

An isometric illustration of a city street scene. The scene features several blue buildings of varying heights, a grey road with white lane markings, and a parking lot. In the parking lot, there are several orange EV charging stations. A few cars are parked at the stations, and some are being charged. A person is walking on the sidewalk, and another person is using a wheelchair. There are also some trees and a 'P' parking sign. The overall style is clean and modern, with a focus on urban infrastructure and sustainable transportation.

ABM EV Charging Solutions

Tech Guide

All the hard specs and data sheets you need
to make EV a reality at your facility.

Where can I find technical information about ABM's EV charger hardware, software, pricing and maintenance packages?

Answer: Right here, right now. ABM solutions make EV charging infrastructure a key feature of your facility. And you get all of the power—with none of the hassle.

ABM's nationwide network of EV experts are uniquely positioned to implement custom EV charging solutions tailored to your facility's needs. Whether you're looking to start your first EV charging project or enhance your current EV charging offerings, ABM delivers turnkey EV solutions from a single, trusted source.

Read on for all the detailed EV answers you need. The tech specs behind our proven EV charging hardware and software. The detailed product data sheets to ensure it integrates with your facility. The financing and funding structures to help pay—and pay less—for it. And the preventative maintenance packages to keep it optimized and running for years to come. Like ABM, it's all here to support you every step of the way.



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How many EV charging stations, and which types, do I need?

***Answer:** It all depends on your goals, footprint and the investment you want to make in your facility's EV infrastructure. But, no matter which way you choose to go, ABM can get you there.*

As electric vehicles continue to evolve, ABM can help you lead the charge by right-sizing your EV assets and maximizing their useful service life. Here's a quick overview of the three main types of EV charging technology.

Level-1 Charging – Uses a standard 110/120-volt receptacle

- A simple cord with an adapter uses a standard AC wall plug on one end and the EV's standard charging port on the other. This offers a slow "trickle" charge that is best suited for emergency charging, as it only provides a limited extension of the vehicle's range over a long-duration charge.

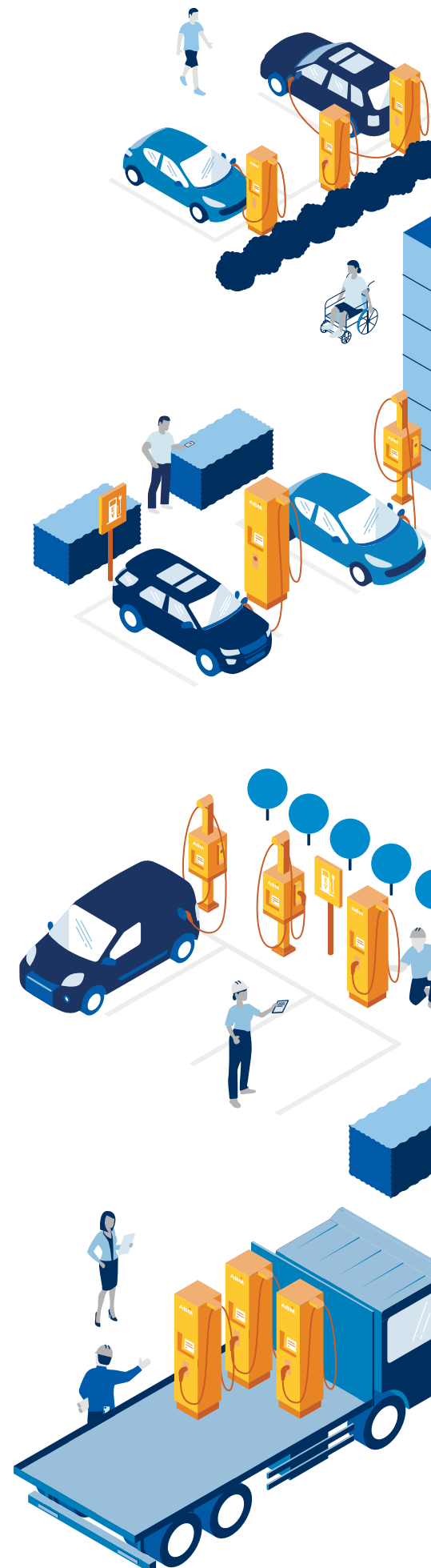
Level-2 Charging – Uses the 208/240-volt SAE J1772 port for faster charging

- It can be anywhere from 3.5 to 10 times the speed of a Level-1 charger (4-6 hours to fully charge a small EV).
- With their relatively low cost and moderate electrical infrastructure demands, Level-2 stations have become both the global industry standard and the practical standard for the majority of sites.
- Keen eyes will notice a growing number of charging stations popping up in key metro areas at retailers, public parking sites, office buildings, parking structures and residences.

Level-3 Charging (DC Fast Charging) – 480 volt, very fast charging for automobiles equipped with the Fast Charging option

- DC Fast Charging can charge a small EV to 80% of its capacity in less than 30 minutes.
- Unlike Level-2, where there is one global standard, Level-3 chargers have at least three "competing standards." These standards have regional roots, yet all are battling for global dominance. It will take some time to see if the industry moves to a single option or if we live with three for the foreseeable future.¹

No matter which type you need, ABM teams know how to design efficient, safe and dependable EV installations.



A quick comparison of the types of EV chargers and their capabilities

Level	Maximum Power Output	Typical Use	Typical Circuit Type	Typical Charging Rate	Typical Time for Full Charge
AC Level 1	Up to 1.92 kW	Residential (plugs into standard 120 V outlet)	120 V, 15 A	2-5 miles per hour of charge	±20 hours
AC Level 2	Up to 1.92 kW	Residential/Commercial	208 V Commercial, 240 V resi, 40A-80A	10-20 miles per hour of charge	±7 hours
DC Fast Charging	Up to 400 kW	Commercial/Highway/Fleet	480 V AC input, 100+ A DC output	>100 miles per hour of charge	<1 hour

Meeting high-voltage requirements

These days, it's become common to see chargers with more residential specifications, such as 240V, 20A. Now, 40A circuits are needed for AC charging.

For DC fast charging, 50kW and 400V have been the norm. And that's poised to increase to 800V at 350kW of charging. Meanwhile, the market is already looking ahead to 1,000kW (1MW) and 1,200V.

Many commercial electricians are not required to work with voltages higher than 480V phase-to-phase, and many work mostly with AC power. DC fast charging means more technicians will need to be trained to work on DC at the 1,000V (soon to be 1,200V) level.

To operate in this increasingly charged environment, ABM has fully trained its personnel across the board—not just techs. Our field electricians all possess the appropriate skills and PPE for handling higher voltage equipment. In addition, our estimators, designers and project managers are all well versed in the increased power requirements and working practices required.

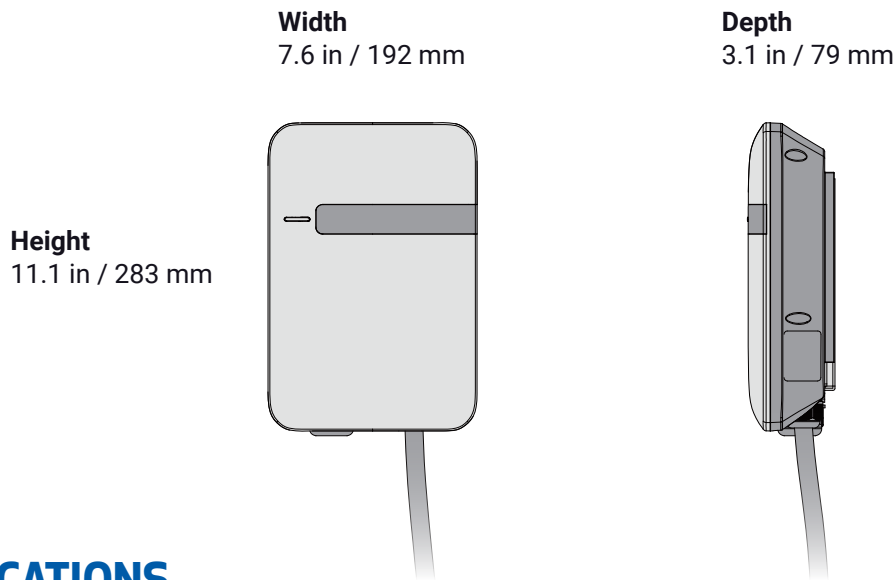


¹ABM – “EV Infrastructure 101: An Early Market EV Whitepaper from ABM for Facility Managers” (page 8)

ABM AC7L

Smart EV Charging





SPECIFICATIONS

Cloud service	ABM EV OS
Maximum output power	7 kW @ 240V; 6.6kW @ 208V
Output power	32 A @208~240 Vac, 1-phase
Vehicle connector	SAE J1772
Charging cable length	25 feet / 7.6 m
Input power	1-phase, 3-wire, 208~240 Vac, 32 A maximum
Circuit Breaker	40A 2-pole (recommended)
Grounding system	TN, TT
Efficiency	>99%
Power factor	>0.99
Display	LED indicator, OLED, 20 characters, 2 lines
Communication protocol	OCPP 1.6 JSON
Network connectivity	Wi-Fi
NEMA enclosures(NEMA)	NEMA 4
Impact protection	IK10
Electrical protection	Over voltage protection, under voltage protection, surge protection, ground fault protection, residual current device, short circuit protection, over current protection, over temperature protection
Operating temperature	-22 °F to +122 °F / -30 °C to +50 °C
Dimensions	7.6 (W) x 11.1 (H) x 3.1 (D) in 192 (W) x 283 (H) x 79 (D) mm
Weight	11 lbs / 5 kg
Certifications	UL, FCC, Energy Star



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ABM AC7LC

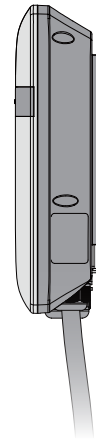
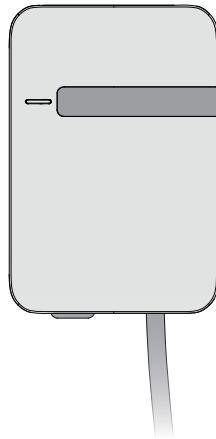
Smart EV Charging



Height
11.1 in / 283 mm

Width
7.6 in / 192 mm

Depth
3.1 in / 79 mm



SPECIFICATIONS

Cloud service	ABM EV OS
Maximum output power	7 kW @ 240V; 6.6kW @ 208V
Output power	32 A @208~240 Vac, 1-phase
Vehicle connector	SAE J1772
Charging cable length	25 feet / 7.6 m
Input power	1-phase, 3-wire, 208~240 Vac, 32 A maximum
Grounding system	TN, TT
Efficiency	>99%
Power factor	>0.99
Display	LED indicator, OLED, 20 characters, 2 lines
Communication protocol	OCPP 1.6 JSON
Network connectivity	Wi-Fi
NEMA enclosures(NEMA)	NEMA 4
Impact protection	IK10
Electrical protection	Over voltage protection, under voltage protection, surge protection, ground fault protection, residual current device, short circuit protection, over current protection, over temperature protection
Operating temperature	-22 °F to +122 °F / -30 °C to +50 °C
Dimensions	7.6 (W) x 11.1 (H) x 3.1 (D) in 192 (W) x 283 (H) x 79 (D) mm
Weight	11 lbs / 5 kg
Certifications	UL, FCC, Energy Star



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ABM AC19L

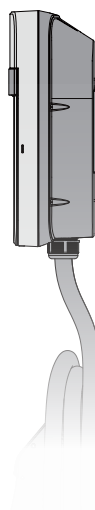
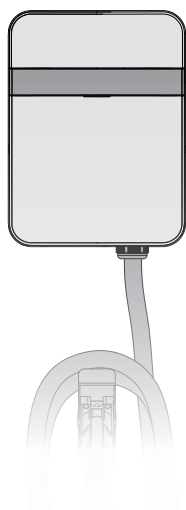
Smart EV Charging



Height
14.1 in / 360 mm

Width
10.6 in / 270 mm

Depth
5.5 in / 140 mm



SPECIFICATIONS

Cloud service	ABM EV OS
Maximum output power	19.2kW @ 240V; 16.6kW @ 208V
Output power	80 A @200~240 Vac, 1-phase
Vehicle connector	SAE J1772
Charging cable length	25 feet / 7.6 m
Circuit Breaker	100A 2-pole (recommended)
Input power	1-phase, 3-wire, 208~240 Vac, 80 A maximum
Grounding system	TN, TT
Efficiency	>99%
Power factor	>0.99
Display	LED indicator, OLED, 20 characters, 2 lines
Communication protocol	OCPP 1.6 JSON
Network connectivity	Ethernet, Wi-Fi
NEMA enclosures(NEMA)	NEMA 3R
Impact protection	IK10
Electrical protection	Over voltage protection, under voltage protection, surge protection, ground fault protection, residual current device, short circuit protection, over current protection, over temperature protection
Operating temperature	-31 °F to +131 °F / -35 °C to +55 °C
Dimensions	10.6 (W) x 14.1 (H) x 5.5 (D) in 270 (W) x 360 (H) x 140 (D) mm
Weight	27.4 lbs / 12.4 kg
Certifications	UL, FCC, Energy Star



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ABM AC19L EXCEED

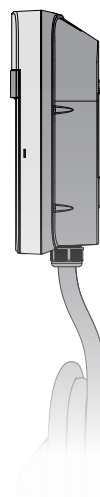
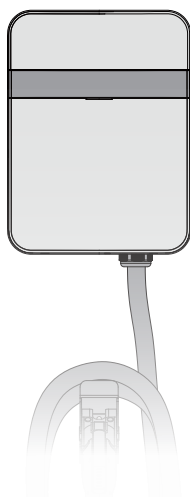
Smart EV Charging



Height
14.1 in / 360 mm

Width
10.6 in / 270 mm

Depth
5.5 in / 140 mm



SPECIFICATIONS

Cloud service	ABM EV OS
Maximum output power	19.2kW @ 240V; 16.6kW @ 208V
Output power	80 A @200~240 Vac, 1-phase
Vehicle connector	SAE J1772
Charging cable length	25 feet / 7.6 m
Input power	1-phase, 3-wire, 208~240 Vac, 80 A maximum
Circuit Breaker	100A 2-pole (recommended)
Grounding system	TN, TT
Efficiency	>99%
Power factor	>0.99
Display	LED indicator, OLED, 20 characters, 2 lines
Communication protocol	OCPP 1.6 JSON
Network connectivity	Ethernet, Wi-Fi, 4G (Cat. M1)
RFID	RFID ISO/IEC 14443 A/B
NEMA enclosures(NEMA)	NEMA 3R
Impact protection	IK10
Electrical protection	Over voltage protection, under voltage protection, surge protection, ground fault protection, residual current device, short circuit protection, over current protection, over temperature protection
Operating temperature	-31 °F to +131 °F / -35 °C to +55 °C
Dimensions	10.6 (W) x 14.1 (H) x 5.5 (D) in 270 (W) x 360 (H) x 140 (D) mm
Weight	27.4 lbs / 12.4 kg
Certifications	UL, FCC, Energy Star



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ABM AC30P

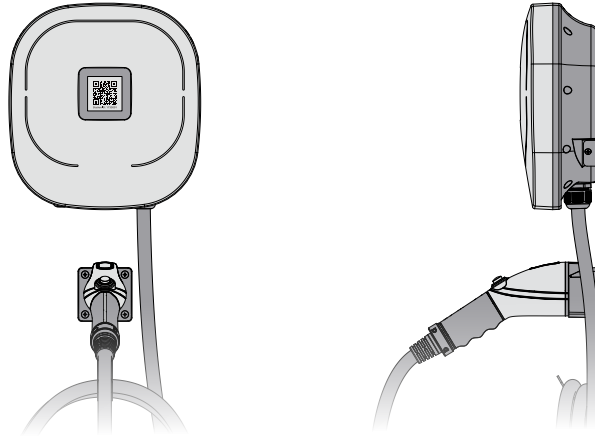
Smart EV Charging



Height
11 in / 280 mm

Width
10.2 in / 260 mm

Depth
3.9 in / 100 mm



SPECIFICATIONS

Cloud service	ABM EV OS
Maximum output power	7.2kW @ 240V; 6.6kW @ 208V
Output power	32 A @200~240 Vac, 1-phase
Vehicle connector	SAE J1772
Charging cable length	16.4 feet / 5 m
Circuit Breaker	40A 2-pole (recommended)
Input power	1-phase, 3-wire, 200~240 Vac, 32 A maximum
Grounding system	TN, TT, IT
Efficiency	>99%
Power factor	>0.99
Display	LED indicator
Communication protocol	OCPP 1.6 JSON
Network connectivity	Ethernet, Wi-Fi
RFID	RFID ISO/IEC 14443 A/B
NEMA enclosures(NEMA)	NEMA 3R
Impact protection	IK08
Electrical protection	Over voltage protection, under voltage protection, surge protection, ground fault protection, residual current device, short circuit protection, over current protection, over temperature protection
Operating temperature	-22 °F to +122 °F / -30 °C to +50 °C
Dimensions	10.2 (W) x 11 (H) x 3.9 (D) in 260 (W) x 280 (H) x 100 (D) mm
Weight	8.8 lbs / 4 kg
Certifications	UL, cUL, FCC



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Level 2 EV Charging Station

208/240V AC-32A/7.2kW

Key Features

OCPP Compliant

Integrates easily with most back-office platforms

Local Load Management

Adjusts charger output without a network connection

Four Models Available

Competitive options from basic to fully networked



Benefits

- Fast Time-to-Market
- Low Development Costs
- Best in Class Reliability
- Comprehensive Product Support



Residential



Commercial








Fleet



Parking

Specifications

Subject to change without notice

Model/PN	Basic (AC7)	Smart (AC7L)  	Intelligent (AC7LC)  4G  
Application	Residential/Commercial		Commercial
Voltage (Vac)	208 / 240 Vac ± 10%, 1-phase		
Frequency (Hz)	60 Hz ± 10%		
Power Level (kW)	7.68kW @ 240V; 6.6kW @ 208V		
Current (rms)	32A		
Charging Connector	SAE J1772 Type 1		
Recommended Circuit Breaker	40A 2-pole		
Charging Cable Length	25 ft. (18 ft. optional)		
Metering Accuracy	N/A	Embedded, ± 1%	
Real Time Clock	N/A	Yes (min. 7 days)	
Indications	LED x1 with multiple colors (RGB) <div><div></div> STEADY GREEN – standby SLOW FLASH GREEN - EV connected FAST FLASH GREEN - authenticating <div></div> SLOW FLASH BLUE - charging <div></div> SLOW FLASH RED - recoverable fault STEADY RED - unrecoverable fault</div>		
Wi-Fi	N/A	802.11 b/g/n	
4G	N/A	LTE Cat.1 (AT&T or Verizon)	
RFID	N/A	ISO 14443 A/B – ISO 15693	
Display	N/A	Dot-matrix (2 lines)	
Data Protocol	N/A	OCPP 1.6J (OCPP 1.5J optional)	
Operation Temp.	-30 °C ~ 50 °C / -22 °F ~ 122 °F		
Storage Temp.	-40 °C ~ 70 °C / -40 °F ~ 158 °F		
Mounting Type	Wall (default) / Pole		
Installation Type	NEMA 6-50		Hardwired
IP Performance	NEMA 4		
Impact Resistance	IK10		
Dimension (H x W x D, inch)	11.14 x 7.56 x 3.11		
Web Portal Management	N/A	Yes	
Console Management	Yes		
Certification	UL 2231/2594 – FCC Part 15B		

Dimensions



Supercharge Sustainability
and Revenue with ABM

Learn more at abm.com/simplifyEV



Level 2 EV Charging Station

208/240V AC - 80A/19.2kW

Key Features

Maximum Output Level 2 charger

Ideal for LD and MD pickups, vans, buses and trucks

OCPP Compliant

Integrates easily with most back-office platforms

Local Load Management

Adjusts charger output without a network connection

Four Models Available

Competitive options from basic to fully networked



Benefits

- Fast Time-to-Market
- Low Development Costs
- Best in Class Reliability
- Comprehensive Product Support



Residential



Commercial



Fleet








Parking



Specifications

Subject to change without notice

Model/PN	Basic/AC19	Smart/AC19L  	Intelligent/ AC19LC  4G  
Application	Residential		Commercial
Voltage (Vac)	208 / 240 Vac Split phase		
Frequency (Hz)	50 Hz/60 Hz		
Power Level (kW)	19.2kW @ 240V; 16.6kW @ 208V		
Current (rms)	Max 80A		
Charging Connector	SAE J1772 Type 1		
Recommended Circuit Breaker	100A 2-pole		
Charging Cable Length	25 ft. (18 ft. optional)		
Metering Accuracy	Embedded, ± 1% (internal)		
Real Time Clock	N/A	Yes	
Indications	<ul style="list-style-type: none">• Green Steady: Ready• Green Flashing (Fast): Authorized, wait for EV Connect• Green Flashing (Slow): Suspend (Occupying)• Blue Flashing (Slow): Charging• Red Steady: Unrecoverable Fault• Red Flashing (Slow): Recoverable Fault• Yellow Flashing (Slow): Booting / Firmware Upgrading / Out of Service		
Wi-Fi	N/A	802.11 b/g/n	
Ethernet	N/A		Yes
Bluetooth	Yes		N/A
Cellular	N/A	LTE Cat. M1/ Cat.NB1oT	
RFID	N/A	ISO 14443 A/B, ISO 15693, NFC	
Display	N/A	116(L)*8.5(W)*37(H)mm, 5.57mm CHARAXTER HEIGHT, 5*8 DOT MATRIX, OLED 20x2	
Data Protocol	N/A	OCPP 1.6	
Operation Temp.	-35 °C ~ 55 °C / -31 °F ~ 131 °F (55 °C/131 °F current derating limit maximum 60A)		
Storage Temp.	-40 °C ~ 80 °C / -40 °F ~ 176 °F		
Mounting Type	Wall mount/Pole mount (optional)		
Wiring Type	Hard-wired		
IP Performance	NEMA 3R		
Impact Resistance	IK10		
Dimension (H x W x D, inch)	14.1 x 10.6 x 5.5		
Web Portal Management	N/A	Yes	
Certifications	UL 50/ 991/ 1449/ 1998/ 2231/ 2594 FCC Part 15B		



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Learn more at abm.com/simplifyEV



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

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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

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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Learn more at abm.com/simplifyEV
or call us at 888.681.1573

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ABM-16064-0223

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



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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

EV OS Platform Features & Benefits

Overview

ABM EV OS is a versatile, cloud-based operating platform that can run a single charging station or a network of charging stations across multiple locations. Utilizing smart algorithms and intelligent monitoring, the software balances electrical usage, optimizes available power usage and protects local electrical systems from overloading. ABM EV OS also offers flexible implementation options to suit your ideal number of chargers.

Core Services

- **Remote operation management** that is scalable and brings a single charging site or entire charging network into focus on a single platform
- **Easy access information management** includes the location and pictures of each charging site
- **Comprehensive reporting** with automatic peak-hour pricing and cost optimization
- **Automatic infrastructure diagnostics** that reduce downtime and enhance visibility to ABM service and maintenance teams

Microservice Library

- **An ever-expanding library of microservices** and timely custom implementation that can fit any business needs
- **Energy management, enablement, and promotion features** to optimize operation

Advanced Services

- **Customizable solution** for business and charging network operators of any size
- **Build your own charging ecosystem through API integrations** including rewards programs, building entry badges and parking systems

Features & Benefits



Access Code



Prepaid E-Card



Promo Codes



Load Management



Access Code

- A self-manageable code for free, app-less EV charging that can be offered to guests, customers, or VIPs
- Attract more EV driving guests and visitors with this premium, eco-friendly amenity

Key Features

- Control charging access by changing the Access Code as needed
- Once customers receive their Access Code, they can charge their vehicle without signing up for apps or memberships
- Review analytics to plan future operations

Benefits

- Use this Access Code just like a Wi-Fi password
- Offer it to everyone or save it for VIPs



Prepaid E-Card

- Allows for an easy charging experience for drivers who want to budget their spending
- Allows for a single payment that can be spread across multiple charging sessions
- Allows for different values to be set for customers or to be given as promotions

Key Features

- Drivers can recharge after using up the amount and easily continue using the same card
- Eliminates transaction fees charged by payment gateway providers
- Allows for management of multiple aspects of charging, such as number of users and their access
- Enhances cash inflow to support the EV charging business

Benefits

- Offers residents, customers, or employees a simple way to access charging
- Allows for discounts, rewards, and promotions to be offered
- Convenient tool for network operators to capture a bigger audience and make it easier for customers to use EV chargers



Promo Codes

- Allows EV charger managers to turn chargers into powerful marketing tools
- Offers flexibility in getting codes to customers through various methods, such as in print, email, and public posts
- Improves customer retention and increases charger utilization through promotional campaigns

Key Features

- Offers discount flexibility by choosing a percentage or dollar amount discount
- Allows for easy organization through specific names and descriptions
- Allows for control of usage with validity periods
- Allows for management of access by choosing how many times a single user can use a standing promo code

Benefits

- Encourages customer behavior by offering discounts for specific charging stations and locations
- Creates event-specific promotions for holidays or store events
- Promotes newly opened sites with EV charging discounts for customers' first visits
- Managers have access to usage data and charging histories
- EV drivers do not need to download an app or create an account to use the codes, making them easy and accessible



Load Management

- Designed for electric fleets of any size, this fully autonomous system improves efficiency and provides maintenance-free operation
- Smart scheduling optimizes energy usage and helps control rising fueling costs
- Fleet operators can charge vehicles during off-peak hours to lower ongoing energy costs
- Managers can register the list of vehicles in the fleet and view vehicle statuses
- Smart energy allocation to control power across charging stations

Key Features

- Provides analytics for pricing, marketing, promotions, and customer care
- Eliminates transaction fees charged by payment gateway providers
- Encourages usage and makes it easy for customers
- Allows customers to use different payment methods

Benefits

- Customers receive invoices for their usage or energy consumption, typically monthly
- Customers can clear their payments after charging, typically monthly
- This system is easy and familiar, like paying for a cell phone bill at the end of the month
- Used for residential buildings or office parks that provide chargers for employees
- Can also be offered by charging network operators to enterprise customers as a tailored charging service with a post-billing option

ABM EV OS: The New Way to Charge

Upgrading the EV Charging Experience

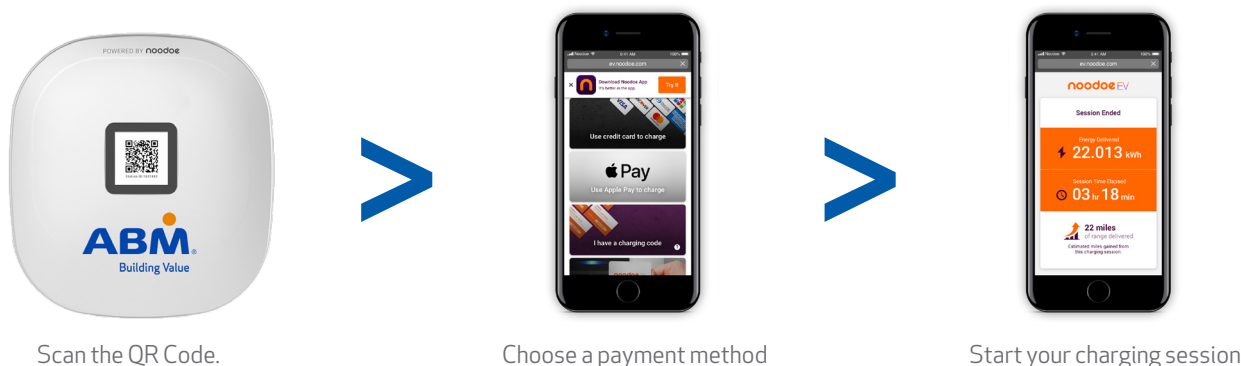
ABM's vision is to put the best EV charging experience in every parking lot. As a leading installer of electric vehicle charging ports, we help you delight drivers with the easiest possible path to a full charge. ABM furnishes fleet operators, site hosts, solution providers, and local charging network providers with cutting-edge EV hardware and software technology through ABM EV charging stations and ABM EV OS.

Introducing ABM EV OS: One of the most advanced cloud-based operating programs to date.

What makes ABM different is the core technology that optimizes the user experience through autonomous operations – enabling the lowest possible operating cost. The EV OS automates every step of charging service delivery, so no service staff is required in the everyday process.

Scan, Pay & Charge:

The driver scans the QR code, touches Pay on the phone, and starts charging. ABM EV OS automates 24/7 charging service delivery and payment processing.



Load management – Use the existing electrical capacity to install more chargers without costly electrical upgrades. Load management dynamically shifts energy to vehicles that need it the most while optimizing energy flow and maintaining the total load within the limit of the electrical panel.

Membership management system – Offer a loyalty program that provides special privileges to members. You can give members free or discounted charges. You can add, delete, or modify the member records.

Subscription system – Generate recurring revenue by offering one or more subscription plans to EV drivers. The subscription system not only operates the end-to-end subscriber charging experience but also automatically collects the monthly subscription payment from each subscriber.

Prepaid card – Sell to business owners prepaid charging cards, which provide convenience and simplicity when the company pays for charging, not its drivers. Bypass the barriers of complex account opening steps that deter some business customers; selling prepaid cards is simple and makes customer acquisition frictionless. In addition, you can set the denomination of the prepaid cards.

Voucher code – Generate extra revenue by selling prepaid charging vouchers; it's like selling tickets. The one-time charging code is unique and self-invalidates after it is used.

Discount codes – Include a discount code in your advertisement. For example, attract EV drivers as part of the marketing campaign to drive high-spending consumers to your business locations. The discount code can be set for a percentage discount or a dollar amount discount.

To learn more, visit ABM.com/SimplifyEV or call 866-681-1573

Turnkey Charging Solutions

Preventive Maintenance Programs

Broken EV chargers and offline software are an inconvenient obstacle to an enjoyable charging (and ownership) experience. To stay ahead of unforeseen outages and issues, ABM offers a range of Preventive Maintenance Programs designed to support our broad customer base.

Silver

- One planned maintenance event annually
- Additional maintenance visits may be added upon request
- Guaranteed 12-24 hour response time (dependent on geographic location)
- 10% discount on ABM posted hourly rates
- EV charger operational training available at contract hourly rates with OEM provided material
- Fixed price service for commissioning (dependent on geographic location)
- Fixed price service for campaign maintenance
- ABM eMobility asset service and maintenance tracking
- Service dispatch management
- Parts coordination and supply

Gold

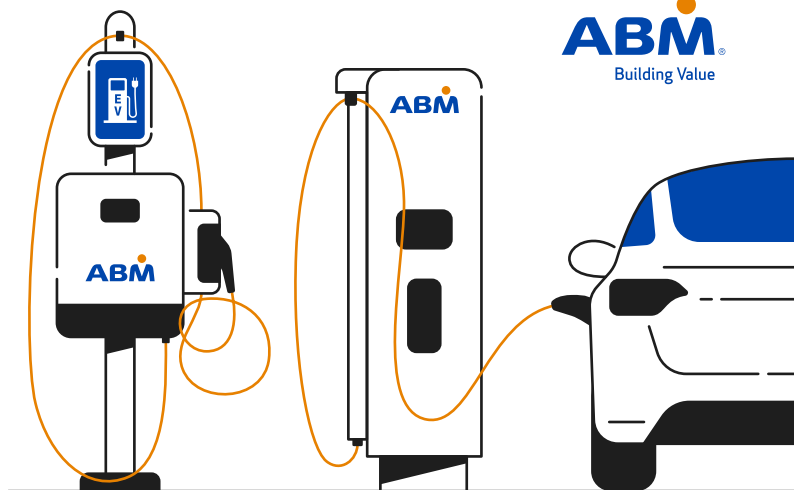
- One planned maintenance event annually
- Additional maintenance visits may be added upon request
- Guaranteed 8-12 hour response time (dependent on geographic location)
- 10% discount on hourly rates for non-EV charger service requests
- EV charger commissioning included
- Customer dedicated ABM eMobility asset service and maintenance tracking
- Dedicated toll-free 24/7/365 service center
- Parts coordination and supply
- Part inventory management

Platinum

- One planned maintenance event annually
- Additional maintenance visits may be added upon request
- Guaranteed 4-6 hour response time (dependent on geographic location)
- 10% discount on hourly rates for non-EV charger service requests
- Detailed training program to include NFPA-70e, ARC flash and others.
- EV charger commissioning included
- Customer dedicated ABM eMobility asset service and maintenance tracking
- Dedicated service and maintenance coordinator
- Non-EV charger materials included
- Dedicated toll-free 24/7/365 service center

Fleet

- One planned maintenance event annually
- Additional maintenance visits may be added upon request
- Guaranteed 4-6 hour response time (dependent on geographic location)
- Onsite technical staff 8 hours/day Monday-Friday (staffing dependent on asset count)
- Non-maintenance activities involving EV charger equipment included
- Detailed training program to include NFPA-70e, ARC flash and others
- EV charger commissioning included
- Campaign maintenance management included
- Customer dedicated ABM eMobility asset service and maintenance tracking
- Dedicated service and maintenance coordinator
- Dedicated toll-free 24/7/365 service center
- Dedicated service and project managers (staffing dependent on asset count)
- Onsite part inventory management
- Uniform attire for site staff



⚡ SIX STEPS TO EV CHARGER SUCCESS

ABM experts deliver a step-by-step program to bring EV charging to your facility. We handle implementation, so you can focus on your business.

1

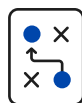
Facility review and report



- 360° approach focused on facility needs
- Parking capacity study, and electrical load and switchgear analysis
- Compliance and regulatory due diligence

2

EV project map



- Optimal number and type of chargers
- Identify any needed electrical infrastructure enhancements
- Project timeline and future-proofing recommendations

4

Installation and product training



- Self-performed installation ensures quality
- In-person training on intuitive software and hardware

3

Financing and source capital



- Minimize CapEx with financing options
- Identify all available local, state and federal grants and rebates

5

Ongoing dedicated support and service



- Maintain uptime with preventive maintenance and fast, warranty-backed repairs

6

Continuous guidance and forecasting



- ABM provides trends and insights to keep up with EV market growth and changes in charging technologies and regulations



As the leading commercial installer of EV chargers in the U.S., ABM has helped facilities nationwide implement EV strategies for sustained success.

Take the next step with an ABM Expert
[ABM.com/SimplifyEV](https://abm.com/SimplifyEV) | 888.681.1573

What are the right EV chargers to meet my needs and demand?

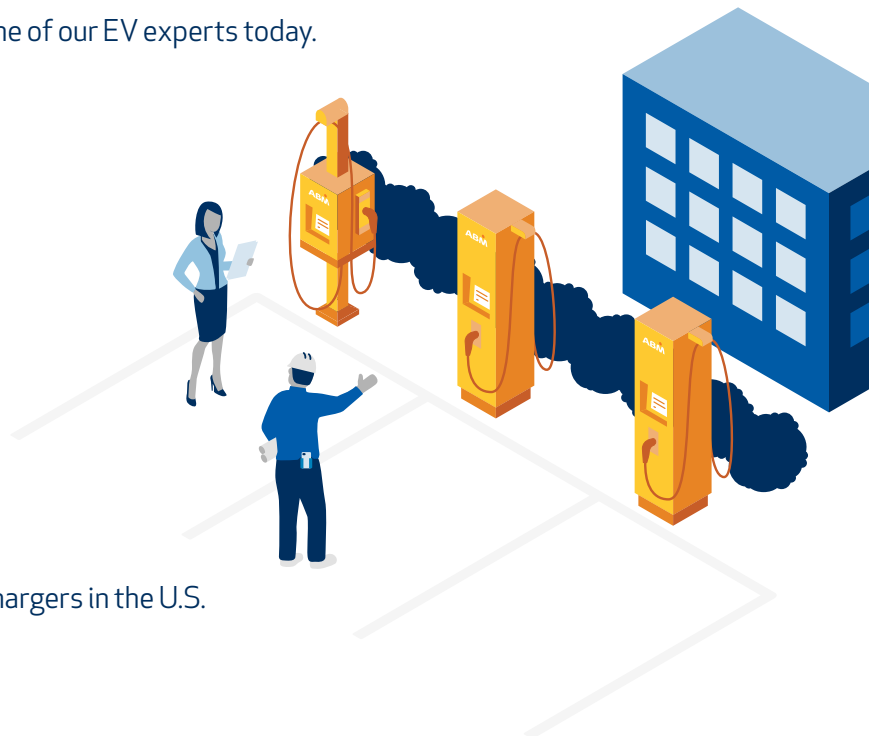
Answer: *ABM provides and installs world-class charging technology. We'll work with you, your goals and your facility to implement the best possible EV charging hardware.*

From entry-level charging solutions to the latest smart EV Level-2 charging stations and Level-3 heavy duty fleet chargers, our options are perfect for any location, including hotels, offices, entertainment venues, residential parking lots and more.

The advantages of ABM EV solutions

- Fast time-to-market
- Low development costs
- Best-in-class reliability
- Comprehensive product support

Find out exactly what ABM can do for you. Speak with one of our EV experts today.



Got EV questions? Get EV answers.

Just ask ABM—the leading commercial installer of EV chargers in the U.S.

866.681.1573

www.abm.com/SimplifyEV