ABM Building Value

Terra 54HV UL

Electric Vehicle Infrastructure

ABM's Terra 54HV DC fast charger has been designed to support 50 kW continuous charging for medium and heavy duty vehicles with battery voltages requiring up to 920 VDC, according to the CCS standard.

ABM's Terra 54HV is part of the bestselling Terra DC fast charging family, known for superior usability and reliability as well as integrated Connected Services for remote services and firmware updates.

Key HV Charging Applications

- Commercial fleet operations
- Bus and transit depots
- R&D and vehicle development sites
- OEM dealer and service locations

High Voltage DC Charging

High voltage DC charging has become an important technology for increased charging power while ensuring efficiency, safety and usability in DC charging systems. ABM's Terra 54HV can deliver up to 920 VDC to enhance power output across a wider range of EVs, such as trucks, vans, buses and other vehicles with HV battery designs.

Modular, Redundant Architecture

The Terra 54HV design ensures high uptime due to the redundancy of both power and communication systems. The Terra 54HV power conversion topology consists of five 10 kW power modules connected in parallel with automatic failover functionality should any single power module experience a fault.

Connectivity

All ABM chargers feature ABM Connected Services to enable remote web tools, reports, diagnostics and firmware updates. Additionally, ABM offers OCPP support for fleets who wish to directly integrate chargers with an OCPP network.

Autocharge for Fleets

EV fleets demand the most reliable and precise charging data tracked at the vehicle level. ABM supports the Autocharge feature via OCPP for plug and play charging allowing authentication, capture and recording of charge session data per vehicle – without the need for manual authentication methods. An Autocharge integration with OCPP can automate asset management so fleets can derive measurable higher utilization along with cost optimization of charging infrastructure investments.

The Future of Mobility

ABM is committed to a future-proof vision for EV infrastructure with a high focus on safety, reliability, connectivity and service – built on interoperability and technology development in partnership with OEMs, networks and fleet operators around the world.

Main Standard Features

- Supports every EV including those that require voltage up to 920 VDC
- Designed to deliver full output power continuously and reliably over its lifetime
- Paralleled power module topology with automatic failover offers high uptime through redundancy
- Daylight readable touchscreen display with graphic visualization of charging progress
- Robust all-weather powder-coated stainless steel enclosure
- Quick and easy installation as well as serviceability
- EMC Class B certified for safe use in commercial environments
- RFID authorization
- Enables OCPP 1.6 communication

Optional Features

- Cable management solution that is reliable, RAL-matched and easy to install in the field
- Dual uplink connection with OCPP including remote services and updates
- Autocharge support for plug and play, vehicle-based authentication functionality via OCPP
- OCPP Smart charging profiles for energy management programs
- ABM Web tools for real-time access to charging data as well as authentication modes such as PIN code authorization
- Custom interoperability integration services that streamline OEM R&D efforts

Specifications	Terra 54HV
Electrical	
Max output power	50 kW 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, 54 kVA
Recommended upstream circuit breaker(s)	80 A
Power Factor*	> 0.96
Current THD*	IEEE 519 Compliant; 5%
Short circuit current rating	65 kA; 10 kA optional
DC output voltage	CCS-1: 200 - 920 VDC
DC output current	125 A
Efficiency*	95%
Interface and Control	
Charging protocols	CCS-1
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
Supported languages	English (others available on request)
Environment	
Operating temperature	-35 °C to +55 °C / -31 °F to +131 °F (derating characteristics apply at extreme temperatures)
Recommended storage	-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	2500 m (8200 ft)
General	
Charge cable	6 m (19.6 ft) standard
Dimensions (H x W x D)	1900 x 565 x 780 mm 74.8 x 22.2 x 30.7 in
Weight	350 kg / 775 lbs
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; EMC Class B

*Data shown at nominal output power

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Terra 124/184 UL

Electric Vehicle Infrastructure

The Terra all-in-one DC fast charger offers power up to 180 kW, with convenient charging times for every EV – including those with HV batteries.

The compact, modular design makes it perfect for retail, highway or fleet use, with power sharing to further optimize utilization. All Terra chargers feature connectivity for remote services and OCPP enablement.

◀ *The Terra 124/184 is available with CCS-only, CCS-dual and CCS+CHAdeMO dual outlets. Cable management options enhance reliability and usability.*

Flexible Configuration

Terra DC Fast chargers with power up to 180 kW are designed for the most compact, reliable and futureproof demands. In addition to a range of power selections, Terra chargers can be configured with CCS and CHAdeMO connector cables, in single or dual outlet format. Cable management, payment enablement and connectivity choices also offer owners, operators and site hosts options tailored to the needs of every charging site, from public to fleet needs.

The Most Reliable, Scalable Choice

ABM's Terra chargers offer redundant power architecture for the highest uptime in the EV infrastructure industry. Additionally, Terra chargers can meet the needs of high voltage BEVs up to 920V, making these systems fully compatible with all current and future EVs. With a host of configuration options, Terra DC fast chargers are ready to support EV market growth over time.

Power Sharing for High Utilization

Enabling every business model is critical for EV charging infrastructure. With this goal in mind, ABM has designed the Terra 124 and Terra 184 models with power sharing technology, which is capable of charging two vehicles at the same time. Simultaneous charging can deliver higher utilization for every charging asset, a major key to public and fleet electrification success.

Terra "all in one" chargers are offered from up to 180 kW. ▶

The Terra 124 and 184 models can charge two vehicles at the same time.

Terra 124 one EV up to **120 kW**

Terra 124 two EVs each up to **60 kW**

Terra 184 one EV up to **180 kW**

Terra 184 two EVs each up to **90 kW**

Key Features

- A compact, all-in-one charger from 60 kw to 180 kW
- Terra 124 and Terra 184 can fast-charge two vehicles at the same time
- Paralleled power module topology with automatic failover offers high uptime through redundancy
- Delivers output power continuously and reliably over its lifetime
- Flexible configurations include CCS-single, CCS-dual and CCS+CHAdeMO-dual outlets
- Up to 920 VDC for every passenger or fleet EV
- Bright, daylight readable touchscreen display with graphic visualization of charging session
- High short circuit current rating
- EMC Class B certified for safe use at fuel stations, retail centers, offices, and residential-adjacent sites
- Design enables ADA compliant installations
- RFID authorization modes
- Always connected, enabling remote services, updates and upgrades
- Robust all-weather powder-coated stainless steel enclosure
- Quick and easy installation as well as serviceability

Optional Features

- Reliable cable management system available as ordered or field upgrade
- High current option can deliver up to 400 A for faster peak charging without liquid cooled cables
- Customizable user interface
- Integrated payment terminal
- Web tools for statistics and PIN access management
- Integration with OCPP networks, payment platforms and energy management
- Autocharge and ISO 15118 enabled

Why Charging Operators and Fleets Prefer ABM

- ABM offers the most advanced, safe and reliable EV infrastructure and grid connected technologies
- ABM Connected Services enable every business and remote services model
- ABM's decade of EV charging experience and close cooperation with EV OEMs, networks and fleets

Specifications	Terra 124	Terra 184
Electrical		
Maximum output power	120 kW or 60 kW x 2	180 kW or 90 kW x 2
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	153 A, 128 kVA	230 A, 192 kVA
Recommended upstream circuit breaker(s)	200 A	300 A
Power Factor*	> 0.96	
Current THD*	< 5%	
Short circuit current rating	65 kA	
DC output voltage	CCS-1: 150 - 920 VDC; CHAdeMO: 150 - 500 VDC	
DC output current	CCS1 200 A, CHAdeMO: 200 A Optional CCS1 300 A (nominal) and 400 A (peak) high current cable(s)	
Efficiency*	95%	
Interface and Control		
Charging protocols	CCS1 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	
Supported languages	English (others available on request)	
Environment		
Operating temperature	-35 °C to +55 °C / -31 °F to +131 °F (derating characteristics apply at extreme temperatures)	
Recommended storage	-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	2000 m (6560 ft)	
General		
Charge cable	6 m (19.6 ft)	
Dimensions (H x W x D)	1900 x 565 x 880 mm / 74.8 x 22.2 x 34.6 in	
Weight	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

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Terra DC Wallbox UL

Electric Vehicle Infrastructure

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 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	Terra DC Wallbox UL
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
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	-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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