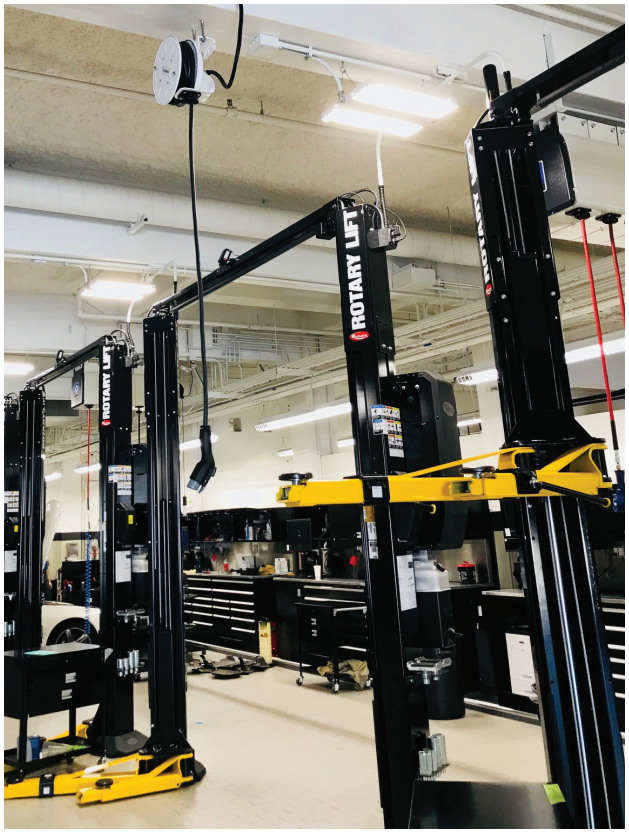
WHITE PAPER

EVOCHARGE™

Future Proof Your Business with Electric Vehicle Charging Infrastructure

Now more than ever, consumers are looking at electric vehicles (EVs) as a viable option for their next vehicle purchase. According to research and analysis performed by Bloomberg New Energy Finance (BNEF), more than 20 million EVs, consisting of both all-electric vehicles as well as plug-in hybrid electric vehicles (PHEV), will be on the road in the United States by 2030.



Today, many car dealerships have just a few new and used EVs or PHEVs in stock. This is rapidly changing. To maximize this growth opportunity, pragmatic car dealerships, service centers and tire shops are expanding their future strategy to support EVs. And, these aren't the only automotive businesses planning ahead.

The global electric car rental market is poised to grow by $7.14 billion between 2020 to 2024, progressing to a compound annual growth rate (CAGR) of 11 percent. Additionally, companies, such as Amazon, are adding EVs to their fleets. And ride sharing fleets, such as Lyft, are investing in EVs to rent to drivers. With the existing infrastructure centered around internal combustion engines (ICE), many are concerned they won't be able to charge vehicles as easily as they can fill the tank.

As a result of significate economic changes in 2020, most companies are reshaping their business to gain a competitive edge for the future. Automotive dealers, service centers, tire shops, parts stores, body shops, car rental companies and fleets are differentiating their business models by advancing their EV and PHEV investment. As such, level 2 charging stations, like EVOCHARGE®, are an important part of the plan.

Safety First

Safety is a critical concern when making an informed purchase decision about charging stations. The Occupational Safety and Health Administration (OSHA) requires working spaces, walkways and similar locations be kept clear of cords to eliminate hazards for employees and customers. Additionally, to be compliant with the Americans with Disabilities Act (ADA) regulations, location and storage is key.

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EVOCHARGE's EVOREEL® Cable Management System

Cable management systems engineered for EV charging stations, including EVOCHARGE's EVOREEL®, provides convenience as well as safety compliance with OSHA and ADA regulations. When not in use, the charging cable rewinds, keeping the cable off the floor and reducing tangled cords that create dangerous tripping hazards. EVOREEL also prolongs the life of the cable and connector by keeping it off the ground.

EVOREEL provides:

- Safety
- Cleanliness
- Efficiency
- Durability
- Increased productivity
- Low maintenance

Incentives and Rebates

Finding and taking full advantage of state or government and utility company incentives and rebates reduces the cost of purchasing and installing EV charging infrastructure. Most incentive programs require networked charging stations to qualify for funds. Networked charging stations provide control over the stations and the ability to manage the time and electricity use. EVOCHARGE offers a complete line of networked charging stations to meet all your needs. Check for incentive and rebate options in your area at the U.S. Department of Energy website afdc.energy.gov/fuels/laws/ELEC.

Load Balancing or Local Load Management (LLM)

EVOCHARGE products deliver value through local load management (LLM), which allows electrical load balancing with or without Open Charge Point Protocol (OCPP) network services. This permits the use of your facilities' existing electrical panel, avoiding expensive installation costs and maximizing current infrastructure. The amount of energy required to charge an EV puts a significant demand on energy supply. LLM also avoids costly, one-time increases in connection capacity and prevents peak loads that result in higher energy charges. Depending on local code, it also allows for the installation of multiple charging stations on a single circuit without changing the connection capacity or paying a network service provider. By maximizing the number of charging stations using your existing electrical infrastructure, businesses benefit from lower installation costs.

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The graphics on the right show an 80-amp electrical panel with a dedicated circuit. Each EVOCHARGE® unit needs 40-amp, single-phase alternating current (AC) to share the power between the EVs based on two methods: distributed load or first in, first served.

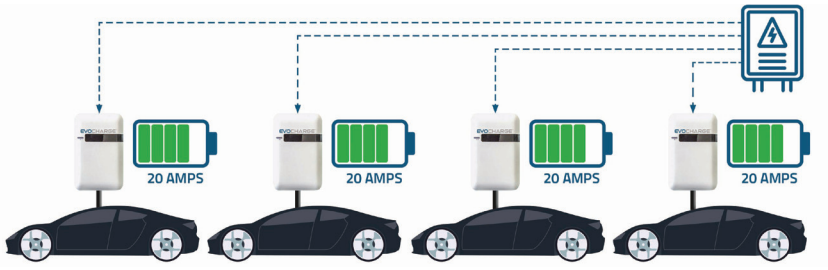


Figure 1

LLM regulates power loads according to demand. For example, when a single charging station is in use, that station receives maximum power. When another or several more stations are in use, the power load is equally distributed and eases the demand on the circuit. (Figure 1) Alternatively, the system can be configured to distribute load based on a first in, first served system. (Figure 2)

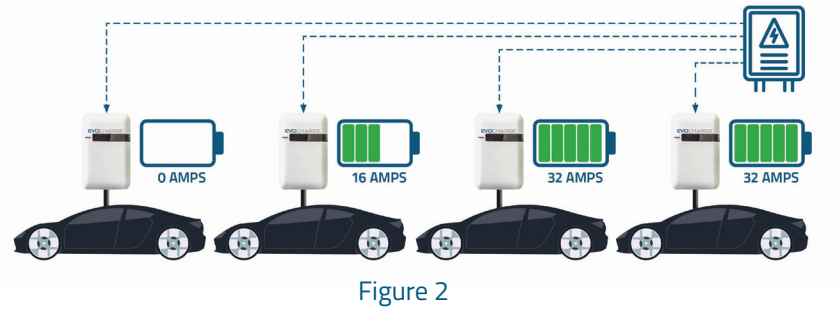
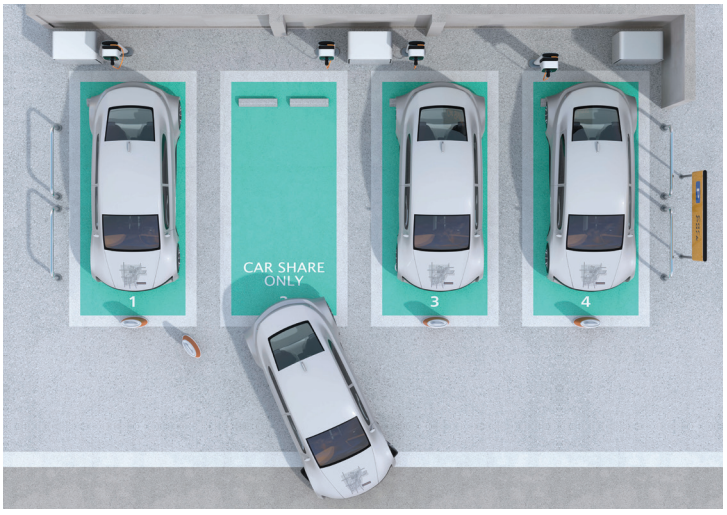


Figure 2

Proprietary Versus Open Charge Point Protocols

Many of the EV charging stations today are managed by a proprietary service network. A central system allows communication between the EV charging infrastructure and the power grid—controlling charging status, processing payments and more. Many that own networked EV charging stations with a proprietary network are locked into one provider. If the provider goes out of business, customers are stuck with expensive EV charging equipment that does not work with other service providers.

To offer a better solution, a global consortium of public and proprietary electric vehicle infrastructure leaders, known as the Open Charge Alliance (OCA), was formed. OCA developed the OCPP for communication between charge points and central management systems. OCPP allows a connection to any central management system with any OCPP-capable charging system. However, some companies control their own access through their priority subscription services. Others, such as EVOCHARGE, are considered a true OCPP networked charging station that can be connected through third-party OCPP network service provider.



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EVOCHARGE® Charging Systems

EVOCHARGE offers networked and non-networked charging station options as well as pedestal and cable management accessories.

Product Selections	Features	EVSE	iEVSE	iEVSE Plus
Non-Networked	Standard Model – No Network Capability	✔		
Wi-Fi Enabled	▪ Access Control ▪ Control Data Collection ▪ Demand Response ▪ Local Load Management ▪ Mobile App Capability ▪ Remote Monitoring		✔	✔
Wi-Fi and LTE Cellular				✔
RFID Technology	Supports RFID Card Access Control and User Authorization			✔

In addition to installing charging stations, dealerships and automotive parts retailers will benefit from reselling Level 2 charging stations to EV customers. There isn't a better time for an EV owner to consider increased charging speed than when they are buying or servicing their vehicle.

EVOCHARGE charging stations are compatible with virtually all EV and plug-in hybrid electric vehicles (PHEV) sold throughout the United States and Canada. The three base models offer the perfect solution for every type of connection and application. Let us help you customize the solution that fits your needs.

To learn more about EVOCHARGE and EVOREEL and to discuss an integrated solutions or reseller opportunities, visit phillipsandtemro.com/solutions/electrification, call 1.800.328.6108 or email evochargesales@phillipsandtemro.com.

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