety certified with notified bodies
- Integrated ground-fault and trip protection

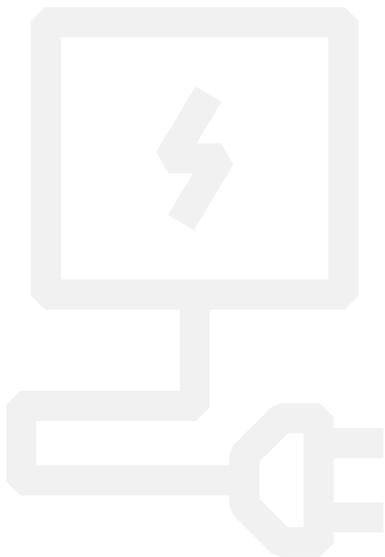
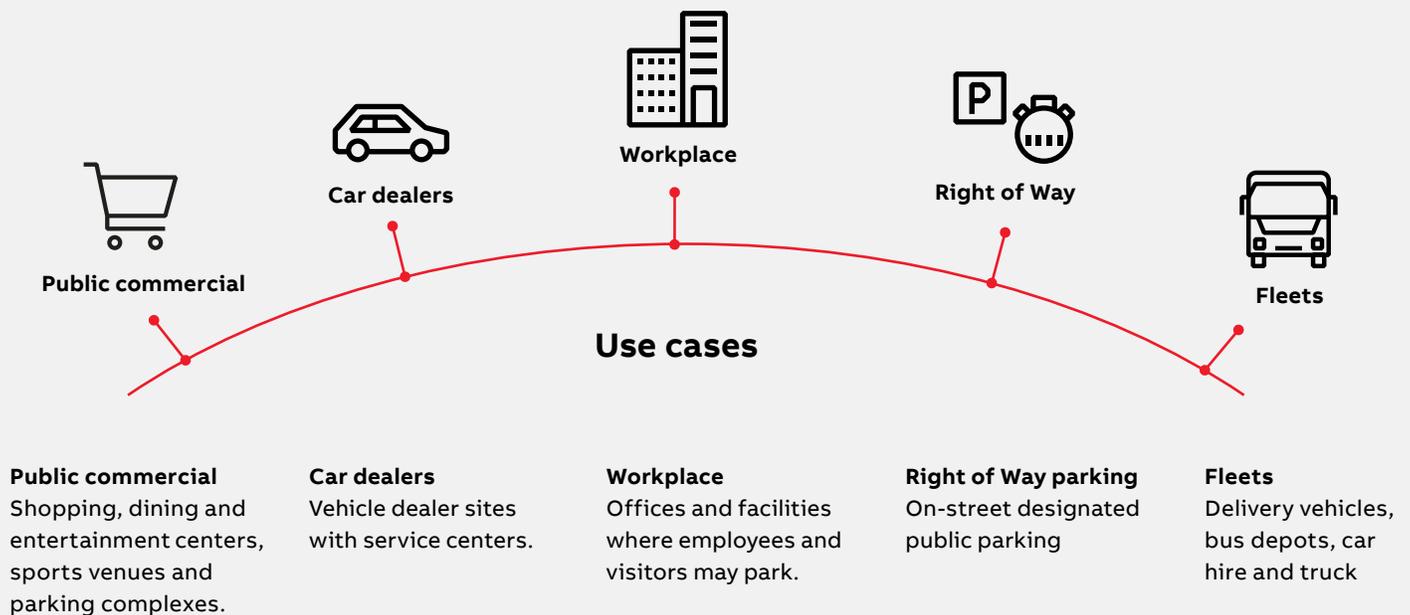


Always connected, always smart

- Around the clock connectivity, high uptime
- Remote services with remote firmware updates and upgrades
- OCPP back-end integration as well as ABB Web Tools functionality
- Smart charging support for optimized and cost-efficient usage

Why "Destination DC" charging

Serving multiple right-sized use cases



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 low power DC solution, charging needs can be met in balance with load demands and infrastructure costs.

High voltage charging explained

A future-proof strategy

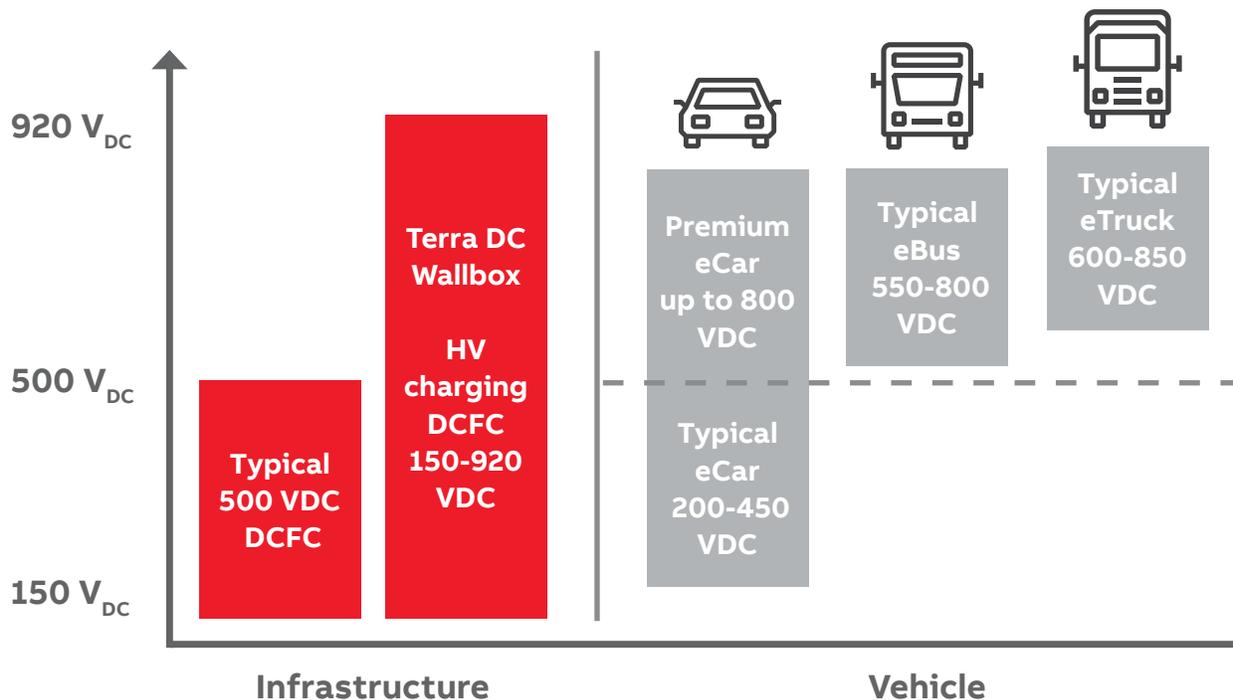
High voltage charging capabilities

As electric vehicles and their use cases diversify, high voltage DC charging has become more important to increase charging power while ensuring as much efficiency, safety and usability in DC charging systems.

Traditional passenger vehicle battery packs are usually designed for 400 VDC charging, so many standard charging systems do not exceed 500 VDC capability. However, some newer vehicles may have battery packs that exceed 400 VDC, often in the 600 to 800 VDC range.

Some EV battery packs, such as with vehicles designed for fleet usage, may only charge at high voltage ratings, demanding charging infrastructure that can deliver power tailored to HV battery packs.

ABB's Terra DC Wallbox is uniquely designed to meet EV battery voltage capabilities up to 920V to deliver charging services across a wider range of today's and tomorrow's EVs.



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A high range of DC voltage capability is demanded to deliver efficient charging services to every EV and use case.

Terra DC Wallbox charging times

DC charging for every EV destination

Destination DC	Charging time (hours)		
	1-phase 208-240 V _{AC}	3-phase 480 V _{AC}	
Light Duty	60 kWh BEV 400 VDC	2	1.75
	90 kWh BEV 400 VDC	3	2.5
	100 kWh BEV 800 VDC	3.25	2.75
Medium/Heavy Duty	120 kWh BEV School Bus 400 VDC	4	3.25
	150 kWh BEV Delivery Van 800 VDC	5	4.25
	200 kWh BEV Work Truck 800 VDC	6.5	5.5
	300 kWh BEV 60' Transit Bus 800 VDC	9.75	8.25



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Charge times shown based on average vehicle battery management system (BMS) requesting charging power from 20% to 80%.

Terra DC Wallbox

The smart e-mobility investment

Safe, intelligent and future-proof

ABB's Terra DC Wallbox provides DC fast charging capabilities for customers looking for a fast charge with a smaller footprint and lower installation costs. Offering up to 24 kW in peak output power, the Terra DC Wallbox provides a solution for destination and overnight charging.

Main features

- Future-proof DC output voltage range from 150 to 920 V_{DC} supporting EVs today and in the future
- Single or dual outlet: CCS-1 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
- ENERGY STAR Certified

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
- Customized branding
- Pedestal mounted option available

Configurations

The Terra DC Wallbox is available in the following configurations:

- Single outlet CCS-1
- Dual outlet CCS-1 + CHAdeMO
- Single-phase, 208-240 VAC
- Three-phase, 480 VAC

01 Terra DC Wallbox single-outlet CCS with standard holster

02 Terra DC Wallbox dual-outlet CCS and CHAdeMO with Gold level holsters

03 Terra DC Wallbox dual-outlet CCS and CHAdeMO with Gold level holsters mounted on pedestal. Actual pedestal design may vary due to product enhancements.



Terra DC Wallbox

Technical specification UL

Electrical	
Max output power	(1) 19.5 kW at 208 V; (1) 24 kW at 240 V peak; 22.5 kW at 240 V continuous (2) 24 kW peak; 22.5 kW continuous
AC Input voltage	(1) 208-240 VAC +/- 10% (60 Hz) (2) 480Y / 277 VAC +/- 10% (60 Hz)
AC input 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(s)	(1) 125 A (2) 50 A
Power Factor*	>0.96
Current THD*	IEEE 519 Compliant; 5%
DC output voltage	CCS-1: 150 - 920 VDC; CHAdeMO: 150 - 500 VDC
DC output current	60 A
Efficiency *	94%
Interface and Control	
Charging protocols	CCS-1 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
Supported 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 rated
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	60 kg / 132 lbs excluding backplate (10 kg / 22 lbs) and cables
ENERGY STAR Certification	Yes
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

*Data shown at nominal output power

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



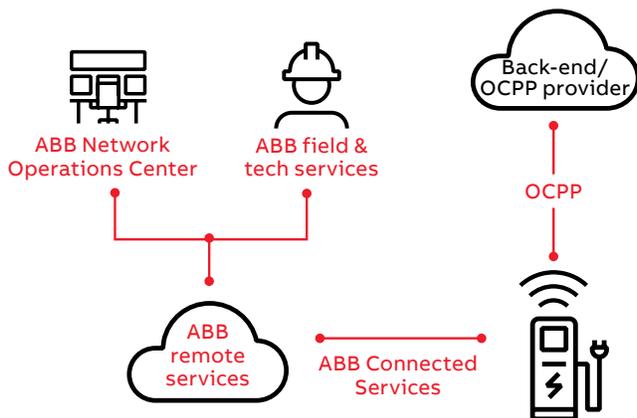
Flexible OCPP enablement

Back-office integrations backed by ABB connectivity

Network communications

ABB has integrated with nearly every major charging network around the world for OCPP support across public and fleet charging operations. ABB chargers can be operated using a direct OCPP connection while linking to ABB's advanced diagnostics and firmware update services for additional intelligence, technical support as well as reduced maintenance.

Leading the industry in implementing authentication technologies, ABB enables Autocharge coupled with an OCPP server. This functionality offers access control at the vehicle level, ideal for fleet asset telematics. ABB's software engineers work with the latest standardized protocols in the EV charging industry including roaming platforms, energy management software and next generation authentication solutions.



Better and faster support: Chargers connected to ABB's network operations center can achieve the fastest remote support from ABB network engineers. This leads to higher uptime of a charger network, minimizes the number of unplanned on-site visits, and significantly reduces overall operational costs.

Scalability and security: IT resources can scale in the ABB Ability cloud while connectivity monitoring is supported by ABB around the clock. ABB leverages Microsoft Azure based security with fewer backend connections to monitor.



OCPP Integrations

The Open Charge Point Protocol (OCPP) includes a broad set of messages with a wide range of functionality for enterprise telematics and usage data.

The transaction-based set-up of the messages makes it easy to connect to a back-end system to process charging sessions, define usage models and handle data. Other capabilities include integration with apps and energy management, such as with OCPP Smart Charging Profiles.



Plug and charge

Eliminating manual authentication methods for drivers while delivering granular data sets to operators and fleets has never been easier with 'plug and charge' solutions.

ABB supports Autocharge, in conjunction with an OCPP network integration, to meet vehicle-based authentication demands seamlessly with any CCS vehicle.

Additionally, ABB has proactively enabled ISO 15118 (Plug & Charge) for its charging systems to deliver more advanced plug and play charging experience for the next generation of electric vehicles.

ABB E-mobility services

For high utilization and low downtime

Operational excellence

Charging infrastructure must be optimized for the highest utilization and lowest downtime. This requirement demands that all charging assets are connected around the clock. ABB's connected and real-time services can meet that demand, incorporating a decade of experience with thousands of intelligent fast chargers deployed across the globe.



Remote services

- Round-the-clock connectivity
- Remote services
- Remote diagnostics
- Firmware updates and upgrades
- Web tools



On-site service and parts availability

- Standard & extended warranty execution
- Service level agreements
- Preventive service and maintenance
- Corrective service and maintenance
- Spare parts stocking programs



Custom services

- OCPP integration
- Plug and charge integration testing
- Interoperability testing and validation



Training

- Standardized online training
- Product and service classroom training
- Customized service training programs
- Third-party service training programs



ABB E-mobility Inc.

950 W Elliott Road, Suite 101
Tempe, AZ, 85284
United States
Phone: 800-435-7365
E-mail: US-evci@abb.com

ABB E-mobility Inc.

800 Hymus Boulevard
Saint-Laurent, QC H4S 0B5
Canada
Phone: 800-435-7365
E-mail: CA-evci@abb.com

e-mobility.abb.com



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