Electrify the road

Terra DC fast chargers. The most successful EV fast chargers in the market, ranging from 20 to 180 kW and ideal for urban applications, retail and refueling stations.

- Compact footprint
- Maximized revenue generation
- Future ready

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The Terra DC fast chargers product line consists of a unique offering, with a wide range of ratings. They are designed for convenient charging of all electric vehicles, including future models with high voltage battery systems. The compact size makes it perfect for urban use, with flexibility to upgrade charging power up to 180kW and ability to charge up to 3 vehicles at the same time.

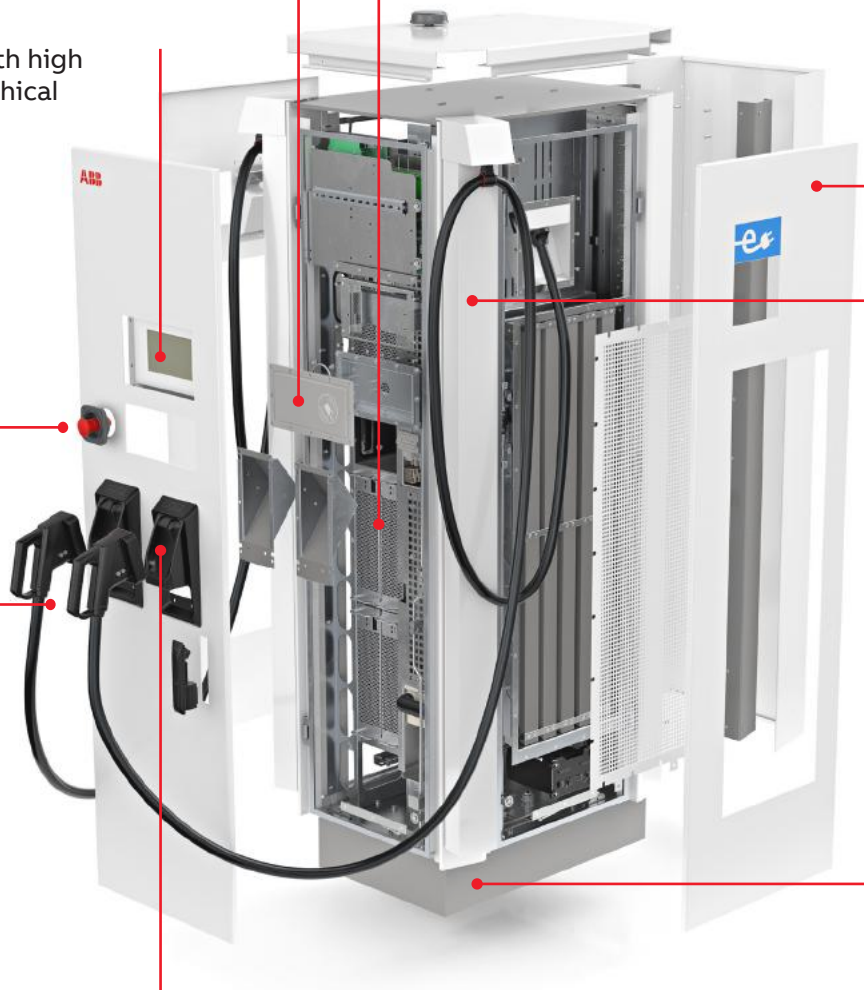
Terra DC Fast Charger
At a glance

CONNECTED 24/7/365 remote monitoring and diagnostic, receiving updates over-the-air to support every new EV on the road

UPGRADABLE power modules to support increasing demand for EVs and increasing battery ranges

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 drivers with retractable cable management option

GREATER utilization with up to 3 simultaneous charging of electric vehicles, with CCS, CHAdeMO, and AC plug combinations

EASY installation thanks to the improved design allows to connect and start-up the charger in less than 2 hours

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

MAX CHARGING POWER
Terra 24: 20 kW
Terra 54: 50 kW
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 V DC
CHAdeMO 500 V DC

DIMENSIONS
Height 1900 mm / 74.8 in
Width 565.5 mm / 22.3 in
Depth 880 mm / 34.6 in
Weight 395 kg / 871 lbs
(Terra 184)

Why Terra DC fast chargers?
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.

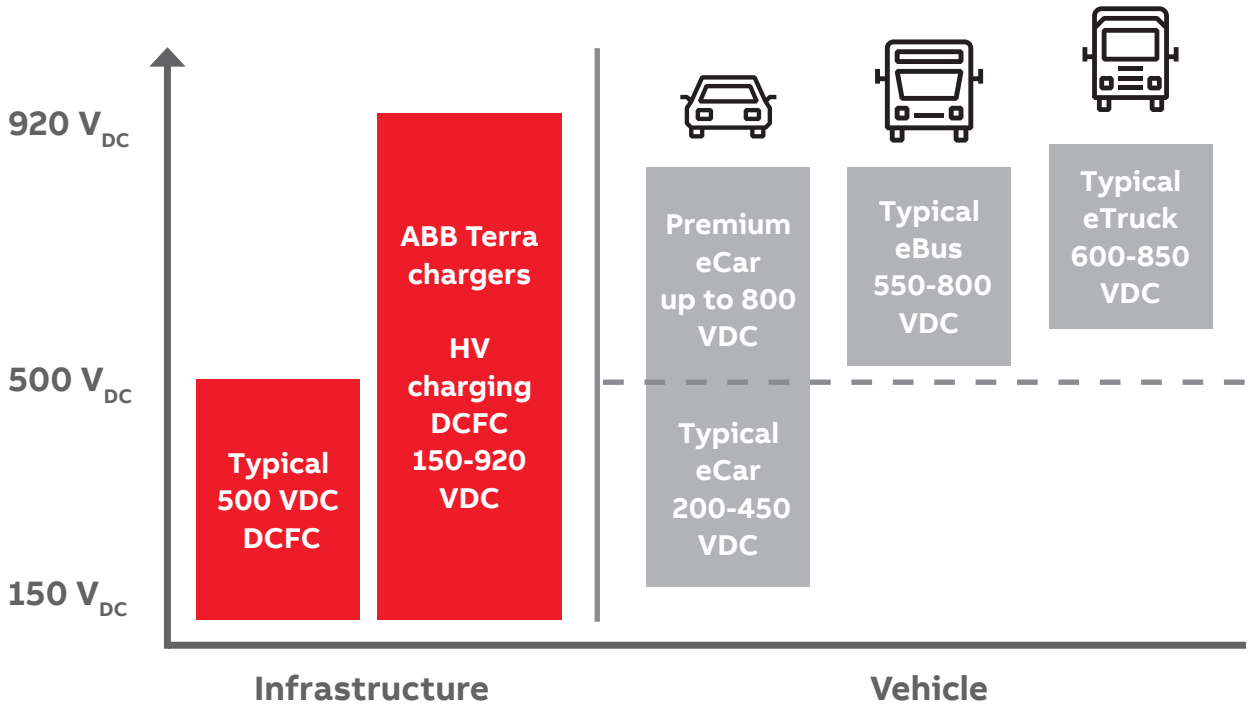
High voltage charging explained
A future-proof strategy

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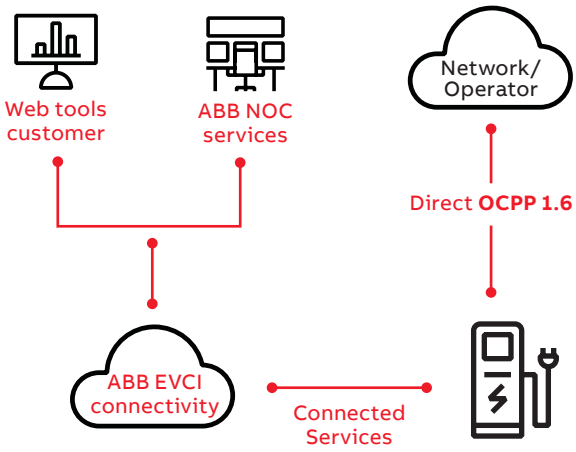
Charge times shown based on average vehicle battery management system (BMS) requesting charging power from 20% to 80% under mild environmental conditions. Data assumes vehicles capable of charging at cited power levels.

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

Technical specification

	Terra 184	Terra 124
Product information		
Charging type	DC fast charging and AC type-2 charging	DC fast charging and AC type-2 charging
Outlet options	C: CCS cable, J: CHAdeMO cable, T: AC Type-2 socket	C: CCS cable, J: CHAdeMO cable, T: AC Type-2 socket
Input AC power rating	280 A, 192 kVA	187 A, 128 kVA
Input voltage range	400 VAC +/- 10% (50 Hz or 60 Hz) - CE Version 480 VAC or 270 VAC +/- 10% (50 Hz or 60 Hz) - UL Version	
DC output power rating (max)	180 kW	120 kW
AC output power rating (optional)	22 kW	22 kW
DC output voltage	150-920 Vdc	150-920 Vdc
Number of EV served	Up to 3 (CCT, CJT models) Up to 2 (CC, CJ, JJ models) Up to 1 (C models)	Up to 3 (CCT, CJT models) Up to 2 (CC, CJ, JJ models) Up to 1 (C models)
Cable length	3.9 m Optional: 6.0 m / 8.0 m	3.9 m Optional: 6.0 m / 8.0 m
CCS cables maximum current	Standard: 200 A High current: 400 A	Standard: 200 A High current: 400 A
CHAdeMO cables maximum current	200 A, 125 A (Optional)	200 A
Network type	TN-S, TN-C, TN-C-S, TT (Requires external RCD)	TN-S, TN-C, TN-C-S, TT (Requires external RCD)
Connector types	3-phase, neutral, protective earth (CE models) 3-phase, protective earth (UL models)	3-phase, neutral, protective earth (CE models) 3-phase, protective earth (UL models)
Protection	Overcurrent, overvoltage, undervoltage, ground fault including DC leakage protection, integrated surge protection	
Overvoltage category	Type II	Type II
Power factor (full load)	> 0.96	> 0.96
THDi	< 4.5%	< 4.5%
Efficiency	> 95% (peak)	> 95% (peak)
Standby power	80 W 980 W (with heater active)	80 W 980 W (with heater active)
Short circuit current	10 kA (CE models) 65 kA (UL models)	10 kA (CE models) 65 kA (UL models)
Pre- charge current	< 1 A	< 1 A
Inrush current	< 100 A	< 100 A
Leakage current	0.8 mA	0.8 mA
Energy metering	Optional: MID metering for AC and DC outlets Optional: Eichrecht/PTB compliant metering solution for AC and DC outlets	
Cellular communication	GSM / 4G / LTE	GSM / 4G / LTE
User interface		
Connectivity	Internet access via 4G / 3G / Ethernet (RJ45)	Internet access via 4G / 3G / Ethernet (RJ45)
User authentication	App, ISO 15118 Plug'n'Charge, RFID, PIN code	App, ISO 15118 Plug'n'Charge, RFID, PIN code
User interface	7" LCD high-contrast touchscreen	7" LCD high-contrast touchscreen
Communication protocols	OCPP 1.5 / 1.6 and OPC-UA	OCPP 1.5 / 1.6 and OPC-UA
RFID Reader	ISO 14443 A + B to part 4 and ISO/IEC 15693, Mifare, NFC, Calypso, Ultralight, PayPass, HID; and more	
Emergency button	Yes. The button can be removed with a retrofit kit.	
Configuration		
Software update	over-the-air updates via ABB web portal	
Control and configuration	ABB web portal, on-board Service Portal, OCPP 1.6, OPC-UA	

	Terra 94	Terra 54	Terra 24
	DC fast charging and AC type-2 charging	DC fast charging and AC type-2 charging	DC fast charging and AC type-2 charging
	C: CCS cable, J: CHAdeMO cable, T: AC Type-2 socket	C: CCS cable, J: CHAdeMO cable, G: AC Type-2 cable, T: AC Type-2 socket	C: CCS cable, J: CHAdeMO cable, G: AC Type-2 cable, T: AC Type-2 socket
	140 A, 96 kVA	C, CJ: 88 A, 55 kVA CT, CJT, CG, CJG: 112A, 77 kVA CG, CJG: 143 A, 98 kVA	CJ: 32 A, 23 kVA CT, CG, CJG with 22 kW AC outlet: 63 A, 43 kVA
	400 VAC +/- 10% (50 Hz or 60 Hz) - CE Version 480 VAC or 270 VAC +/- 10% (50 Hz or 60 Hz) - UL Version		
	90 kW	50 kW	20 kW
	22 kW	43 or 22 kW	43 or 22 kW
	150-920 Vdc	150-920 Vdc (HV), 150-500 Vdc	150-500 Vdc
	Up to 2 (CCT, CJT models) Up to 1 (C, CJ models)	Up to 2 (CT, CJT, CG, CJG models) Up to 1 (C, CJ models)	Up to 2 (CT, CJT, CG, CJG models) Up to 1 (C, CJ models)
	3.9 m Optional: 6.0 m / 8.0 m	3.9 m Optional: 6.0 m / 8.0 m	3.9 m Optional: 6.0 m / 8.0 m
	Standard: 200 A High current: 300 A	125 A	125 A
	200 A	125 A	125 A
	TN-S, TN-C, TN-C-S, TT (Requires external RCD)	TN-S, TN-C, TN-C-S, IT, TT (Requires external RCD)	TN-S, TN-C, TN-C-S, IT, TT (Requires external RCD)
	3-phase, neutral, protective earth (CE models) 3-phase, protective earth (UL models)	3-phase, neutral, protective earth (CE models) 3-phase, protective earth (UL models)	3-phase, neutral, protective earth (CE models) 3-phase, protective earth (UL models)
	Overcurrent, overvoltage, undervoltage, ground fault including DC leakage protection, integrated surge protection		
	Type II	Type II	Type II
	> 0.96	> 0.96	> 0.96
	< 4.5%	< 5%	< 5%
	> 95% (peak)	> 94% (peak)	> 94% (peak)
	80 W 980 W (with heater active)	80 W 980 W (with heater active)	80 W 980 W (with heater active)
	10 kA (CE models) 65 kA (UL models)	10 kA (CE models) 65/10 kA (UL models)	10 kA (CE models) 65/10 kA (UL models)
	< 1 A	< 1 A	< 1 A
	< 100 A	< 100 A	< 100 A
	0.8 mA	0.8 mA	0.8 mA
	Optional: MID metering for AC and DC outlets Optional: Eichrecht/PTB compliant metering solution for AC and DC outlets		
	GSM / 4G / LTE	GSM / 4G / LTE	GSM / 4G / LTE
	Internet access via 4G / 3G / Ethernet (RJ45)	Internet access via 4G / 3G / Ethernet (RJ45)	Internet access via 4G / 3G / Ethernet (RJ45)
	App, ISO 15118 Plug'n'Charge, RFID, PIN code	App, ISO 15118 Plug'n'Charge, RFID, PIN code	App, ISO 15118 Plug'n'Charge, RFID, PIN code
	7" LCD high-contrast touchscreen	7" LCD high-contrast touchscreen	7" LCD high-contrast touchscreen
	OCPP 1.5 / 1.6 and OPC-UA	OCPP 1.5 / 1.6 and OPC-UA	OCPP 1.5 / 1.6 and OPC-UA
	ISO 14443 A + B to part 4 and ISO/IEC 15693, Mifare, NFC, Calypso, Ultralight, PayPass, HID; and more		
	Yes. The button can be removed with a retrofit kit.		
	over-the-air updates via ABB web portal		
	ABB web portal, on-board Service Portal, OCPP 1.6, OPC-UA		

Technical specification

	Terra 184	Terra 124
Multilanguage system	English, Italian, Spanish, German, French, ... and more than 50 languages available and new languages configurable via ABB Web Tool	
General characteristics		
IP and IK rating	IP-54 and IK-10 (cabinet) / IK-8 (touchscreen)	
Enclosure type	Stainless steel 430 and Aluminium	
Operational altitude	Up to 2000 m	Up to 2000 m
Operating temperature range	-35 °C to +55 °C	-35 °C to +55 °C
Storage temperature range	-40 °C to +70 °C	-40 °C to +70 °C
Humidity	20-95 % Rh non-condensing	20-95 % Rh non-condensing
Mounting	Free-standing cabinet	Free-standing cabinet
Dimensions (H x W x D)	1900 x 565 x 880 mm	1900 x 565 x 880 mm
Mass	395 kg	365 kg
Certification and standards		
Charging system	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000	
Communication to the EV	DIN 70121, ISO/IEC 15118 series ed 1 with PnC and EIM, CHAdeMO 1.2	
Communication to the backend	OCPP 1.6 JSON	
Safety	Risk assessment	
Warranty	Base warranty 24 months after Site Acceptance Test or 30 months after factory delivery. Warranty extensions available	

	Terra 94	Terra 54	Terra 24
	English, Italian, Spanish, German, French, ... and configurable via ABB Web Tool	more than 50 languages available and new languages	
	IP-54 and IK-10 (cabinet) / IK-8 (touchscreen)		
	Stainless steel 430 and Aluminium		
	Up to 2000 m	Up to 2000 m	Up to 2000 m
	-35 °C to +55 °C	-35 °C to +55 °C	-35 °C to +55 °C
	-40 °C to +70 °C	-40 °C to +70 °C	-40 °C to +70 °C
	20-95 % Rh non-condensing	20-95 % Rh non-condensing	20-95 % Rh non-condensing
	Free-standing cabinet	Free-standing cabinet	Free-standing cabinet
	1900 x 565 x 880 mm	1900 x 565 x 780 mm	1900 x 565 x 780 mm
	350 kg	325 kg	275 kg
	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000		
	DIN 70121, ISO/IEC 15118 series ed 1 with PnC and EIM, CHAdeMO 1.2		
	OCPP 1.6 JSON		
	Risk assessment, Fire analysis		
	Base warranty 24 months after Site Acceptance Test or 30 monhts after factory delivery. Warranty extensions available		

Designed for flexibility

A configuration for every use case

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

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

Terra 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

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