

Electric Vehicle Infrastructure

Terra 54 multi-standard DC charging station



Terra 54 is the successor of Terra 53, the best sold 50 kW DC charging station in Europe and North America. Supporting increasing EV battery capacities, Terra 54 enables continuous charging at full 50 kW at 150 – 500 V, while 150 – 920 V is supported by Terra 54HV.

Terra 54 supports CCS, CHAdeMO and AC functionality, and introduces sophisticated new connector holders. It complies with all relevant international standards, including the EMC Class B norm, formally required for safe operation on residential, office, retail and petrol station locations. The redesigned cabinet increases usability and reliability. All chargers come with integrated Connected Services, allowing remote monitoring, diagnostics, statistics, and software upgrades.

Terra 54 is ideally suited for highway rest stops and petrol stations, as well as for retail and office locations, car dealerships, fleet applications, etc. Depending on the customer needs, it supports the industry standards based fast charging technology with a tailored combination of CCS and CHAdeMO 1.0, as well as AC charging. Besides the CE certified charger series, ABB also offers versions for North American (UL), China (GB), Australia (RCM), and the Russian Customs Union (EAC).

Terra 54 has the highest uptime due to redundancy on power and communication. All ABB chargers come with Internet based Connected Services to allow customers to easily connect their chargers to different software systems like back-offices, payment platforms or smart grid energy systems. This enables remote assistance, tailored diagnostic trouble shooting and repair, and remote updates and upgrades. A reliable, secure, cost efficient and future proof connectivity solution, based on open industry interfaces.

Main features

- 50 kW DC fast charger supporting CCS, CHAdeMO and Type 2 AC charging (optional)
- 22 or 43 kW AC cable, or 22 kW AC socket (optional)
- Designed to deliver full output power continuously, and reliably over lifetime
- IEC 61000 EMC Class B certified for industrial and residential areas (including petrol stations, retail outlets, offices, etc.)
- Future proof connection via open industry standards, including remote uptime monitoring and assistance, updates and upgrades
- Daylight readable touchscreen display
- Graphic visualization of charging progress
- RFID authorization
- Robust all weather stainless steel enclosure
- Quick and easy installation

Applications

- Highway petrol / service stations
- Metropolitan / urban areas
- Commercial fleet operators
- EV infrastructure operators and service providers

New features Terra 54

- Charging batteries at 200 – 500 V (Terra 54), or at 200 – 920 V (Terra 54HV)
- New sophisticated connector holders, for easier handling and more stable holding
- Optional CCV or Nayax payment terminal, suited for an increasing number of countries
- Prepared for options like MID metering, integration with building management systems, cable management, etc.

Possible configurations

Terra 54 is available in the following configurations, all with CCS cable from left, and CHAdeMO cable (optional) from right side:

- Terra 54 CJG: CCS, CHAdeMO and (22 or) 43 kW AC connector
- Terra 54 CJT: CCS, CHAdeMO and 22 kW AC socket
- Terra 54 CJ: CCS and CHAdeMO
- Terra 54 CT: CCS and 22 kW AC socket



Possible configurations (from left to right): Terra 54 CT, Terra 54 CJ, Terra 54 CJT, Terra 54 CJG with optional payment terminal (not shown, amongst other, Terra 54 CG, Terra 54 CJ UL, and Terra 63 GB for Chinese market).

Further optional features

- Customized branding possibilities, including customizable user interface
- Parking bay occupancy detection
- PIN code authorization
- Site load management, for one or more chargers, to avoid expensive grid upgrades
- Web tools for statistics and access management
- Integration with back-offices, payment platforms and smart grid energy systems

General specifications	
Environment	Indoor / outdoor
Operating temperature	-35 °C to +55 °C (de-rating characteristics apply)
Compliance and safety	CE, RCM, EAC, CHAdeMO 1.2
EMC emission	IEC 61000-6-3 Class B - Residential
EMC immunity	IEC 61000-6-2 Industrial
Input AC power connection	3P + N + PE
Input voltage range	400 V _{AC} +/- 10% (50 Hz or 60 Hz)
Max. rated input current & power	CJ: 80 A, 55 kVA CT, CJT: 112 A, 77 kVA CJG, CG: 143 A, 98 kVA
Power factor (full load)	> 0.96
Efficiency	94% at nominal output power
RFID system	ISO/IEC 14443A/B, ISO/IEC 15393, FeliCa™ 1, NFC reader mode, Mifare, Calypso, (option: Legic)
Network connection	GSM / 3G modem, 10/100 Base-T Ethernet
Protection	IP54
Dimensions (D x W x H)	780 mm x 565 mm x 1900 mm
Mass	350 kg

Outlet specifications	C (default)	J (option)	G (option)	T (option)
Charging standard	CCS	CHAdeMO	Type 2 cable	Type 2 socket
Maximum output power	50 kW	50 kW	22 or 43 kW	22 kW
Output voltage Terra 54	200 - 500 V _{DC}	150 - 500 V _{DC}	400 V +/- 10%	400 V +/- 10%
Output voltage Terra 54HV	200 - 920 V _{DC}	150 - 500 V _{DC}	400 V +/- 10%	400 V +/- 10%
Maximum output current	125 A _{DC}	125 A _{DC}	63 A	32 A
Connector/socket type	CCS 2 / IEC 62196 Mode-4	CHAdeMO / JEVs G105	IEC62196 Mode-3 Type-2	IEC62196 Mode-3 Type 2
Cable length	3.9 m	3.9 m	3.9 m	-

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