



Powering e-mobility forward

EV charging infrastructure product portfolio for North America

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With more than 135 years of heritage in electrification technology, ABB offers a world-class EV charging portfolio for safe, smart and reliable e-mobility – from the vehicle to the grid.

20,000+
fast chargers
sold worldwide

in operation
across
85+
countries

interoperability
tested with
50+ OEMs

10+ years
of EV charging
field experience

24/7/365
connectivity for
remote services

Charging for every use case

Home, public, fleet and transit

ABB offers a full range of EV fast charging solutions from 20 kW to 350 kW, as well as bus charging systems that reach 600 kW. Every ABB EV charger features robust connectivity options for remote services and updates. ABB's EV charging technology maintains the highest standards for safety and reliability and is backed by the most respected technical and service engineers in the EV industry.



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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 HVC for dedicated fleet charging in an all in one 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

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01 Terra DC Wallbox single-outlet CCS with standard holster

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02 Terra DC Wallbox dual-outlet CCS and CHAdeMO with Gold level holsters



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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

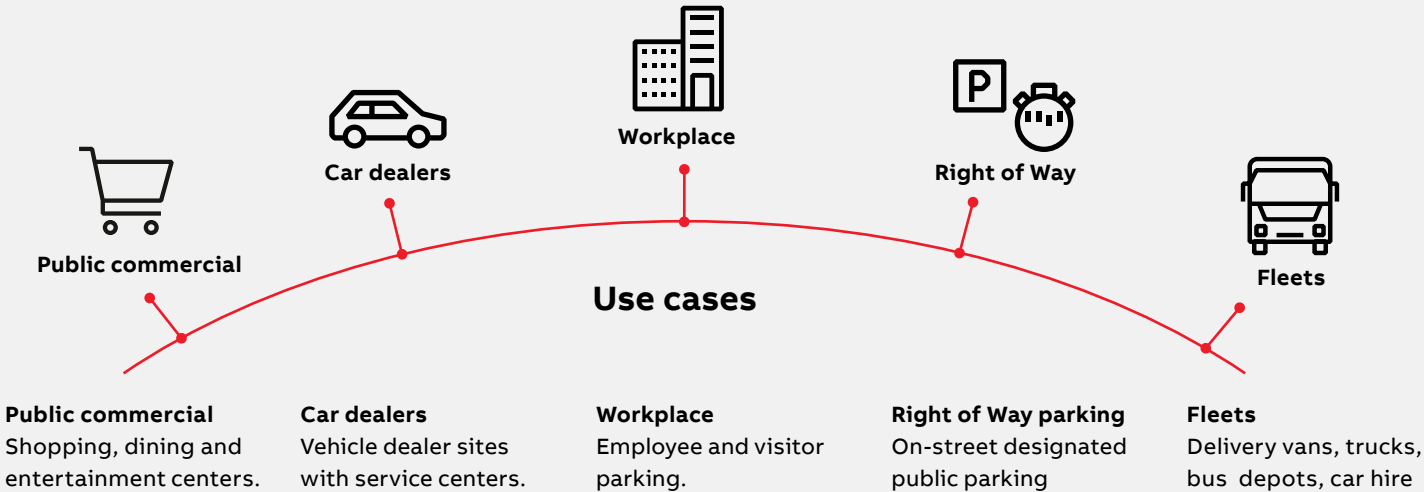
- On-screen PIN code authorization
- Input current limiting software to match site requirements
- Web tools for statistics, configuration, access management, remote diagnostics and repair
- Integration with back offices and payment platforms
- Customized branding possibilities
- Free-standing pedestal

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.



Terra "All in One" DC Fast Charging

50 kW to 180 kW

ABB's 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



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

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

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

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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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.



Terra 54
one EV
up to
50 kW



Terra 94
one EV
up to
90 kW



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

Terra HP High Power Charging

175 kW to 350 kW

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

ABB's 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
- Up to 920 VDC for every passenger or fleet EV
- Daylight readable, intuitive touchscreen display
- Integrated RGB LED strips with customizable color
- 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

01 The Terra HP 175 kW configuration with one power cabinet serving one charge post.

02 The Terra HP 350 kW configuration with two power cabinets serving one charge post.

03 The Terra HP 175-350 kW dynamic configuration with two power cabinets serving two charge posts simultaneously.



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Terra HP

Advanced, scalable deployment

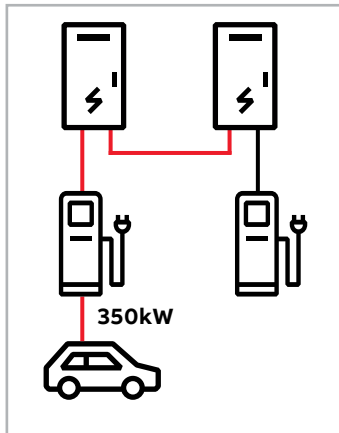
Industry leading cable cooling technology
 Every Terra HP charge post is equipped with an integrated chiller and environmentally-friendly cooled cables offering higher peak and continuous output power performance. This technology enables faster charging for vehicles where typical 200A rated systems cannot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

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

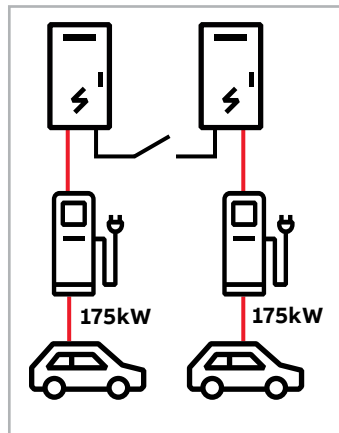
Dynamic DC illustrated

Dynamic DC utilization scenarios with varied vehicle demand profiles.

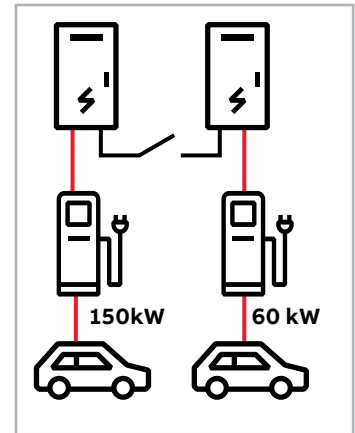
When one vehicle is fully charged, the power will be redistributed automatically.



Max charging dedicated to premium EV at up to 350kW 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.

Heavy vehicle charging infrastructure

HVC Depot 100 kW to 150 kW connector-based charging systems



ABB 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.

— The HVC Depot configuration allows for a field upgrade from 100 kW to 150 kW by adding an extra power module. No groundworks, digging and disturbance to the site are required. A new field certification may be required.

- 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



upgradable
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HVC 150C*



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* 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



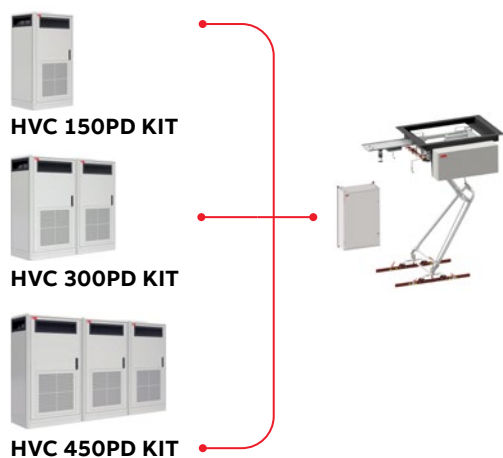
ABB's Heavy Vehicle Charger (HVC) system architecture offers an ideal solution for opportunity charging, ensuring zero-emission public transit during the day without impacting daily route operations.

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.

Charging on existing structure



Charging on route



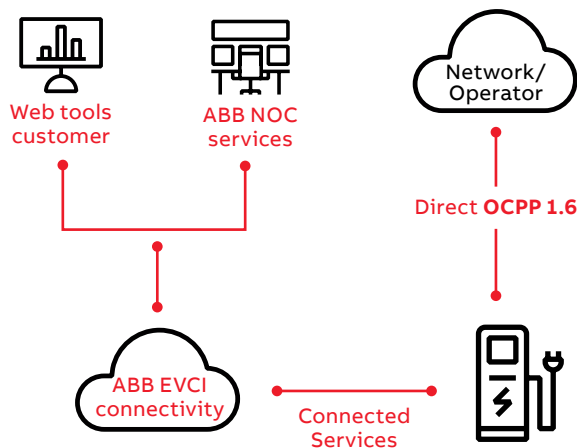
Flexible network enablement

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 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
- 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

Leading with reliability, intelligence and experience

Product Quality

- High quality enclosures and components, full regulatory compliance
- Designed for safest installation as well as fast maintenance and service
- Daytime readable and customizable touchscreen displays
- Modular power electronic architectures for greater redundancy and uptime
- Low noise, well-designed cooling systems
- EMC certifications for highest safety near medical devices such as pacemakers
- Third-party tested and verified to latest electrical safety certifications and standards

Best in class connectivity

- Flexible connected services supported by ABB software engineers
- Experience integrating many networks and back office systems
- Remote monitoring, diagnostics and software upgrades
- Flexible user access and payment options enabled (RFID, PIN codes, smart phone, credit cards and contactless payments)
- Compatible with OCPP 1.6, Autocharge, ISO 15118 and smart energy APIs
- Supporting full interoperability for optimal owner, operator and host choice

Trusted, bankable partner

- 10+ years and 20,000+ DC fast chargers deployed in every region, environment and use case
- Extensive OEM R&D relationships, performance validated at labs and test tracks around the world
- Fast delivery times for standard products
- 24/7/365 connectivity, experienced tech support and a regional service network
- Leading in advanced high power and high voltage charging technology
- Focused R&D centers for power electronics and e-mobility technologies
- Company wide mandates for safety, sustainability, integrity, diversity and operational excellence
- Fully committed to the future of e-mobility including a proactive product roadmap that's ready for the next generation of EVs





ABB has charging systems deployed all over the world in many applications serving every site and user need.

References include the first high power charging stations installed in the Americas with Electrify America and EVgo; the first electric bus systems in several countries; fleet installations covering long-haul to last mile; and thousands of metro DC fast charging stations in 85 countries.



ABB's decade of firsts in e-mobility

Experienced partners lead the way

From the charger to the grid, ABB has 135 years of electrification experience – and more than a decade of innovating future-proof EV infrastructure solutions.



2010:
Europe's first
ABB 50kW charger
installed at
commercial fast
charging station



2012:
First demo of CCS
charging, ABB &
CCS alliance at
EVS26 in
Los Angeles, USA



**2012-
2013:**
First to roll-out
nationwide
DC charging net-
works



2014:
ABB first to
successfully pass
certification for
multi-standard
EV fast chargers



2016:
First eBus char-
gers in EU opera-
tional; ABB forms
global partners-
hips with bus
OEMs



2017:
First public
150kW charger,
located in the
United States



2020:
ABB to sup-
ply charging
technology
for **Formula E**
Gen3 race car



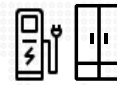
2019:
ABB supplied
grid connect
and EV charg-
ing solutions
for **Germany's**
first electric
bus depot



2019:
ABB powers
the **world's first**
autonomous
electric passen-
ger bus in Sin-
gapore



2018:
The first fleet of
autonomous
vehicles for
commercial
operation is
powered by ABB
chargers



2018:
First commercial
350kW charger
operational in
the Americas



2018:
First eTruck
chargers; global
partnerships with
OEMs





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