Powering e-mobility forward

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

680,000+
EV chargers sold worldwide

in operation across 88+ countries

interoperability tested with 60+ OEMs

13+ years of EV charging field experience

24/7/365 connectivity for remote services
Charging for every use case
Public, fleet and transit

ABB E-mobility offers a full range of electric vehicle fast charging solutions for North America up to 450 kW. Every charger features robust connectivity options for remote services and updates. Our EV charging technology maintains the highest standards for safety and reliability, and is backed by the most respected engineering and service teams in the EV industry.

01 Terra DC Wallbox for “Destination DC” EV charging locations
02 Terra 54/94/124/184 DC fast charger for all in one fast charging needs
03 Terra HP high power charging for highway corridor and fleet demands
04 Terra 54 HV for flexible high voltage DC fast charging in a compact footprint
05 HVC Depot Charging for truck, van and bus fleet charging across multiple charge points
06 HVC Overhead Pantograph charging for on-route bus charging in minutes.
Terra DC Wallbox

24 kW "Destination DC" charging

Low power DC charging 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.

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 ABB Ability Connected Services to enable authentication, payment, monitoring, remote diagnostics and repair, as well as over-the-air updates and upgrades.

Configurations
The Terra DC Wallbox UL is available in the following configurations:
- Single outlet CCS1
- Dual outlet CCS1 + 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
Terra DC Wallbox
Compact, connected and configurable

Main features
- Future-proof DC output voltage range up to 920 VDC 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, UL certified
- 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
- Free-standing pedestal

Benefits of low power DC solutions
Low power DC is ideal for use cases demanding shorter charging times and higher 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.

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, meeting the needs all EVs, including fleet vehicles that charge at higher voltages.

Use cases
- Public commercial
  - Shopping, dining and entertainment centers.
- Car dealers
  - Vehicle dealer sites with service centers.
- Workplace
  - Employee and visitor parking.
- Right of Way parking
  - On-street designated public parking.
- Fleets
  - Delivery vans, trucks, bus depots, car hire.
Terra "All in One" DC Fast Charging
50 kW to 180 kW

The best-selling family of Terra fast chargers are designed for convenient charging of all types of electric vehicles, including those equipped with high voltage systems. The compact size makes it perfect for every site, while its modularity allows for reliability and flexibility - including power sharing and managed charging.

Key features
- A compact, all-in-one charger that can be sized from 50 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
- Robust all-weather powder-coated stainless steel enclosure, UL certified
- High short circuit current rating
- EMC Class B certified for safe use at fuel stations, retail centers, offices, and residential-adjacent sites
- RFID authorization modes
- Always connected, enabling remote services, updates and upgrades
- Design enables ADA compliant installations
- Quick and easy installation as well as serviceability

Optional features
- Reliable cable management system available as ordered or field upgrade
- 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

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

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

03 Terra 54/94/124/184 CJ
Dual outlet CCS and CHAdeMO with cable management system and credit card reader
ABB Terra “all in one” chargers are offered from 50 kW to 180 kW. The Terra 124 and 184 models can charge two vehicles at the same time.

### 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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**Terra 54/94/124/184**

**Flexible configurations**

- **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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**Terra HP High Power Charging**

175 kW to 350 kW

The Terra HP is a modular high power charging system with high output current capability, supporting both vehicles up to 920 VDC. A single power cabinet system can deliver up to 175 kW and 375 A while two power cabinets can deliver up to 350 kW and 500 A. The Terra HP is ideally suited for highway corridor and EV fleet operations where dwell times must be brief.

**Modular architecture**
The Terra HP system can be configured as:
- 175 kW: one charge post and one cabinet
- 350 kW: one charge post and two cabinets
- 175-350 kW: two charge posts and two cabinets

**Scalable and future-proof**
The Terra HP system is expandable over time by adding additional power cabinets and charge posts after initial site installation. This capability delivers site planning flexibility by offering a cost-efficient way to build expandable charge points that can grow with EV market demand.

**ABB Terra HP key features**
- Single or dual outlet configurations for CHAdeMO and liquid-cooled CCS up to 500 A
- Non-refrigerant-based, cooled cable system
- Long cables with cable retraction system.
- Up to 920 VDC for every passenger or fleet EV
- High brightness 15” intuitive touchscreen display
- Integrated customizable RGB color LED strips
- Robust, all-weather enclosure for all environments
- Energy management via OCPP Smart Charging Profile
- Scalable installation with integrated galvanic isolation
- UL certified, ADA compliant
- Suited for current and next generation EVs

**ABB Terra HP optional features**
- Dynamic DC functionality
- Customizable user interface
- Integrated payment terminal
- Buy America option available
**Terra HP**  
Advanced, scalable deployment

**Industry leading cable cooling technology**  
Every Terra HP charge post is equipped with an integrated chiller and environmentally-friendly cooled cables offering higher peak and continuous output power performance. This technology enables faster charging for vehicles where typical 200 A rated systems cannot deliver above 80 KW to 400 VDC battery electric vehicles.

**Dynamic DC capability**  
With ABB Dynamic DC power sharing technology, power cabinets can be connected to charge one vehicle at up to 350 kW or two vehicles simultaneously at up to 175 kW. This architecture enables higher utilization of charging assets.

**Dynamic DC illustrated**

- **Max charging dedicated to premium EV at up to 350 kW on either charge post.**

- **Shared power delivery for premium EV utilization at up to 175 kW to each vehicle.**

- **Shared delivery tailored to varied EV model demands.**

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Dynamic DC utilization scenarios with varied vehicle demand profiles.

When one vehicle is fully charged, the power will be redistributed automatically.
Heavy vehicle charging infrastructure
HVC Depot 100 kW to 150 kW
connector-based charging systems

ABB E-mobility offers a complete portfolio for charging heavy electric vehicles such as buses and trucks with a CCS connector. ABB HVC Depot charging systems are specifically designed to charge larger fleets of electric vehicles in the most optimized way with sequential capability.

Main features and key benefits:
• Power range of 100 kW or 150 kW
• Voltage range from 150-850 VDC
• Small infrastructure footprint at vehicle interface
• Flexible design for roof and floor mounting
• Sequential charging for up to 3 outlets with 100 and 150 kW
• Compliant with UL, OCPP 1.6, ISO 15118, CCS / DIN 70121 / IEC 61851-23 & -24
• Remote diagnostics and management tools
• Buy America option available

Sequential Charging
Improving total cost of ownership is easy using the sequential charging feature offered by ABB’s depot chargers. This feature allows connection of up to three depot charge boxes with a single power cabinet and vehicles are charged sequentially over time. The system can follow an embedded, predefined charging process or remote triggers sent by a fleet management system via OCPP 1.6.

• Vehicles are charged with high power, maximizing vehicle availability
• The required grid connection is smaller, reducing upfront investments and operational costs
• The compact depot box is easy to install at sites with space constraints
• Optimal utilization of installed infrastructure meaning lower investments in charging equipment.

HVC 100C
HVC 150C
HVC 150C*

* 150 kW overnight charging system with three depot boxes, shown here mounted on ABB’s pedestal option.
Heavy vehicle charging infrastructure
HVC Pantograph down 150 kW to 600 kW
overhead charging systems

ABB E-mobility’s Heavy Vehicle Charger (HVC) system architecture offers an ideal solution for opportunity charging, ensuring zero-emission public transit during the day without impacting daily route operations.

Main features and key benefits:
• Power range of 150-300-450-600 kW
• Voltage range from 150–850 V
• Charge in 3 to 6 minutes
• One charger can serve multiple vehicle types and brands
• Safe and reliable fully automated connection
• Compliant with OppCharge / IEC 61851-23 / SAE J3105-1 and OCPP 1.6
• Remote diagnostics and management tools
• Buy America option available

With ABB’s flexible HVC architecture, power capability can be expanded over time, allowing operators to spread out infrastructure investments as their fleet grows – and can be installed on existing structures, or pole mounted.
Flexible network enablement
Back-office integrations backed by ABB connectivity

Network communications
ABB E-mobility 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.

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.
Operational excellence
Charging infrastructure must be optimized for the highest utilization and lowest downtime. ABB E-mobility’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 E-mobility’s family of EV chargers are the easiest equipment 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
- Web tools

On-site service and parts availability
- Standard warranty execution
- Extended warranty options
- Service level agreements
- Preventive service and maintenance
- Spare parts programs

Custom software services
- OCPP integration
- Autocharge integration testing
- Interoperability testing and validation
- Customized software integration support

Training
- Standardized online training
- Customized service training
- Third-party service training programs
E-mobility industry leadership
Leading with reliability, intelligence and experience

**SUPERIOR CHARGERS**
The highest quality and widest range of charging technology
- High quality: components, materials and designs in the widest power range
- Field tested: Built on more than decade of experience in all conditions and use cases
- Safety first: Third party certifications; company-wide health, safety and sustainability mandates.

**SMARTEST SERVICES**
The most flexible provider of smart, networked and remotely serviced chargers
- Business model enablement: Technology integration team AND 24/7 connectivity for every operation
- High uptime: Remote and field service support team for maximum charger availability
- Future-proof: Always up to date with latest standards and software

**MOST RELIABLE PARTNER**
Vast experience designing and deploying EV charging technology
- Project and service excellence: Dedicated teams to support charger deployment and maintenance
- Human talent: unrivalled engineering and service organization
- Committed: Electrifying transportation for more than a decade
ABB E-mobility has charging systems deployed globally, serving every site and user need.

References include the first high power charging stations and electric bus installations in the world, as well as thousands of commercial fleet chargers for a range of demands from long-haul to last mile.