Terra 94/124/184 UL Product guide

Terra fast chargers: The most deployed DC fast chargers in the world.

- Power sharing for high utilization
- Future proof, high-voltage technology
- Reliable, compact and flexible design
- Always connected, always smart

At ABB we have more than 135 years of heritage in electrification technology leadership and a world-class EV charging portfolio for safe, smart and sustainable mobility – from the vehicle to grid.

17,000+
connected fast chargers installed worldwide

in operation across
80+
countries

R&D and interoperability tested with
50+ OEMs

10+ years
of EV charging field experience

24/7/365
connectivity with remote services

Terra 94/124/184 DC Fast Charger
At a glance

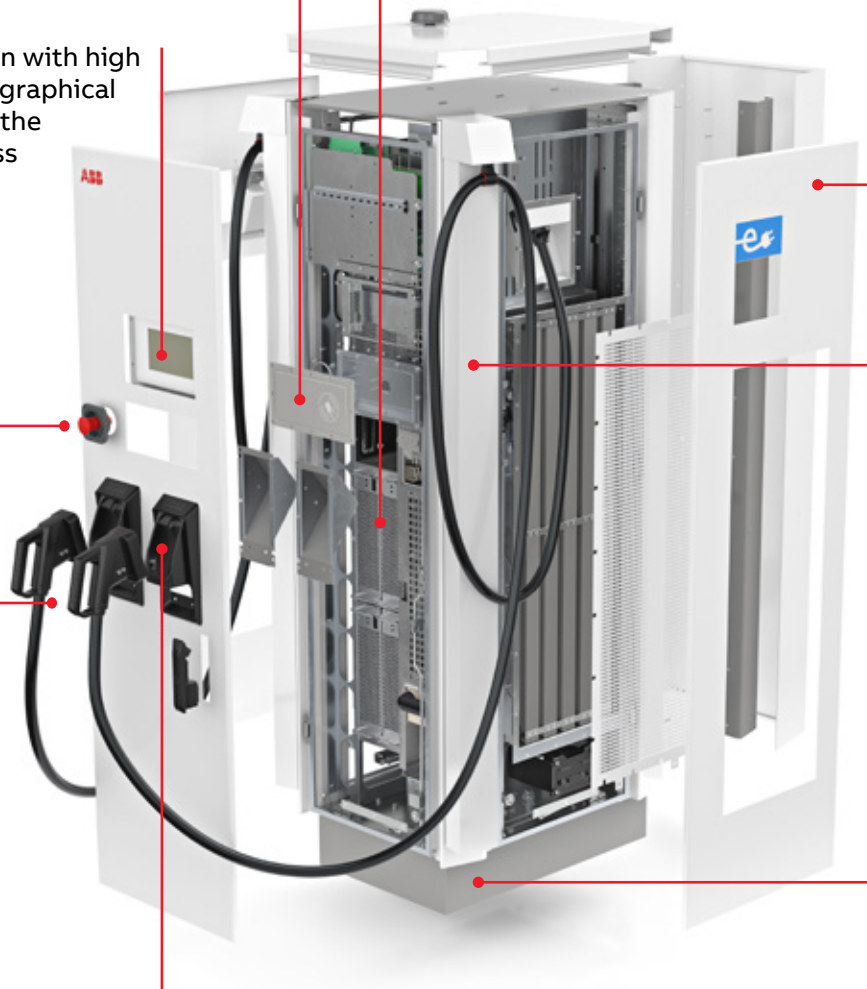
CONNECTED by cellular modem for 24/7 remote services, receiving updates over-the-air to support every new EV on the road - plus easy remote OCPP integration.

COMPACT, UPGRADABLE power modules to support increasing demand from more EVs with bigger batteries - in a very easy to service package.

LCD touchscreen with high brightness and graphical visualization of the charging process

ROBUST all-weather powder-coated stainless steel enclosure

SAFETY: Emergency stop push button to immediately stop charging operation



CONVENIENCE and hassle-free reach for users – with retractable cable management option

GREATER revenue potential with simultaneous charging for 2 electric vehicles, including CCS and CHAdeMO combinations

EASY installation design with fast remote commissioning and start-up

AUTOMATIC authentication capability via CCS connector in the vehicle thanks to easy OCPP integration and Autocharge functionality

MAX CHARGING POWER
Terra 94: 90 kW
Terra 124: 120 kW (and 2 x 60 kW)
Terra 184: 180 kW (and 2 x 90 kW)

MAX CHARGING VOLTAGE
CCS 920 VDC
CHAdeMO 500 VDC

DIMENSIONS
Height 1900 mm / 74.8 in
Width 5655 mm / 222.6 in
Depth 880 mm / 34.6 in
Weight 395 kg / 871 lbs

Why Terra 94/124/184?
Advanced, flexible, compact and smart

Power sharing for high utilization

- Terra 124 and Terra 184 can charge two vehicles simultaneously
- High utilization of charging assets benefit both public and fleet business models
- Supports all open charging standards in flexible configurations
- Safety certified to the highest standards

Future-proof, flexible high-voltage technology

- Flexible, redundant power architecture supports high uptime
- High-voltage charging range up to 920 V
- Fully compatible with current and future EVs
- Option to upgrade power over time, from 90 kW up to 180 kW, to follow EV market growth

Reliable, compact and flexible design

- Based on the Terra platform, the most widely deployed DCFC family in the world
- Space-saving, all-in-one footprint with very easy installation and servicing
- Robust construction for all operational environments
- Cable management options enhance longevity

Always connected, always smart

- 24/7 connectivity, 99.5% ABB network uptime
- Remote services with remote firmware updates and upgrades
- OCPP integration-ready as well as ABB Web Tools functionality
- Autocharge and ISO 15118-ready for plug and charge operation

Fast charging beyond 50 kW

Power sharing delivers high utilization

90kW Charging Points
Terra chargers can provide a quick refill adding 100 miles of range in as little as 15 minutes (Terra 94) or 30 minutes (Terra 54).*

Retail/Shopping Sites
The Terra 124 charger can provide a full battery charge to two vehicles simultaneously while drivers are shopping, dining or at the movies.

Highway corridors and Fleets
The Terra 184 chargers can add 100 miles of range in as little as 10 minutes as well as fast-charge two vehicles at the same time in less than 20 minutes.*

one EV
up to
90 kW

one EV
up to
120 kW

two EVs
each up to
60 kW

one EV
up to
180 kW

two EVs
each up to
90 kW

* actual charging speed depends on the electric vehicle model(s) and charging conditions

Simultaneous charging with high power fast chargers can deliver maximum charging asset utilization while serving an ever-growing population of large battery electric vehicles.

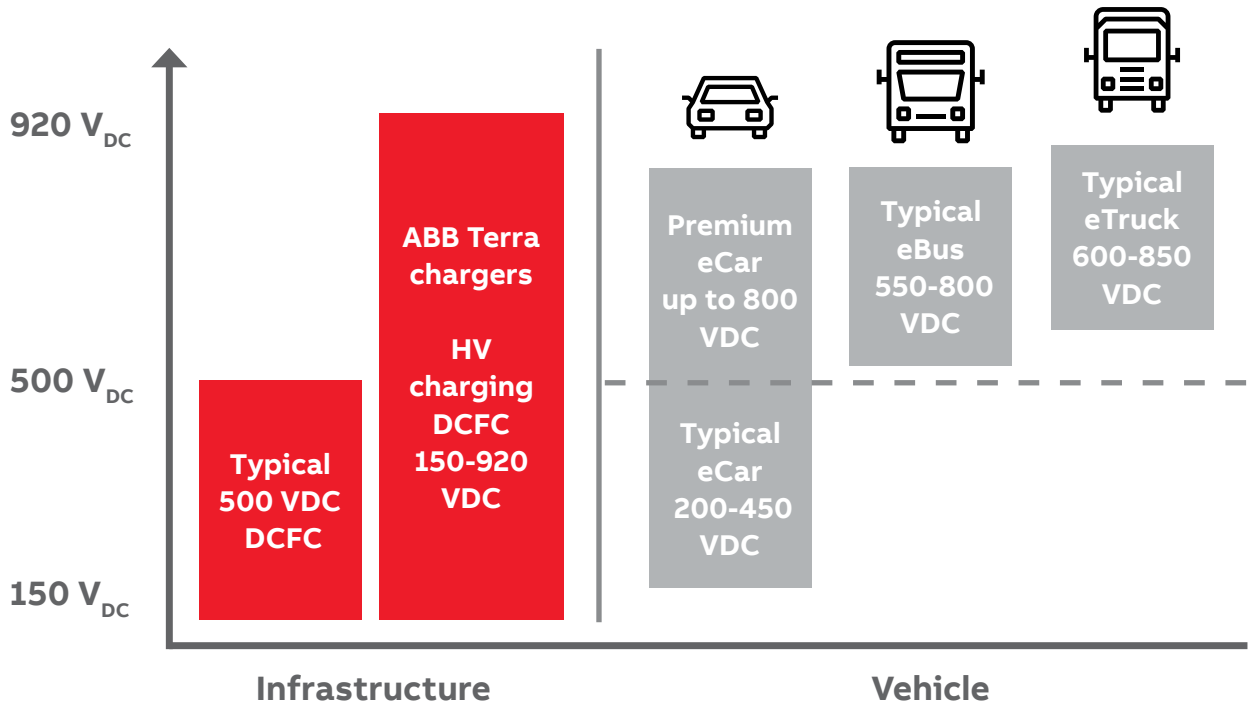
High voltage charging explained
A future-proof strategy

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 94, Terra 124 and Terra 184 chargers are 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 service to every EV and use case.

Terra charging times

All-in-one charging for every EV

		Charging time (minutes)					
		50 kW Terra 54 Terra 54HV	**90 kW** Terra 94	**120 kW** Terra 124		**180 kW** Terra 184	
				2 EVs	1 EV	2 EVs	1 EV
Car	60 kWh BEV 400 VDC	50	25	40	20	25	13
Car	90 kWh BEV 400 VDC	70	40	60	30	40	20
Car	100 kWh BEV 800 VDC	80	45	65	33	45	22
Bus/Truck	120 kWh BEV School Bus 400 VDC	95	53	80	40	55	26
Bus/Truck	150 kWh BEV Delivery Van 800 VDC	120	65	100	50	65	33
Bus/Truck	200 kWh BEV Work Truck 800 VDC	160	88	133	66	88	44
Bus/Truck	300 kWh BEV 60' Transit Bus 800 VDC	240	130	200	100	130	66

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Charge times shown based on average vehicle battery management system (BMS) requesting charging power from 20% to 80% under mild environmental conditions. Data assumes vehicles capable of charging at cited power levels.

Designed for flexibility

A configuration for every use case

Terra 54/94/124/184 C
Single outlet CCS with cable management system

Terra 54/94/124/184 CC
Dual outlet CCS with cable management system

Terra 54/94/124/184 CJ
Dual outlet CCS and CHAdeMO with cable management system and credit card reader

Power levels
- 50 kW
- 90 kW
- 120 kW / 60 kW shared
- 180 kW / 90 kW shared

Charging standards
- CCS+CHAdeMO
- CCS-only single outlet
- CCS-only dual outlet

Cable management
- Reliable, tested system
- Factory or field install

User access / payment
- OCPP Integration
- Credit card reader
- PIN via Web Tools
- Autocharge/ISO 15118

Terra DC Fast Chargers
Technical specification UL

Specifications	Terra 54	Terra 94	Terra 124	Terra 184
Electrical				
Output power*	50 kW continuous	90 kW continuous	120 kW or 60 kW x 2 continuous	180 kW or 90 kW x 2 continuous
AC Input voltage	480Y / 277 VAC +/- 10 % (60 Hz)			
AC input connection	3-phase: : L1, L2, L3, GND (no neutral)			
Nominal input current and input power rating	64 A, 53.2 kVA Power limiting available	115 A, 96 kVA Power limiting available	153 A, 128 kVA Power limiting available	230 A, 192 kVA Power limiting available
Recommended upstream circuit breaker(s)	80 A	150 A	200 A	300 A
Power Factor*	> 0.96			
Current THD*	< 5%			
Short circuit current rating	65 kA; 10 kA optional	65 kA		
DC output voltage	CCS-1: 200 - 500 VDC CHAdeMO: 50 - 500 VDC HV version: 200 - 920 VDC	CCS-1: 150 - 920 VDC CHAdeMO: 150 - 500 VDC		
DC output current	125 A	CCS-1: 200 A; CHAdeMO: 200 A (125 A optional)		
Efficiency*	95%			
Interface and Control				
Charging protocols	CCS1, CCS2 and CHAdeMO 1.2			
User interface	7” high brightness full color touchscreen display			
RFID system	ISO/IEC 14443A/B, ISO/IEC 15393, FeliCa™ 1, NFC reader mode, Mifare, Calypso, (option: Legic)			
Network connection	GSM/3G/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 +55 °C / -31 °F to +131 °F (de-rating characteristics apply at extreme temperatures)			
Recommended storage conditions	-10 °C to +70 °C / 14 °F to +158 °C (dry environment)			
Protection	IP54, NEMA 3R; indoor and outdoor rated			
Humidity	5% to 95%, non-condensing			
Altitude	up to 2000 m (6560 ft)			
General				
Charge cable	6 m (20 ft) standard; 8 m (26 ft) optional			
Dimensions (H x W x D)	1900 x 565 x 780 mm 74.8 x 22.2 x 30.7 in	1900 x 565 x 880 mm 74.8 x 22.2 x 34.6 in		
Weight	350 kg / 775 lbs	350 kg / 775 lbs	365 kg / 800 lbs	395 kg / 870 lbs
Compliance and safety	UL 2202, CSA No. 107.1-16; UL 2231-1, UL 2231-2, CSA STD C22.2 No. 107.1; NEC Article 625, EN 61851, EN 62196; CHAdeMO 1.2; DIN 70121, ISO 15118; IEC 61000-6-3; EMC Class B, FCC Part 15			

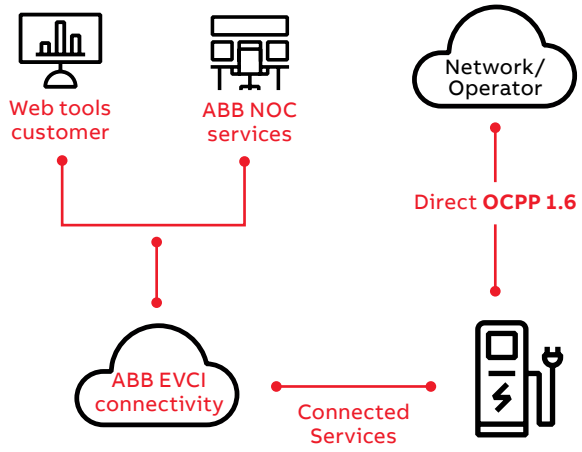
*Data shown at nominal output power

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 network operators and fleets has never been easier with 'plug and play' charging 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 EV Infrastructure services

For highest utilization and lowest downtime

Operational excellence
Charging infrastructure must be optimized for the highest utilization and lowest downtime. ABB's remote and real-time services meets that demand, incorporating a decade of experience with thousands of intelligent fast chargers deployed across the globe.

ABB's Terra family of all-in-one chargers are the easiest chargers in the market to service, with high uptime due to its innovative modularity, round the clock connectivity and experience-led design.

Remote services

- 24/7 connectivity
- Remote services
- Remote diagnostics
- Firmware upgrades
- Driver care web tools
- Charger Care web tools

Parts and warranty services

- Full service warranty process
- Extended warranties
- Preventive service and maintenance
- Network spare parts programs
- Fleet spare parts programs

Custom software services

- OCPP integration
- Autocharge integration testing
- Interoperability testing and validation
- Customized enterprise software support

Training

- Standardized online training
- Customized service training
- Third-party service training programs

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