powerflex
EDF Renewables

PRODUCT GUIDE 2021

Turnkey electric vehicle charging solutions

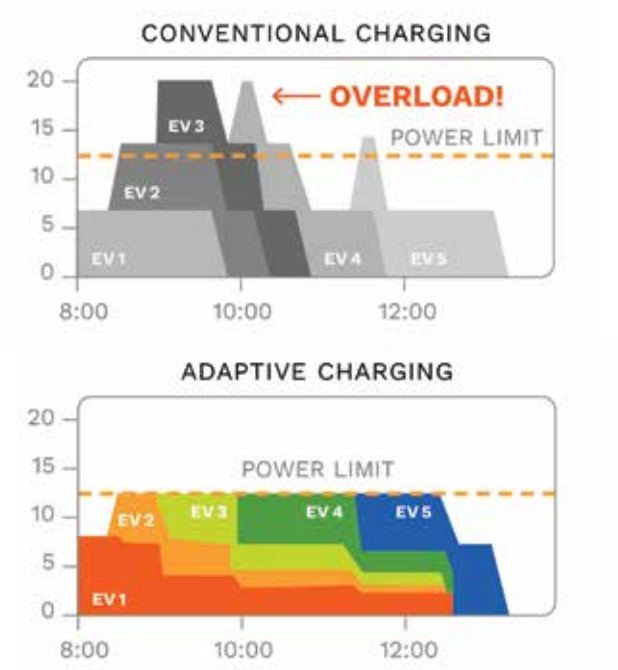
Contents

Reduce capital and operational expenditures **by 60%**.

BEHIND POWERFLEX

The Power of Adaptive Load Management (ALM)

PowerFlex's patented ALM technology allows building owners/operators to install up to four times more charging infrastructure, compared to industry average, while reducing capital and operational expenditures by 60% due to avoiding the high cost of adding new electrical equipment and managing power below peak demand levels.



We can reduce peak power consumption and still provide drivers with the range they need.

WHY ALM?

Most charging stations today are designed to operate at full speed only, there is no flexibility in terms of their power outputs. This requires facilities to be able to provide enough power for all charging stations to run at full speed at the same time, all the time. The total number of charging stations that can be installed is directly correlated to the available power at a facility.

HOW DOES ALM WORK?

PowerFlex ALM technology enables the installation of up to 4x the number of EV charging stations for the same utility infrastructure cost. By delivering energy to vehicles based on the amount of energy requested by the vehicle operator and the estimated departure time of the vehicle. Each charging station's output is continuously adjusted so that charging sessions are completed on or before the departure time, but the electrical system is drawing only a fraction of the rated total load at any given time.

HOW MUCH WILL ALM SAVE ME?

Businesses can shave as much as 60% off the cost of electrical system upgrades and peak demand charges, paving the way to larger and more affordable charging networks that ultimately meet or exceed the adoption pace of electric vehicles.

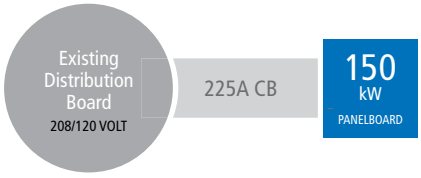
ALM
at a Glance

Charging solutions must be implemented in the right places and quantities to sustain the growth of Electric Vehicle (EV) adoption. To meet the scale required of the current adoption trends, businesses are confronted with substantial upgrades to their electrical systems, making EV charging installations financially burdensome and lengthy in time, if not completely infeasible.

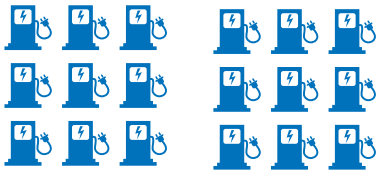
PowerFlex solves this problem.

WITHOUT ALM

18 32A EVSEs on 150kW transformer per NEC 125% rule with no load management

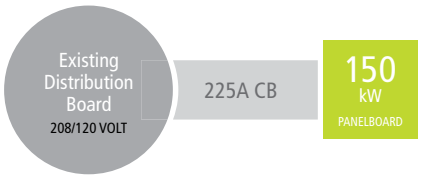


(INFRASTRUCTURE LIMITED)

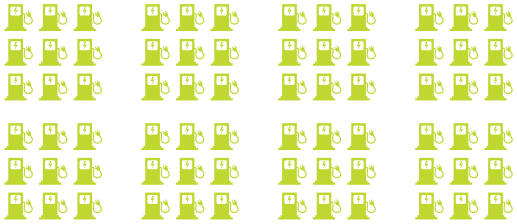


WITH ALM

72 32A EVSEs on 150kW transformer per NEC 125% rule with no load management



(POWERFLEX OPTIMIZED INFRASTRUCTURE)



What's the difference?

Without ALM, all of the charging stations are powered at full speed at the same time.

MORE STATIONS
less conduits

This is because with ALM, the power to each station is **controlled individually in real-time, based on users' charging requirements and the facility's real time power availability**. This helps create "slack" in the power supply, allowing power to be used as efficiently as possible and increase the number of charging stations that businesses can install on the **same amount of power**.

How PowerFlex Works with You

- **CUSTOMER SUPPORT** available 24 / 7
- **MOBILE APP** puts everything at your employees' customers', residents' fingertips
- **EXPERIENCE** with 4,000+ EV charging stations deployed across California

Design | Hardware | Software | Installation | Maintenance

PF TURBO DX 7KW

PF HCS 13KW

PF TESLA 16KW

PF AC MAX 16KW

PF WALLBOX 25 KW DC

PF CITY CHARGER 100KW DC

PF RT 50KW

PowerFlex is the **Swiss Army Knife** of **EV charging.**

EV Charging with Solar+Storage

Businesses are finding that combining EV with solar + storage offers a great opportunity for increased resiliency, access to new revenue streams, and lower energy costs.

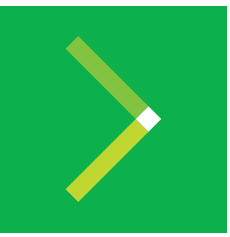
SOLAR | STORAGE | EV CHARGING | ENERGY MANAGEMENT SYSTEMS

HOW CAN ADDING SOLAR+STORAGE SAVE YOU MONEY?

Utility electricity costs consist of energy charges and demand charges. Demand charges are determined by the single highest 15-minute period of electricity usage during the month. This can account for more than 50% of a facility's electricity cost! Solar and battery storage systems reduce both energy and demand charges with controllable and predictable energy costs.

A fully integrated system flattens not only EV load but manages the entire facility's energy consumption patterns to reduce utility bills. The system can be tailored to a facility's unique characteristics and requirements, turning the parking lot, rooftop, and employee EV charging stations into a sustainable, clean-energy asset.

By combining EV infrastructure with solar and storage, we are able to offer the lowest cost of charging – for both capital and operating expenses.



Grow with demand, use existing power and **save costs**.

BENEFITS OF EV CHARGING

WORKPLACES

Increase employee production and satisfaction

EV charging at work is a tangible way of improving daily commutes and employee productivity. By installing smart charging stations for your employees to use, you show that you care about improving their daily routines and the existential threat of climate change. Employees are more likely to have improved performance within the workplace such as punctuality and better time management if they don't have to worry about where and when they will be able to charge their vehicle.

PowerFlex brings the same **benefits to all customers,** regardless of their industry

- **Expandable system to grow with demand**
- **Use existing power and save costs**
- **Little to no O&M costs**

CAMPUSES

The future starts on campuses

More buyers than ever are driving EVs, especially young people. According to Green Car Reports.com, 63% of millennials are likely to consider an EV for their next car, and Gen Z is even more likely to crave an EV. EV charging stations on campus will get plenty of use, now and in the future, as more and more students bring their own EVs to campus.

Colleges and universities are often major employers and have a large carbon footprint, which can be reduced by encouraging the many people who drive to their campuses every day to drive EVs and carpool.

EVs and chargers are also educational. Young people are often excited to learn about sustainability. Even for students who do not bring their own EVs to campus, the installation of the EVSE and how it works could be part of a campus-wide green initiative project.

MULTI-UNIT DWELLINGS

Your residents need EV charging stations

The market for plug-in electric vehicles grows every month – and with it, the need for more places to charge. Residents are increasingly requesting electric vehicle charging stations be available in the multi-family properties they call home – or want to call home.

FLEETS

The industry expert in EV fleet charging solutions

With more electric vehicles on the road and the expanding need for sustainable fuel options for commercial fleets, we are working to expand the charging infrastructure for this growing market. From start to finish, we provide an end-to-end solution.

MUNICIPALITIES

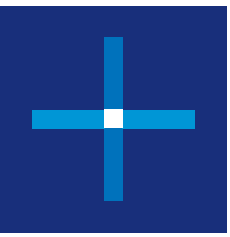
Make your city more attractive for residents

Cities and municipalities that will invest in EV charging, will encourage and enable the use of EVs, making their city more attractive for their residents. They will be investing in the health and quality of life of their citizens and will provide a healthy environment for children and for future generations. These compelling surroundings will also save inhabitants' money, which can be used for recreational activities in the city, that will turn into taxes that benefit the city.

RESEARCH

Innovate, even in the parking lot

It takes an innovative client to push the boundaries of scalability and power management to build for the future of electric vehicles.



On-site system provides
fast, reliable data management.

INTELLIGENT SOFTWARE

Powered by Smart Design

At the core of every PowerFlex installation is the ALM software algorithm that connects and controls all charging stations and other monitored loads. ALM is built around a quadratic solver that is designed to gather inputs and assign loads to individual stations.

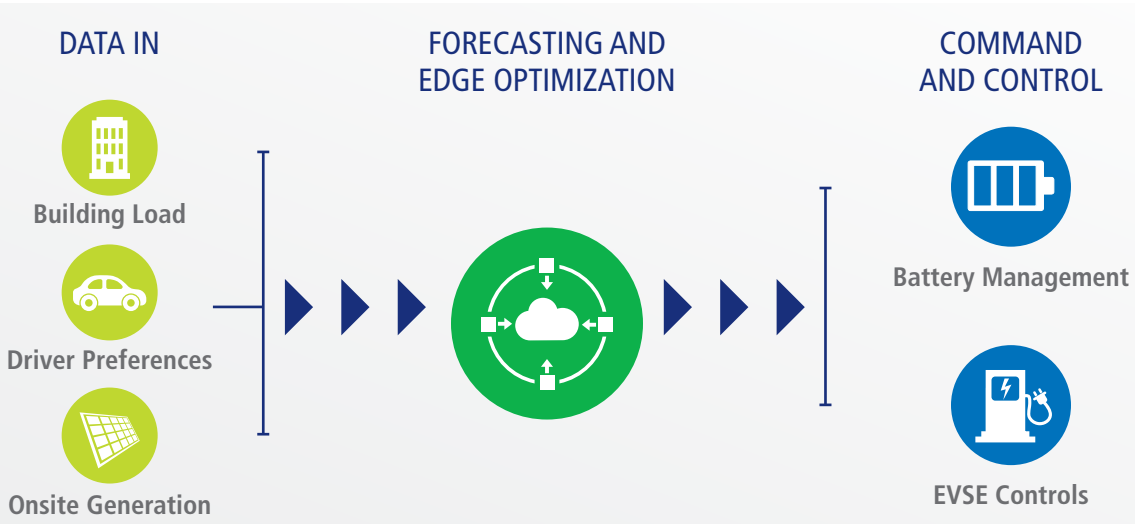
The software is run on a local Jetway computer at each site, allowing for responsive and reliable data computation and transmission.

LOAD MANAGEMENT CONTROLLER (LMC)

The PowerFlex Load Management Controller (LMC) is the brain of the charging network. With an integrated computer, hard drive, and network hardware, it runs the PowerFlex Software solver locally, i.e., it does not rely on a virtual or remote computer to maintain operation of the EV charging stations.

With this powerful computer on-site, the load management controller provides fast, reliable data management that can control all charging stations at one time. By sending out signals to each station, it controls the entire power supply across the field of active EV charging stations, stores the data, and pushes it to the cloud for backup at regular intervals.

While the charging stations are all programmed to operate in accordance with the commands sent to it from the load management controller, they also have a "fallback" or safety setting in case the stations lose contact with the LMC. This ensures the stations will never exceed the power capacity of their main electrical feed even if the LMC is not working.



LMC FEATURES

- Communications via cellular or hard-wired ethernet
- Supports either mesh network or equipped EVSE
- Intel Core i5-6300U, 2.4GHz processor with 500GB SSD and 32GB of RAM
- 120VAC-240VAC
- Max power consumption 50W
- 20 lbs
- 19.5" x 17.5" x 10"
- Molded fiberglass reinforced polyester enclosure
- NEMA Type 3R, 3RX/IP 24 rated
- Thermostat controlled heating and cooling
- ETL certified

Selecting a PowerFlex Adaptive Charging Network for your new building or retrofit project will allow you to have up to 100 EV charging stations without adding costly utility service upgrades in the future.

Load Management

With our PowerFlex Analytics package you can monitor all your electrical assets through a revenue-grade meter provided by PowerFlex. This meter provides detailed information about all your electrical loads in real-time, allowing you to make informed business decisions that can save you money including your peak demand charges. Integrated with EV charging, this gives customers the ability to reduce EV charging loads in real-time to provide available power to other resources.

HARDWARE

- **CTs to display/monitor electric loads**
- **Revenue-grade meter**
- **On-board computer for real-time data analysis**
- **1 Camera for real-time security and occupancy information (more cameras available at an additional cost)**

DIGI XBee3™ Zigbee RF Modules

DIGI XBee3™ Zigbee RF Modules provide a small smart IoT end-node for applications that need to acquire and process data at the end device and send only actionable data upstream in the network. DIGI XBee3 modules are fully integrated, certified and ready to connect to wireless mesh networks. The XBee3 is ideal for providing RF connectivity for short range and LPWAN applications. The XBee3 can be used for applications that require small, efficient design, and need-control logic at the endpoint to eliminate separate microcontrollers.

The modules offer flexibility to mesh network enabling and require little-to-no configuration or additional development. In a mesh network, nodes are interconnected so that multiple pathways connect each node. Connections between nodes are dynamically updated and optimized through a sophisticated, built-in mesh-routing table. The wireless software is isolated so that applications can be developed with no risk to RF performance or security.

XBee3™ Zigbee RF Modules offer dependable wireless, multi-path access to the self-healing mesh network to ensure reliable connectivity of your PowerFlex EVSE Charging system.

The Zigbee self-healing mesh network operates on the 2.4-2.5 GHz band within one of 16 channels. The Zigbee modules allow the EVSE to connect to the network without a hardline or hardwire connection. Mesh networks are decentralized in nature; each node is capable of self-discovery on the network. Also, as nodes leave the network, the mesh topology allows the nodes to reconfigure routing paths based on the new network structure. The characteristics of mesh topology and ad-hoc routing provide greater stability in changing conditions or failure at single nodes.

Facility Manager Dashboard and Portal

The PowerFlex Facility Manager Dashboard delivers the power and data needed to make informed business decisions, track charging station usage, create energy reports, send data to stakeholders, and monitor usage across all the charging stations. In addition to data visibility, there is also a management portal where you can claim charging sessions for guest users or shut down charging sessions when necessary.

DASHBOARD

- **Monitors energy usage for any time interval**
- **Displays electrical capacity vs utilization**
- **Monitors charging station operation**
- **Shows which charging stations are in use**
- **Identifies any peak demand instances**
- **Allows PowerFlex to diagnose potential issues in real-time**

Driver App

The PowerFlex mobile app is an intuitive key to charging a vehicle. While not required, most system managers use the app to allow their users to create a login and verify themselves each time they want to use a charging station.

FIRST-TIME SETUP

1. Download and install the PowerFlex app on your smartphone.

2. Launch the app and tap "Tap here to sign up!" to create your account.

   NOTE: Drivers who use access-controlled charging stations (such as workplace chargers) must use their organizational email address.

3. Enter the Year, Make and Model of your primary EV. (See figure 1). This information will help PowerFlex optimize charging based on your vehicle's specifications, and will be saved for future charging sessions. You can add additional vehicles from Settings > My Vehicles.

Figure 1

Driver App

FIRST-TIME SETUP

4. Set your charging preferences for your typical charging session. You can update these settings later if your needs change. (See figure 2.)

5. Tap the gear icon at the lower right of the screen to reach the Settings page, and tap the banner that says "Please verify your email address." (See figure 3.)

   A code will be emailed to you to confirm your address in the app. If you don't receive it after a few minutes, check your spam folder.

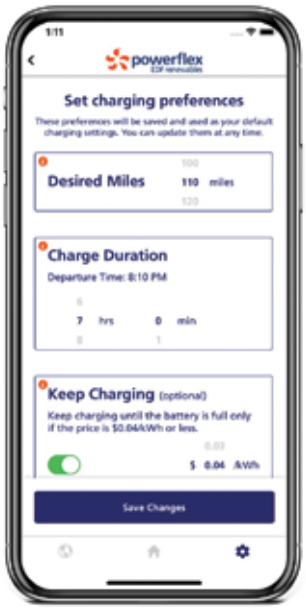


Figure 2

Figure 3

IMPORTANT: You must confirm your email before your first charging session.

ADDING FUNDS

1. Tap on the gear icon at the lower right of the screen. (See figure 4.)

2. Tap on Add Funds. (See figure 4.)

3. Enter an amount to add to your mobile wallet, choose a payment method and tap “Submit”. Tap “Done” to return the Settings page. (See figure 5.)

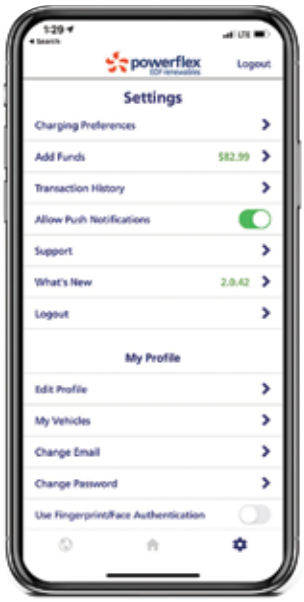


Figure 4

Figure 5

Driver App

CHARGING YOUR CAR

1. Launch the PowerFlex app. From the Scanning Screen, verify the car selected is the car you wish to charge, then scan the QR code on the station. (See figure 6.)

   If you charge both Fleet and Personal Vehicles, toggle the fleet mode switch ON or OFF depending on which vehicle you wish to charge (See figure 7). See the "Fleet Charging" section of this guide for more details about how to charge your fleet vehicle.

   If your camera is not functioning, you can enter the QR code manually from this screen). (See figure 6.)

2. Connect your vehicle to the charging station.

Figure 6

Figure 7

CHARGING YOUR CAR

3. Next, your charging session status screen will appear and charging will begin. (See figure 8.) Tap the Settings Adjustment icon if you wish to adjust your charging settings from your previously saved preferences.

4. To end your charging session, simply unplug your vehicle.

Figure 8

Driver App

FLEET CHARGING

1. To charge a fleet vehicle, you must be signed into your PowerFlex account with your employee email.

2. When you're ready to charge the fleet vehicle, make sure Fleet Mode switch is toggled ON (green). (See figure 9.) NOTE: Drivers who only charge fleet vehicles will not see a Fleet Mode switch.

3. Next, scan the QR codes on both the vehicle you wish to charge *and* the charging station you will be using. You may scan them in either order. The app will inform you of each successful scan. (See figure 10.)

Figure 9

Figure 10

FLEET CHARGING

4. Your charge session will begin. To end your session, simply unplug your vehicle and return the charging handle to the station.

IMPORTANT: It is not necessary to use the "Add a Vehicle" feature to add any fleet vehicles to the app. PowerFlex will automatically acquire all necessary vehicle info from the scan of the vehicle's QR code.

PAYMENT PROCESSING

PowerFlex uses Braintree payment processing to manage transactions with customers through its mobile app. When usage of charging stations is free at a site, no payment information is needed from the customer. When there is a site charge to use its charging stations, PowerFlex collects the revenue through its app and then reimburses the site host who is paying for the electricity.

MONTHLY REPORTING

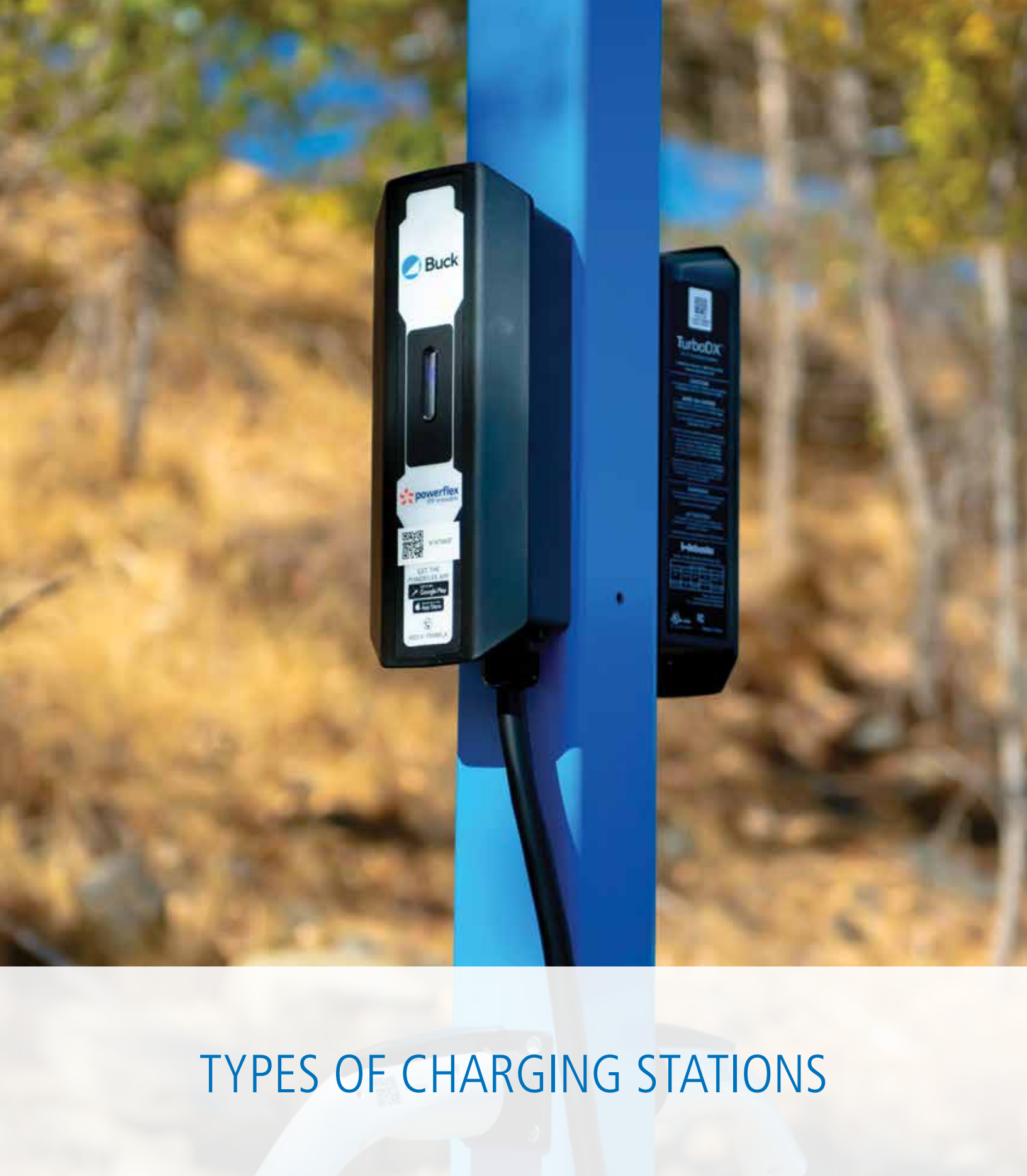
Using a customized Facility Manager Portal, you can easily create automated reporting for all the data provided in your customized PowerFlex dashboard.

Open Charge Point Protocol (OCPP) 1.6

Open Charge Point Protocol (OCPP) is a standardized industry framework for the information architecture and communication for EVSE and network providers (e.g., PowerFlex).

Additionally, by using the OCPP standard framework, PowerFlex can use a customer's existing compatible OCPP EVSE for upgraded Smart Charging deployment.

Finally, with the ALMS, PowerFlex can expand the number of ports on existing sites by retrofitting them for network connectivity with XBee modules and bring a cost-saving, load-managed, smart-charging solution to a previously unconnected site.



TYPES OF CHARGING STATIONS

Charging Devices

PowerFlex integrates most brands of charging devices currently available. The following are a selection of popular Level 2 and Level 3 EV charging devices, compatible with the PowerFlex system.

Level 2 chargers operate on an input voltage of 208-240V AC and come in a variety of amperages typically ranging from 16 amps to 80 amps. The two most common Level 2 chargers are 16 amps (3.3 kW) and 30 amps (7.2 kW).

The following are examples of just some of the popular chargers that work well with the PowerFlex system.

	PF Turbo DX	PF HCS	PF Tesla
			
Current Rating (Amp)	32	48	12-80
Input Voltage (V)	208, 240	208, 240	208, 240
Max. Output (kW)	7.7	11.5	16
Circuit Breaker Rating (Amp)	40	60	20-100
Coupler	J1772	J1772	Tesla
Ports	1	1	1
Cable Length (Feet)	15, 25	25	8.5, 24
Display	None	None	None

The PowerFlex EV **Load Management Technology is integrated into all available charging stations,** providing connectivity through the Zigbee mesh network.

PF Delta AC Max	PF Delta WallBox DC	PF Tritium Veefil-RT	PF Delta City Charger
			
48, 80	40-165	70	129
208, 240	208, 240, 480	480	480
11, 19	25	50	100
60, 100	90, 165, 40	90	175
J1772	SAE Combo, CHAdeMO	SAE Combo, CHAdeMO	SAE Combo, CHAdeMO
1	2	2	2
16.5	13	14	13, 19, 25
None	Yes	Yes	Yes

PF Turbo DX

Designed to be a sturdy, reliable charger, the slim Turbo DX incorporates the latest state-of-the-art safety features. It includes leak and thermal detection, auto-restart and recovery, and ground detection against faults. The charger has a durable aluminum rear enclosure. It is UL and cUL listed and safe for both indoor and outdoor use.

Turbo DX is a simple plug-and-play solution for charging requirements.

KEY FEATURES

- **State-of-the-art safety features**
- **Slim compact design**
- **Durable aluminum rear enclosure**
- **Quick read status indicators**
- **Fully potted electronics reduces the risk of thermal shock, thermal dissipation, and static shock**
- **Revolutionary leakage and thermal detection**
- **“Auto-Reboot” for issues during self-check process**
- **“Auto Recovery” if changes in temperature or voltage is detected**
- **Missing ground detection**
- **UL and cUL certified**
- **Easy to use, simply plug in and charge**

TECHNICAL SPECIFICATIONS

Spec	TurboDX 16A	TurboDX 32A
Voltage	208 – 240 VAC (Split Phase or Phase Ground)	
Current	16A	32A
Circuit Breaker Rating	20A	40A
Frequency	50-60Hz	
Maximum Power Output @240V	3.8kW	7.7kW
Cable Length	up to 25 ft (7.62m) available	
Weight	7.75lbs (3.5kg)	12lbs (5.5kg)
Dimensions	12" x 5" x 3.5" (approximate)	
Storage Temperature	-40C (-40°F) to +60C (140°F)	
Operating Temperature	-40C (-40°F) to +55C (131°F)	
Indoor / Outdoor	Yes | Type 4 (IP66) enclosure	
Relative Humidity	Up to 95% non-condensing	
Charge Coupler	SAE J1772 compliant	

PF HCS-40

The HCS-40 is a cost-effective Level 2 charger that operates on 208 three-phase or 240 single-phase Vac and delivers up to 7.7 kW while charging. The 25-ft cord provides ample reach for convenient charging. The unit is designed to take the wear and tear of everyday use. The NEMA-4 watertight, rugged enclosure provides safe outdoor installation and protection. It can be wall or pedestal mounted.

KEY FEATURES

- **Three-year warranty**
- **Install hardwired or plug in**
- **Indoor/outdoor rated fully sealed (NEMA 4) enclosure**
- **Operating temperatures: -22°F to 122°F (-30°C to 50°C)**
- **ETL, cETL Listed**
- **SAE J1772 compliant**

TECHNICAL SPECIFICATIONS

Spec	HCS-40
Charging Power	32 Amp (7.7kW max)
Product Dimensions	19.7"L x 8.9"W x 5.3"D
Product Weight	13.5 lbs
Installation	Hardwired (3 foot service whip provided)
Supply Circuit	208/240V, 40A
Warranty	3 years
Charge Cable Length	25 feet
Vehicle Connector Type	Lockable SAE J1772
Accessories Included	SAE J1772 Connector Holster (wall mount); Connector Lock and Keys
Enclosure	Fully Sealed NEMA 4
Environment Rating	Indoor/Outdoor rated
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Certifications	ETL, cETLus, ENERGY STAR®
Country of Origin	United States of America

PF Tesla

Tesla Wall Connector (Generation 2) includes an 8.5-foot cable – and 18 ft cable is available as an option. This lightweight connector is one of the company's most popular units. This EVSE charges only Tesla-compliant vehicles. Its 1.5 kW output provides up to 44 miles of range per hour. The actual output can be adjusted. It is approved for indoor and outdoor use.

The Tesla Wall Connector is UL approved. Wi-Fi connectivity enables over-the-air firmware updates and remote service if necessary. With customized power settings, the lightweight design allows for versatile indoor/outdoor use, including a range of electrical systems and mounting options.

KEY FEATURES

- **Up to 44 miles (77 km) of range per hour of charge**
- **Compatible with Model S, Model 3, Model X and Model Y**
- **Up to 11.5 kW / 48 amp output**
- **Customizable power levels on a range of circuit breakers**
- **Compatible with any home electrical system**
- **Wi-Fi connectivity (2.4 GHz 802.11 b/g/n)**
- **Approved for indoor and outdoor installation**
- **Lightweight 18' (2.6m) cable length**
- **Tempered white glass faceplate**

TECHNICAL SPECIFICATIONS

Wall Connector Technical details			Charge Speed Max miles of range per hour of charge			
Circuit breaker (amps)	Maximum output (amps)	Power at 240 volts (kilowatt)	Model S (mph)	Model 3* (mph)	Model X (mph)	Model Y (mph)
60	48	11.5 kW	34	44	30	42
50	40	9.6 kW	29	37	25	36
40	32	7.7 kW	23	30	20	29
30	24	5.7 kW	17	22	14	21
20	16	3.8 kW	11	15	8	14
15	12	2.8 kW	7	11	5	10

*Maximum charge rate for Model 3 Standard Range is 32A (7.7kW) - up to 30 miles of range per hour.

PF Delta DC Wallbox

The Delta Group is an established brand with more than 40 years of expertise in power technologies. The energy efficient DC Wallbox EV charger has an output power of up to 25kW and 94% efficiency standard output. Its communication functions and RFID user authentication can support both public and private charging applications for workplace, apartment, condominium, hospitality, and retail solutions.

KEY FEATURES

- **Speed: 25kW output, can charge at rate of 100 RPH (miles of Range Per Hour)**
- **Slim design with wall mount and stand options**
- **Network: Various communication platforms available**

TECHNICAL SPECIFICATIONS

Feature	Spec	Delta DC Wallbox
Power Input	Input Rating	(1) 240/277Vac; 60Hz; Single-phase / L1, L2, PE or L, N, PE (2) 480Vac; 60Hz; Three-phase / L1, L2, L3, N, PE (3) 208Vac; 60Hz; Three-phase / L1, L2, L3, PE
	Upstream Breaker	(1) 165A (2) 40A (3) 90A
	Power Factor	>0.98
	Current THD	Compliant with IEEE 519
	Efficiency	94%
Power Output	DC Output #1	SAE J1772 DC Level 2, 200-500 Vdc, 65 A max., 25kW max.
	DC Output #2	CHAdeMO, 50-500 Vdc, 60A max., 25 kW max.
Protection	Protection	Over current, Under voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault
User Interface & Control	Display	2.7" OLED screen
	Support Language	English (Other languages available upon request)
	Push Buttons	Multi-functional buttons (LED light: Orange, Blue) / Emergency stop button (Red)
	Charge Options	Charge options to be provided upon request: Charge by duration, Charge by energy
	User Authentication	ISO/IEC 14443 Type A/B RFID for user authentication
Communication	Network Interface	Ethernet (standard); 3G (optional)
Environmental	Operating Temperature	-22°F to +122°F (-30°C to +50°C)
	Storage Temperature	-40°F to +185°F (-40°C to +85°C)
	Humidity	<95% relative humidity, non-condensing
	Altitude	Up to 6500 ft (2000 m)
Mechanical	Ingress Protection	Type 3R
	Enclosure Protection	IK10
	Cooling	Forced air
	Charging Cable Length	13 ft. (4 m)
	Dimension (WxHxD) / Weight	27 x 17 x 9 in. (680 x 430 x 230 mm) 104 lbs (47kg), excluding plug and cable
Regulation	Certificate	UL, cUL, UL 2202, UL 2231

PF Delta AC Max

The Delta AC MAX is a smart AC charger supporting a maximum 22kW output and a global charging interface. With IP55/IK10 and compact design, AC MAX provides high adaptability to outdoor and space-limited sites. By supporting ISO 15118, network connectivity and compatibility with OCPP, AC MAX is fully interoperable for system integration and can be an ideal solution for commercial and fleet charging sites.

KEY FEATURES

- **22kW AC charger improves parking turnover**
- **RFID and ISO 15118 authentication for user management**
- **Low standby power consumption for energy saving**
- **Either wall or pedestal installation provides high adaptability**

TECHNICAL SPECIFICATIONS

Feature	Spec	EVAAU	EVAAE	EVAAG
Power	Output Power	9.6 kW, 19.2 kW	7.4 kW, 11 kW, 22 kW	7.4 kW, 11 kW, 22 kW
	Output Interface	SAE J1772	(1) IEC 62196-2 Type 1 or Type 2 tethered plug (2) IEC 62196-2 Type 2 Socket (3) IEC 62196-2 Type 2 Socket with shutter	G/T 20234.2
User Interface	User Authentication	ISO/IEC 14443 RFID card reader		
Communication	Network Interface	Ethernet, Bluetooth, WLAN, Cellular		
	Protocol	OCPP1.SS, OCPP 1.61, upgradable to OCPP2.0		
Mechanical Design	Dimension	218 x 371 x 167 mm (8.6 x 14.6 x 6.6 in.)		
	Weight	3.8 kg (8.3 lbs)		
	Installation Options	Wall mounted, stand		
Available Region		America	Europe, Australia, New Zealand, Southeast Asia	China

PF Delta City Charger DC

DC City Charger is an ideal solution for high-efficiency urban charging service. It supports simultaneous charging output and load distribution to optimize the utilization rate of the charging site. DC City Charger is compatible to OCPP which allows further backend system integration like user management, remote control and energy management.

Delta's EV Charging Solutions feature RFID and mobile app user access, which make these EV chargers ideal for various commercial applications like EV parking and fleet charging.

KEY FEATURES

- **50kW/100kW simultaneous charging**
- **Dynamic load distribution optimizes charging service**
- **RFID, credit card and ISO 15118 user identification**
- **OCPP and network connectivity enables system integration**
- **Modular design ensures high availability**
- **IP55 and small footprint provides high adaptability**
- **94% power efficiency for energy saving**

TECHNICAL SPECIFICATIONS

Feature	Spec	EVHE503	EVHU503	EVHE104	EVHU104
Power Input	Efficiency	≥ 94% @400 Vdc, full load, Peak 95%			
Power Output	Output Interfaces	CCS2, 50-1000Vdc, 125A max. CHAdeMO, 50-500Vdc 125A max. IEC 62196-2 Type 2 Socket, 400Vac, 3 Phase, 32A max.	CCS1, 50-1000Vdc, 125A max. CHAdeMO, 50-600Vdc, 125A max.	CCS2, 50-1000Vdc, 200A max. CHAdeMO, 50-500Vdc 125A max. IEC 62196-2 Type 2 Socket, 400Vac, 3 Phase, 32A max.	CCS1, 50-1000Vdc, 200A max. CHAdeMO, 50-600Vdc, 125A max.
	Output Power	DC 50kW AC 22kW	50kW	DC 100kW AC 22kW	100kW
User Interface	User Authentication	ISO/IEC 14443 RFID card reader			
Communication	Network Interface	Ethernet, WLAN, Cellular			
	Protocol	OCPP1.61, upgradable to OCPP2.0			
Mechanical Design	Dimension	1500 x 800 x 590 mm (59.1 x 31.5 x 23.2 in.)			
	Weight	290 kg (639 lbs)		360 kg (722 lbs)	
	Installation Options	Stand alone			
Available Region		Australia, New Zealand, Southeast Asia	North America	Australia, New Zealand, Southeast Asia	North America

PF Tritium Veefil-RT

The Tritium Veefil-RT is a reliable, robust electric vehicle fast charger with an attractive design, that is easy to own and operate.

Veefil-RT has the world's smallest footprint for an electric vehicle fast charger, offering owners greater flexibility in the choice of installation locations. The Veefil-RT fits well into compact spaces and existing structures. The Veefil-RT offers reduced set-up costs and a faster installation time, so charging services can be offered sooner.

The Veefil-RT is liquid cooled which controls heat and reduces wear on internal components. It is designed for optimal functionality over a wide range of environmental conditions, including temperature, humidity, and corrosive conditions.

KEY FEATURES

- **The world's smallest footprint DC charger for flexible site location options**
- **Easy and quick to install for faster return on investment**
- **Supports a wide range of grid voltages**
- **Designed to thrive in any environmental condition or temperature range**
- **Access to real-time data**
- **Customizable branding**
- **Liquid cooling**
- **Slim, compact, stylish design**
- **Reduced install cost**
- **Increased reliability**
- **Durable UV resistant exterior**
- **Low maintenance**

TECHNICAL SPECIFICATIONS

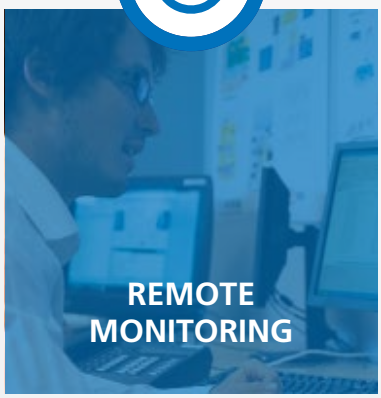
Spec	HCS-40
Connectors	CHAdeMO and CCS (Type 1 or 2) Up to 50kW
Power	380 - 480 V AC 3ø
Supply Input	50-60Hz
Supply Frequency	RT50/50kW
IP Rating	SPECIFICATIONS
Efficiency	IP65
Power Factor	>94%
Maximum Operating Altitude	0.99
Operating Temperature	2000m (6560')
Maximum Operating Altitude	-35oC to 50oC (-31oF to 122oF)
Storage Temperature	-55oC to 80oC (-67oF to 176oF)
Network Connection	3G/4G and Gigabit Ethernet
RFID	MIFARE ISO/IEC14443A/B, ISO/IEC15693, ISO/IEC18000-3, FeliCa, NFC, EMV 2.0
Credit Card Reader	Optional
Communication Protocol	OCPP 1.6J
Weight	167kg (369 lb)
Electrical Protection	Short circuit; Over voltage
Dimensions	2000 (6’7”) (H) x 750 (2’6”) (W) x 330 (1’1”) (D) mm
Freight	24 units per 20’ container
Certification	CE, UL, CHAdeMO, RCM, FCC

Remote monitoring and add-ons
enhance system performance.

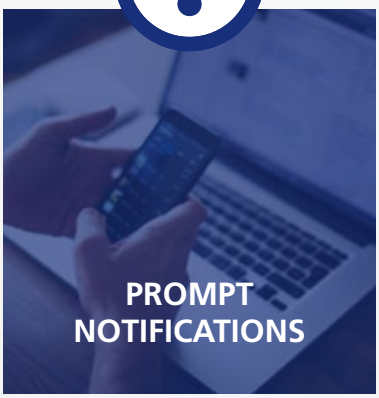
EV SYSTEM INSTALLED: NOW WHAT?

EV System Installed: Now What?

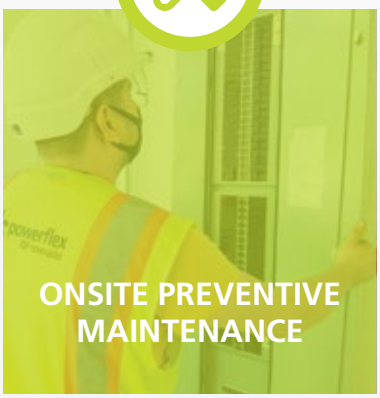
PowerFlex will have 24/7 eyes on your EV charging network through a robust remote monitoring system.



PowerFlex continuously monitors the network and charging stations associated with the Project



Users are notified of major outages identified via remote data analysis



PowerFlex network and charging station maintenance is performed up to twice annually, upon request by customer

Add Ons

PEDESTAL

Want to customize the color of the charging pedestal to match your brand? No problem, we've got you covered.

Add Ons

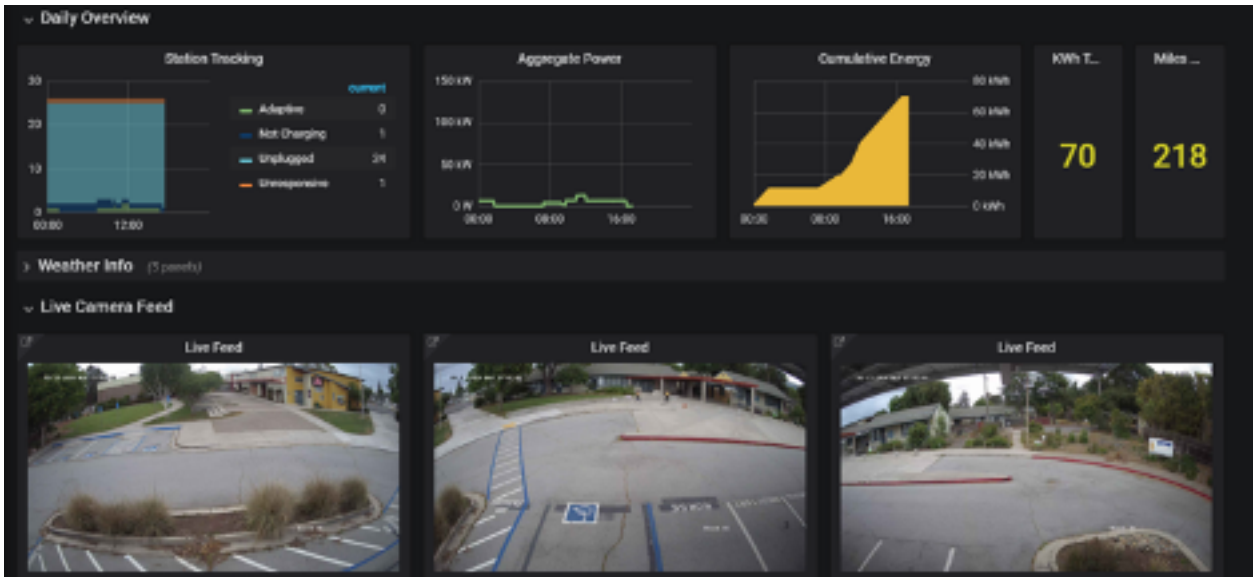
CUSTOM FACE PLATES

Brand is everything. Show your environmental consciousness with custom faceplates for your EV charging stations. You can simply add your logo or use your brand colors as a background with a white logo. The sky is the limit when it comes to the types of custom faceplates we can design.

Add Ons

PARKING AREA CAMERA SURVEILLANCE SYSTEM

Want to keep an eye on occupancy or congestion in your parking lot or prevent vandalism? PowerFlex has an integrated camera solution that allows you to view your charging stations in real-time from anywhere. The best part: it is stored with all your other data on your customized dashboard.



Add Ons

MULTI-FUNCTION PAYMENT KIOSKS

While most electric vehicle drivers today have smart phones and pay for their charging through this device, Senate Bill 454 in California has the potential to change the way people are able to pay in the future. To meet the potential requirements laid out in Senate Bill 454, PowerFlex offers an "all-in-one" kiosk that can support any kind of payment, including credit cards. While this is not a requirement at all sites, it can be implemented upon request.

Add Ons

DIGITAL SIGNAGE

Have a large parking garage with a lot of traffic? Help guide users to the right floor and location using one of our customized dashboards that we install at entrances and other key locations throughout your parking garage. This will help users know as soon as they enter the garage where they can find an open space with an EV charging station available.

Add Ons

EDUCATION AND EXPO

Want to showcase your new charging stations and teach your employees or tenants about electric transportation? PowerFlex is an expert in all things electric vehicles and can host an EV expo in your parking lot or auditorium. We do expo events, test drive parties, and more!

Get in touch

For EV charging station support, call **833-4-PWRFLX** or email **support@powerflex.com**.

(650) 469-3392

Los Altos, CA 94022

info@powerflexsystems.com

App Instructions

powerflex
EDF Renewables

Photo credit: J. Dixx Photography

2-2021