



FREEWIRE

POWERING THE ELECTRIC REVOLUTION




ENERGY OPTIMIZATION ⚡ ULTRAFAST ELECTRIC VEHICLE CHARGING



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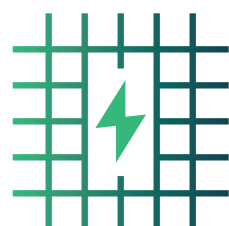
OUR MISSION

POWERING THE ELECTRIC REVOLUTION

Battery-Integrated Ultrafast Electric Vehicle Charging and Energy Optimization

FreeWire Technologies is transforming how energy is distributed and accelerating the global transition to electrified transportation through ultrafast charging technology paired with integrated energy storage and advanced software solutions. We provide seamless and efficient installation and charging operation for site hosts to meet the growing demand for electric vehicles (EVs) and a premium experience for drivers that contribute to a cleaner and more efficient future.

FreeWire's advanced technology allows for the efficient and sustainable deployment of EV charging equipment by overcoming the limitations of the electrical grid and modernizing infrastructure for future generations.

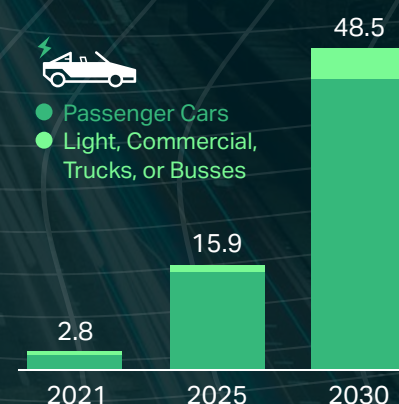


ELECTRIC VEHICLES ARE HERE

EV adoption is on the rise due to a combination of technological advancements, economic incentives, and a growing awareness of the environmental and health benefits of electrified transportation.

Automakers are investing heavily in the development of new electric passenger vehicles, with an estimated \$515 billion spent on this effort and the release of more than 180 new models by 2025. It's predicted that EVs will make up 53% of new car sales in the U.S. and that there will be nearly 48 million EVs on American roads by 2030, representing around 20% of all vehicles in the United States.

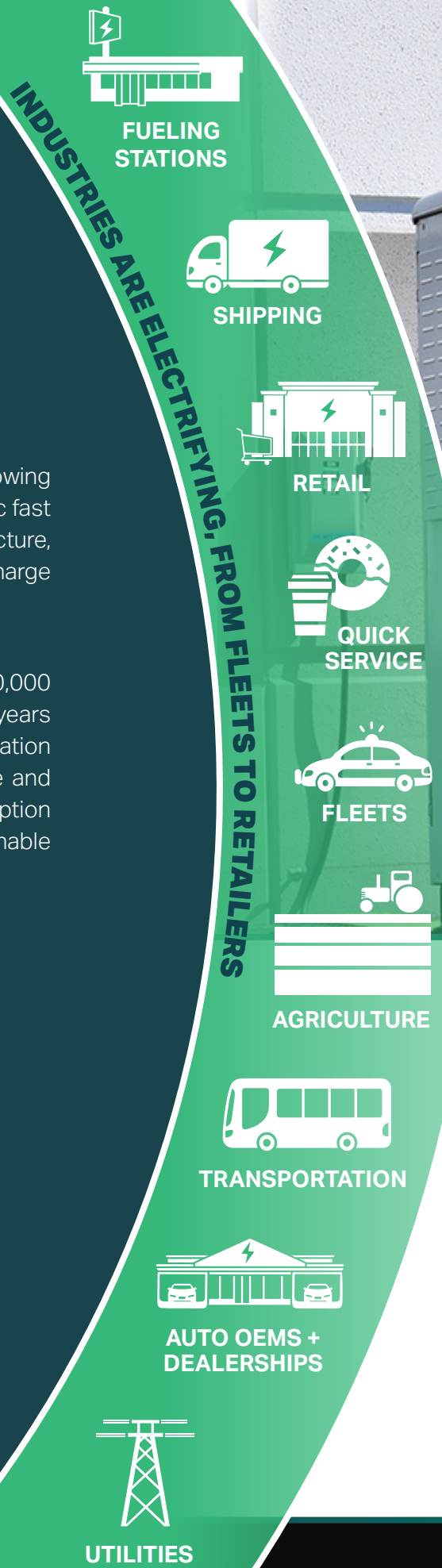
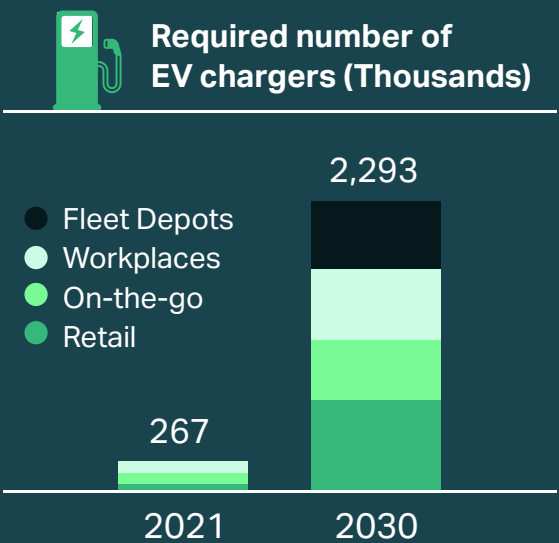
Projected number of EVs on the road (Millions)



CHARGING INFRASTRUCTURE IS NEEDED ACROSS INDUSTRIES

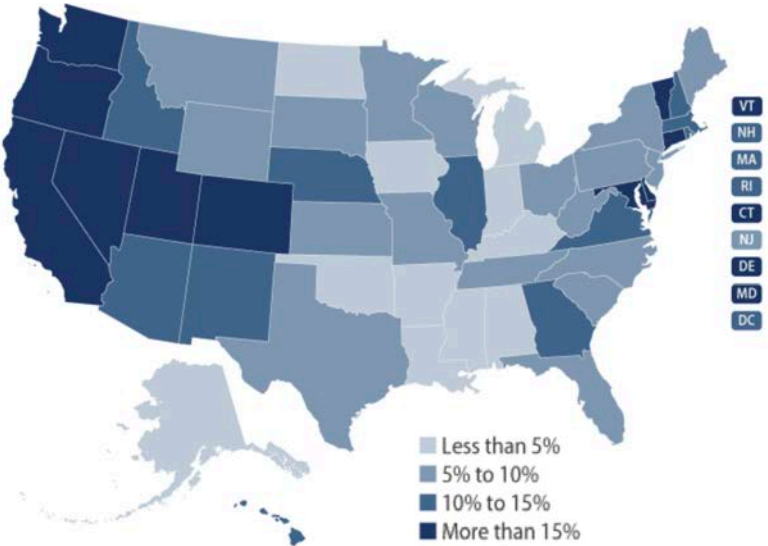
New charging infrastructure is required to meet the growing demand for EVs and further encourage their adoption. Public fast charging stations will be a key component of this infrastructure, providing a convenient and reliable way for EV drivers to charge their vehicles on the go.

In the United States alone, it is estimated that at least 180,000 fast-charging stations will be needed within the next seven years in order to support the transition to an electrified transportation system. The availability of fast charging stations anywhere and everywhere will be crucial in encouraging the widespread adoption of EVs and supporting the transition to a more sustainable transportation system.



MORE ULTRAFAST EV CHARGING IS REQUIRED, FAST

State Progress toward Public DCFC Infrastructure Needed by 2025



Source: Center for American Progress



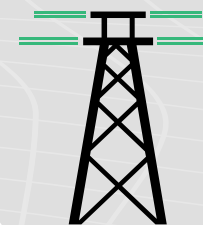
GRID INFRASTRUCTURE IS LIMITING THE TRANSITION TO ELECTRIFIED TRANSPORTATION

The electric grid is facing a number of challenges, including its aging infrastructure and increasing vulnerability to disasters. The electric grid's vulnerability is exacerbated by the high power needed to support traditional methods of EV charging. Traditional fast charging infrastructure requires high power directly from the grid, and **most areas cannot handle the additional power needed without building upstream grid infrastructure.** The mass expansion of fast charging using traditional infrastructure is not practical or sustainable and will slow progress toward transportation decarbonization and negatively impact the power grid.

The electrical grid was designed with power generated in central locations and then distributed through increasingly lower voltage lines to its endpoint. Traditional EV charging requires higher voltage input power which is not readily available in many locations where EVs will need to charge. Bringing high voltage power to these locations requires coordination between site hosts, utilities, and local permitting agencies, and can involve construction, rights of way, electrical interconnection and other activities that increase cost and cause a significant delay in deployment.

The cost of building out the necessary grid infrastructure to power traditional fast chargers is also a major barrier to widespread charger deployment. It is estimated that the infrastructure improvements needed to meet growing EV demand could cost \$14 trillion globally between now and 2050.

These barriers will ultimately slow our progress toward decarbonization, and a new approach is needed to ensure that energy can be delivered wherever and whenever it is needed.



GRID RESILIENCE vs. CLIMATE VOLATILITY

The power grid in the United States is facing unprecedented stress due to the increasing volatility of weather patterns caused by climate change. This has led to grid reliability issues in many parts of the country, and we see examples of grid strain that have affected millions of Americans in recent years. The aging power grid is particularly vulnerable to these disruptions, making it more important than ever to address these challenges and modernize the grid to better withstand extreme weather events.





BATTERY-INTEGRATED TECHNOLOGY IS THE SOLUTION

battery-integrated charging and power technology offers a solution to the barriers presented by the grid and allows for the rapid and widespread deployment of public fast charging stations. The integrated system unlocks an array of potential power applications for owners that traditional charging solutions cannot provide and haven't contemplated.

FreeWire can be deployed faster and in more locations, thanks to its onboard energy storage, which makes it a valuable distributed energy asset. By building a network of FreeWire power solutions, it is possible to move from a centralized electrical grid to a resilient, decentralized power infrastructure model. This approach would benefit not only EV drivers, but also anyone who relies on electricity by reducing costs and increasing resilience.

EV CHARGING + ENERGY STORAGE A Powerful Combination



SHORTER INSTALLATION TIMELINE

FreeWire's Boost Charger™ enables ultrafast charging deployment 6X faster than traditional charging systems. FreeWire chargers are designed and manufactured in the US, with quick delivery and installation.



FEWER INFRASTRUCTURE UPGRADE REQUIREMENTS

Boost Charger is infrastructure-light, requiring no additional electrical upgrades, meaning site hosts invest in the charger, not the infrastructure. Investing in the charger allows for rapid deployment and can easily be moved between sites.



LOWER INSTALLATION COSTS

Each traditional fast charger can require \$100K+ in infrastructure costs alone. Battery-integrated energy storage reduces installation costs by 20% by avoiding costly and time-consuming electrical upgrades.



LOWER OPERATING COSTS

Boost Charger reduces operating costs by 70% because FreeWire's technology can manage the charger's energy usage. Boost Charger's fully-integrated systems charge EVs directly from the battery, not the electrical grid. As a result, customers can avoid energy price hikes during peak usage using FreeWire's proprietary management software.



FASTER ROI

Boost Charger allows owners to capture charger revenue and increase retail sales, with lower ongoing energy costs, for greater ROI. Unlike traditional fast charging infrastructure, Boost Charger's power input is low and predictable at 20 kW, while delivering up to 200 kW output. Traditional chargers must pull high power from the grid to output high power to the vehicle, which can trigger high power rates from utilities.

Ultrafast EV charging with integrated batteries will significantly enhance the EV charging experience, meet growing demand, and accelerate the adoption of electric vehicles.



HOW BATTERY-INTEGRATED EV CHARGING WORKS

EV chargers are classified by “levels,” which refer to the speed at which they can charge an EV’s battery. These levels are indicated in kilowatts (kW), and a higher output from the charger means a faster recharge time. One kilowatt-hour (kWh) of charging is equivalent to approximately four miles of driving range for a standard passenger EV.

Traditional Level 3 DC fast charging requires a high power input and places a significant demand on the electrical grid, and requires on-site infrastructure upgrades to handle the additional power requirements. These factors contribute to the time and cost of installation, making it an unsustainable approach to meet the growing demand for EV charging.



KNOW YOUR EV CHARGING STATION LEVELS

Level 1 Charging



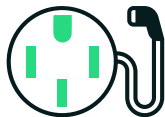
Power Input Required
120V 1-ph

Charging Speed
3 to 5 Miles Per Hour

Connector Compatibility
J1772, Tesla

Charging Locations
Home

Level 2 Charging



Power Input Required
240V 1-ph or 208V 3-ph

Charging Speed
12 to 80 Miles Per Hour

Connector Compatibility
J1772, Tesla

Charging Locations
Home, Workplace, Fleet, Public

Level 3 DC Fast Charging



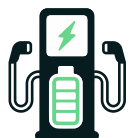
Power Input Required
480V 3-ph

Charging Speed
180 to 1,200 Miles Per Hour

Connector Compatibility
CCS, CHAdeMO, Tesla

Charging Locations
Fleet, Public

Battery-Integrated DC Fast Charging

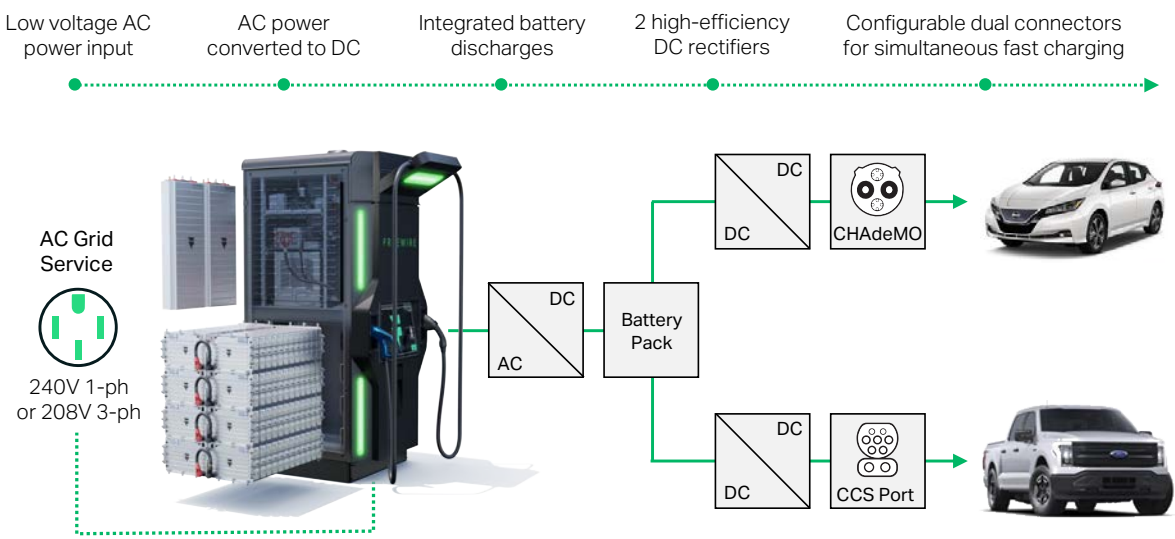


Power Input Required
240V 1-ph or 208V 3-ph

Charging Speed
600 Miles Per Hour

Connector Compatibility
CCS, CHAdeMO, Tesla

Charging Locations
Fleet, Public



FreeWire's flagship product, Boost Charger, connects to a low-voltage alternating current (AC) power source, similar to the power requirements of a water heater, which is converted to direct current (DC) and stored in an internal battery pack. When an EV connects to the charger, the stored DC power is delivered directly to the vehicle's battery through a CCS or CHAdeMO port. The internal battery pack will allow the Boost Charger to provide charging services even when the AC power source is unavailable, such as during a power outage – which is key for EV drivers in evacuation scenarios.








DELIVERING A PREMIUM CHARGING EXPERIENCE

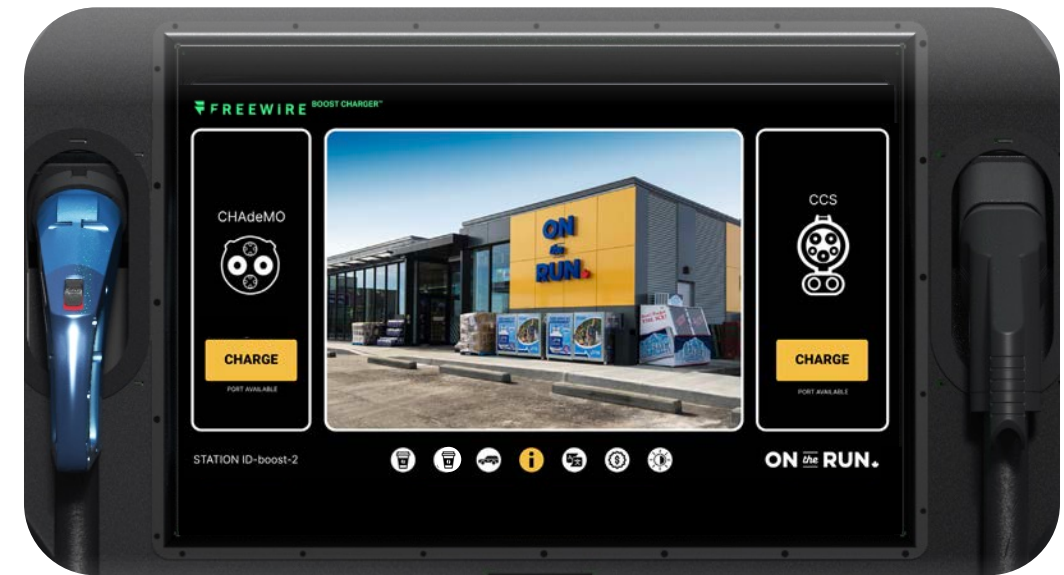
FreeWire's charging stations are designed to provide a premium charging experience for all EV drivers. These stations are built to the highest standards, with sturdy construction and advanced technology that helps to ensure consistent and reliable charging.

Drivers will receive a top-quality experience when using a FreeWire station.



BOOST CHARGER BENEFITS FOR EV DRIVERS

-  **ULTRAFAST CHARGING**
With 200 kW maximum power output, drivers receive 200 miles of range in a 15-minute charging session.
-  **COMPREHENSIVE**
Simultaneously charge two electric vehicles at once and is compatible with all EV models, ensuring that anyone can easily access charging services.
-  **EASY PAYMENT: PAY, PLUG, GO**
Boost Chargers offer a straightforward charging process – just pay, plug, and go. Chargers are compatible with multiple charging networks and offer various card reader options to make charging convenient and accessible.
-  **UBIQUITOUS**
Boost Chargers can be deployed almost anywhere to eliminate range anxiety due to their ability to connect to existing infrastructure.
-  **LARGE TOUCHSCREEN**
The charging process is made easy and user-friendly with the help of a large, 24-inch color touchscreen, which guides drivers through the process and includes a built-in help center and advertising capabilities.



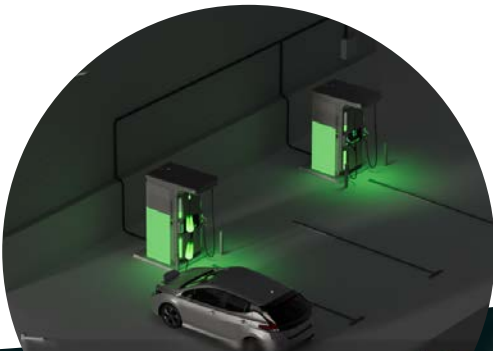


ENERGY OPTIMIZATION

The Future of Distributed Energy & Charging Platforms

FreeWire's battery-integrated EV charging solution will revolutionize the way EVs are charged and how energy is supplied to charging stations and the electrical grid. A distributed network of energy assets with standalone power and bidirectional capabilities provides numerous benefits, including reduced energy costs and increased resilience and reliability for all energy users. In emergency situations, such as power outages, the Boost Charger network can distribute power to buildings or EVs that need it, helping to keep the lights on and ensuring that essential services remain operational.

Ultimately, this next-generation network of chargers will augment existing grid infrastructure to make it more reliable and cost-effective while ensuring a smart, sustainable transition to electrified transportation electrification.

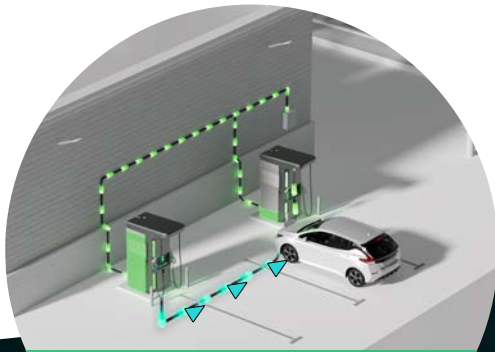


RESILIENT CHARGING & BACKUP POWER

When grid power is interrupted, FreeWire chargers stay online using energy stored in 160 kWh capacity battery.

BENEFITS

- Back up loads critical to the site
- Provide charging when the grid is down
- Enable emergency fueling



POWER SHARING

Share stored energy efficiently between a network of chargers to maximize value while minimizing grid demand and required infrastructure.

BENEFITS

- Sustain ultrafast charging

RESULTS



INCREASED RESILIENCE

When power from the grid is interrupted, FreeWire chargers can continue to deliver ultrafast charging to EVs using energy stored in the 160 kWh capacity battery in each individual charger.



IMPROVED OPERATIONAL EFFICIENCY

Chargers can extend their charging capabilities when connected as a network by leveraging energy from other chargers to ensure ultrafast charging is available across the network.



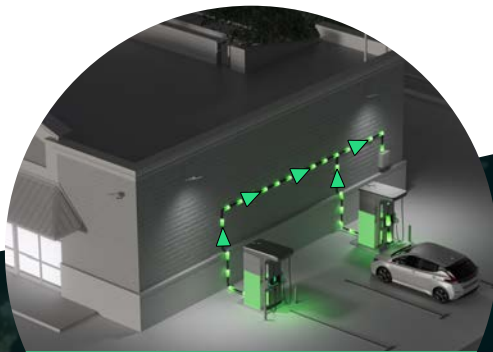
POWER OPTIMIZATION

FreeWire's energy requirements are nearly 10x lower than traditional chargers, reducing peak energy demand, saving grid strain, and providing lower-cost power.



ENHANCED GRID STABILITY

FreeWire will be able to provide power back to the site or the grid when demand is high, reducing the strain on the grid and providing economic benefits for site hosts.

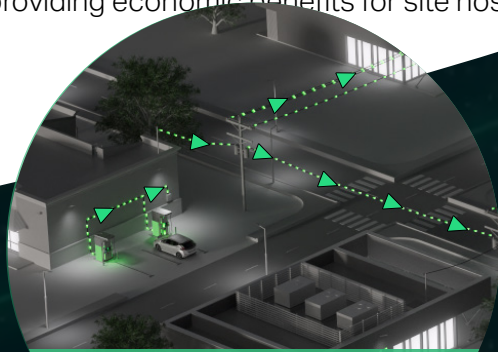


SITE ENERGY OPTIMIZATION

Deliver energy from chargers to the site.

BENEFITS

- Manage site energy usage and reduce energy bills
- Manage charger loads and associated costs



GRID OPTIMIZATION

Deliver energy from chargers to the grid.

BENEFITS

- Reduce strain on the grid when demand is high
- Decrease the likelihood of blackouts
- Sell energy back to energy providers
- Sell services to grid operators to support grid stability

ADVANCED EV CHARGING & ENERGY MANAGEMENT SOFTWARE



FreeWire's Asset Management Platform (AMP™) is an advanced software platform designed to help owners manage the operation of Boost Chargers. The platform offers a range of features that give site hosts real-time control of their EV charger network.

These features include active monitoring of charging station availability and usage, the ability to remotely manage charging station settings and pricing, and comprehensive reporting tools that provide insights into station performance and usage patterns.

UNLOCK THE FULL POWER OF FREEWIRE CHARGING WITH AMP CLOUD-BASED SOFTWARE



NETWORK MANAGEMENT

The integration of the AMP software platform with Boost Charger hardware enables flexible management of charging network assets, through which owners can customize the operations of their sites and groups of chargers according to their specific needs.



IMPROVED EFFICIENCY

AMP enables owners to optimize the energy utilization of their assets by managing the input or output power across a network of chargers, saving energy and reducing costs.



IMPROVED RELIABILITY

AMP provides real-time status tracking for charging stations, enabling users to monitor the availability and capabilities of their stations at all times to quickly identify and resolve any issues with their stations.



ENHANCED CONTROL

AMP unlocks unique features for Boost Charger owners including advertising and on-screen content customization, energy management to control and reduce operating expenses, and configurations for advanced energy management and resilience.



INSIGHTS & ANALYTICS

AMP empowers owners to make informed decisions to optimize the performance of their charging networks by providing real-time data from and synthesized performance insights for each of their charging stations.



ADVISORY SERVICES

FreeWire provides expert eMobility and energy advisory services to help customers navigate the rapidly evolving landscape of electric mobility and energy management. FreeWire's experts offer guidance on a wide range of topics, including the development and implementation of electric vehicle charging infrastructure, identifying and securing valuable incentives, deployment services, customer support, and marketing.

FreeWire's services also include site planning and analysis powered by Mobilyze.ai data analytics platform, market research, and financial modeling to help clients make informed decisions about their charging and energy strategy.

FreeWire guides customers through the deployment lifecycle and beyond.

OUR SERVICES

Planning

- Program strategy
- Credits and incentives

Deployment Services

- Project consultation
- Site assessment and design
- Build and install

Operate & Optimization

- Marketing and promotional services
- Competitive analysis
- Utilization insights and reporting
- Configuration management
- Software integration services



“bp is aiming to have a network of more than 70,000 electric vehicle charging points by 2030. FreeWire is an important contributor to this strategy, helping us to grow our charging network even faster and in more locations.”



ABOUT FREEWIRE TECHNOLOGIES

FreeWire Technologies was founded in 2014 and is an industry leader in ultra-fast EV charging and energy management solutions solving grid infrastructure constraints and supporting the global transition to electric vehicles. FreeWire’s network of battery-integrated Boost Chargers transform the way energy is distributed and bridge the gap from traditional infrastructure to future technology.

FreeWire products are used by **Fortune 100 companies, commercial and utility customers, fleets, retail locations, and gas stations across North America, Europe, and Japan.**

CUSTOMERS



INVESTORS



BOOST CHARGER DATASHEET

ENERGY STORAGE	
Energy Chemistry	Lithium-ion (NMC)
Energy Storage Capacity	160 kWh

ELECTRICAL SPECIFICATIONS (OUTPUT)		
Supported Connector Types	CCS1 / CCS2 CHAdeMO	
Charge Ports	2	
Max Output Power (DC)	Boost Charger 150 CCS: 150 kW CHAdeMO: 100 kW Combined: charge 2 vehicles simultaneously at up to 75 kW each	Boost Charger 200 CCS: 200 kW CHAdeMO: 100 kW Combined: charge 2 vehicles simultaneously at up to 100 kW each
Voltage	200-500 Vdc	200-950 Vdc

ELECTRICAL SPECIFICATIONS (INPUT)	
Power (AC)	≤ 27 kW
Voltage (AC)	U.S./Canada: 208 Vac 3-phase, or 240 Vac split-phase U.K./E.U.: 400 Vac 3-phase
Current	U.S./Canada: 208 Vac: 80 amps maximum load, or 240 Vac: 120 amps maximum load U.K./E.U.: 400 Vac: 40 amps maximum load
Frequency	50 / 60 Hz ± 1%

MECHANICAL SPECIFICATIONS	
Dimensions	109 cm (43") L x 101 cm (40") W x 243 cm (96") H
Cable Reach from Station	340 cm (134")
Weight	1,720 kg (3,800 lbs)

ENVIRONMENTAL SPECIFICATIONS	
Installation Location	Outdoor
Enclosure Protection Rating	IP 54
Operating & Storage Temperature	-20° C (-4° F) to +55° C (131° F)

NETWORK & USER INTERACTION	
Network Connection	4G LTE, Ethernet
Communications	OCPP 1.6-J
User Interface Screen	61 cm (24") ruggedized LCD touchscreen
Credit Card Reader	Standard
Payment Methods Accepted	Credit cards, NFC, MIFARE, FeliCa
Access Control & Authentication	RFID: ISO 15693, ISO 14443, NFC
Safety & Compliance	U.S.: UL2202, UL2231-1, UL2231-2, UL991, UL1973 (battery pack), FCC Part 15 Class A Canada: CSA 107.2, CAN/UL 1973

CERTIFICATIONS	
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