

FUEL FORCE EV

Integrated Management of EV Charging Systems

FF 814-EV Power Controller



FuelForce® Advantages:



Durable and
Reliable Hardware



Secure Authorization
and Reporting



Wireless Data &
Reporting Access

Brought to you by

MSC **MULTIFORCE**
SYSTEMS CORP
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Common Fleet EV Charging Problems

Fleet managers face the same difficult challenges when it comes to accurately tracking fleet fuels and the associated costs:

Determining Actual EV Charging Costs

Most fleet managers know the total fuel costs they face. EV charging costs, however, end up buried in an organization's utility bill. Power prices vary daily, with peak, partial-peak, and off-peak tiers, and seasonal differences. Additionally, utilities assess demand charges for peak usage, presenting a whole new cost capturing challenge.

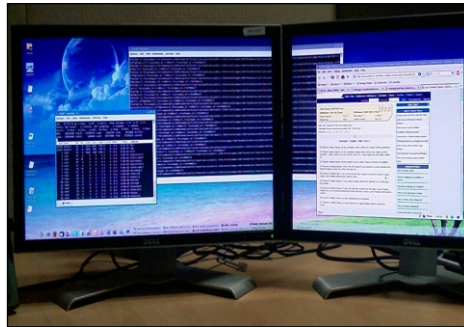


"FuelForce delivers a quality product that we can always count on and has consistently been there in order for us to deliver our important business fueling requirements."

— Todd Richardson
Director, Fleet Management at City & County of Denver

Disparate Systems for Fuel and EV Management

Fleet managers deploying electric vehicles face the challenge of managing all of the costs to fuel and power their fleets. While some EV charging manufacturers can provide charging data, managing the combined standard fueling and charging data must be done through disparate systems, with separate reporting, maintenance, and training.



Long Charging Timeframes Present a Paradigm Shift

A 20 gallon gas tank takes about 3-5 minutes to fill at the gas pump. A basic Level 2 vehicle can take from 4-6 hours to charge. Fleet Managers and EV Drivers need the ability to monitor the charging status and could benefit by the ability to reserve stations for the next "round" of charging. This is a completely new problem for fleet managers.



"We have had Fuel Force in place for the last two years. It has been one of the best decisions we have made at our company. We now have control over our fuel. We can keep better track of where our fuel is, we can calculate our trucks MPG better, and we have put a stop to lost fuel."

— Cris Nichols
Controller at James A. Fulton & Sons

Transforming EV Power Management with FuelForce®

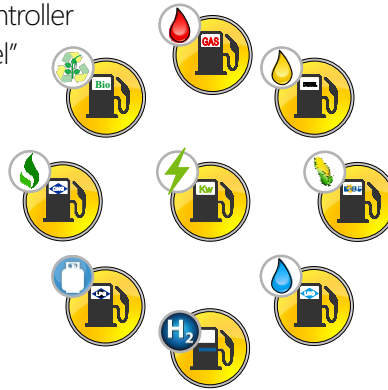
Your fleet charging and fueling operations are important. Trust our industry experts to help. With FuelForce® authorization and reporting solutions, you can solve these problems as well as have additional capabilities, such as web-based administration, proximity RFID devices, wireless communication, GPS, tank monitoring and more. Transform your power and fuel management with FuelForce® – the Premier Standard in Power and Fuel Management!

FuelForce® Fuel and Energy Management

The FuelForce® EV Platform is made up of both hardware and software components to provide a robust fuel/energy management solution. The hardware centers around the controller, the FuelForce® 814-EV. The controller provides verification and authentication to allow charging and to monitor and track the charging transaction. Once complete, the transaction is logged at the controller, capturing power consumption for electric vehicle charging by vehicle, driver, site, or department and can include the various utility billing tiers.

Managing Electricity as a "Standard Fuel"

The FuelForce® EV Platform is built upon decades of experience in managing fleet fuels of all types, from the standard petroleum based liquid fuels, to alternative bio-fuels, CNG, LNG, and Hydrogen. The FuelForce® 814-EV controller adds the management of electricity as a "standard fuel" for fleets with electric vehicles of all types. The result is that fleet managers have now at their fingertips the ability to manage the fueling authorization and administration of all fleet vehicle types, all from a single interface. Energy costs for fleets, including those with EVs, is now available in a single dashboard, with the industry's most powerful cloud-based administration and reporting.

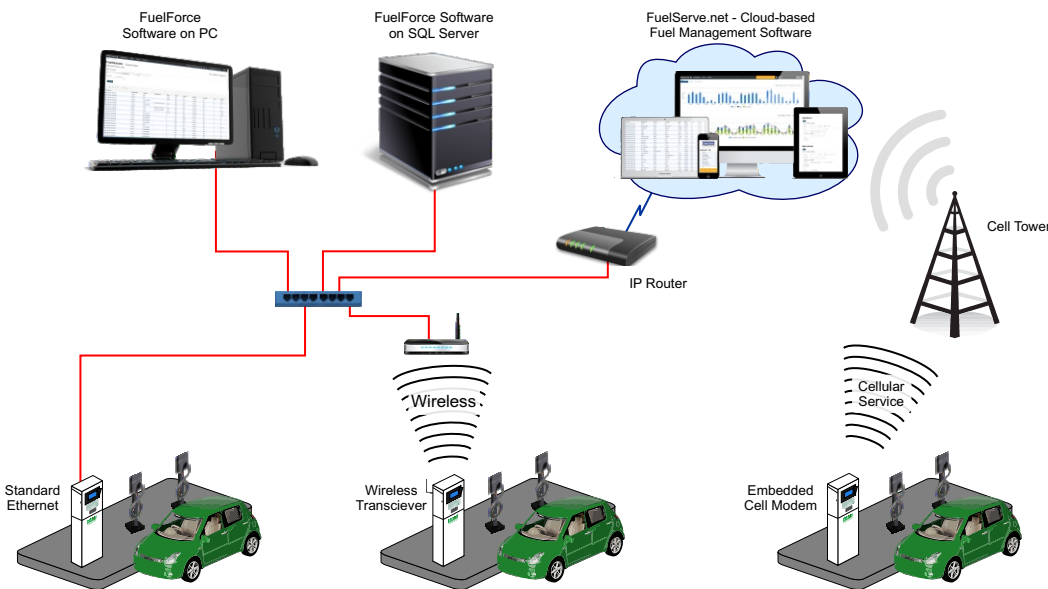


"Switching to FuelForce fuel management was one of the best things that could have ever happened to us."

— Bruce Bringham
Supervisor Vehicle Maintenance
Mesa Public Schools

Connectivity Options

The FuelForce® 814-EV Power Controller series gives you both wired and wireless connectivity options. Each controller comes with a standard ethernet port for attachment to a wired network or through a wireless transceiver. Most common, however, is the use of an embedded cell modem. Each of these options allows for connectivity to our FuelServe.net cloud-based management software as well as our FuelForce® PC and Server Software options.



"We have worked closely with FuelForce in order to develop an invoicing system that provides a turn-key operation for us. Forging a solid relationship was easily attainable right from the beginning and we are confident our relationship will continue to grow stronger in the future. FuelForce has been a company that has been extremely responsive in servicing our particular fueling requirements."

--Valerie Mellon
Director of Public Works
City of Menominee, Michigan

FuelForce® 814-EV Benefits

The FuelForce® 814-EV Advanced Power Controller allows drivers to utilize a keypad, key fob, proximity card, or an RFID-based automated identification approach to authorize and control the dispensing of electricity to fleet electric vehicles. As that power is dispensed, each transaction is logged and the system collects accurate and valuable usage and vehicle data for power accounting and fleet maintenance.

Integration of EV charging transactions with a fleets other fueling transactions is the primary benefit of the FuelForce EV system. The FuelForce® Fuel Management System can be implemented in stages, allowing you to add sites in sequence and to gradually replace or supplement your old system.



*"Best Product Ever!!
We have never been so happy with a product like this. We love the fact that we can get up to date information, giving us a perfect chance to get most accurate budgets possible.
Very user friendly."*

*— Mary McDermott
Shop Administrator at
Cleland Site Prep Inc.*

FuelForce® 814-EV Key Features

Authorization - By securing the charging locations, you determine the authorization criteria that fits your needs, based on vehicle, driver, and/or odometer checking.

Integration - FuelForce® permits data integration with your other fueling data. EV charging data can be reported along side gasoline, diesel, CNG, alternative bio-fuels, and so forth. Total fuel and electrical power costs can easily be allocated

to the appropriate driver or department. Additionally, FuelForce® permits data integration with your Fleet Management, HR, Accounting, and Facilities Management systems. Data is shared through a flexible import/export function with common file formats and ODBC interface connections.

Billing – With the FuelForce® system, EV charging costs can be accurately allocated to the appropriate accounts or departments based on your varying utility rates for Peak, Partial-Peak, and Off-Peak periods, allowing for the accurate reporting of electricity costs by account.

Security – You control all aspects of security including access to the fueling sites, access to the island terminal, access to sensitive data, and authorization for dispensing fuel. FuelForce's® physical design and flexible user/account-based protection provide for extremely secure fueling.

"The ease of use for FuelForce makes it a breeze to tabulate fuel usage at our school bus location. I definitely recommend it to anyone who needs to manage fuel usage."

*— Alberto Silva
Transportation
Coordinator at
Willingboro Schools in
New Jersey*

Why FuelForce® Energy Management?



Identify

Manually or automatically identify drivers and vehicles, reducing fuel theft and reporting misallocation.



Authorize

Authorize only valid drivers, valid vehicles, and/or valid odometer readings before dispensing fuel.



Measure

Accurately measure fuel dispensing transactions of all types, logging fuel data with precision.



Report

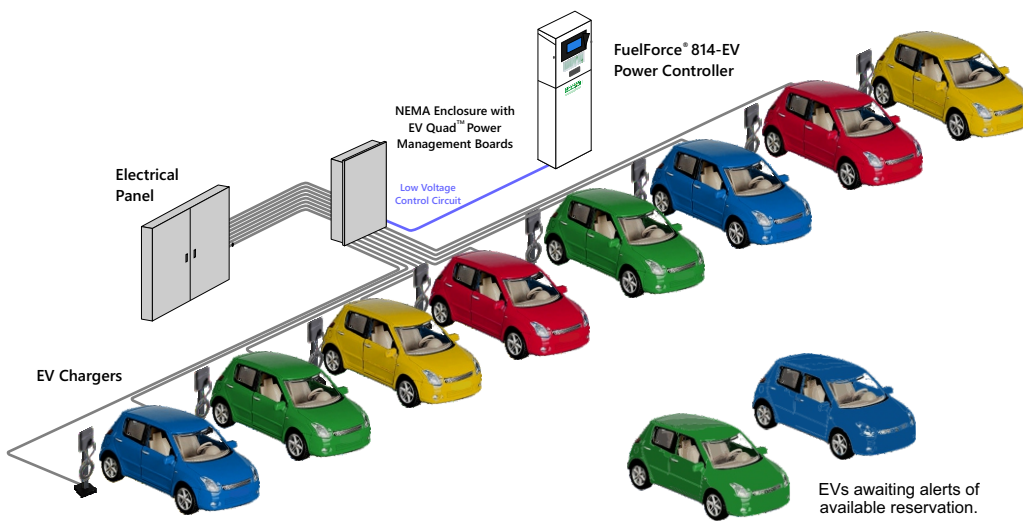
View standard and customizable reports for fuel usage across multiple sites and departments.

Configuration Options

The 814-EV provides a control point for electric vehicle fleets, eliminating unauthorized EV charging by validating each charging transaction and tying that data back to the driver, vehicle, or department. The 814-EV sits between a standard electrical panel and the EV chargers and both controls and measures the power used to charge electric vehicle fleets.

FuelForce® 814-EV Configuration

The 814-EV includes our EV Quad™ power management control boards, each capable of managing 4 charging circuits. The 814-EV can support up to 4 EV Quads™ for a total of 16 charging circuits under management.



"Very Pleased! Very easy to pull necessary data, especially for tax returns on our diesel fuel! Helped us tremendously for a particular lawsuit by the amazing tracking details this program provides. It is very useful for many different purposes!"

— Jessica Seney
Accounting at
South State, Inc.

Driver Alerts and Reservations

System Alerts

The 814-EV includes the ability to notify drivers or fleet managers with system alerts. A driver can enter their mobile phone number at time of authorization to receive charging status messages. The 814-EV will alert the EV driver when the process starts, ends, or is interrupted prior to completion.

12-Sep-17 12:19:33-
FuelForceEV charging started:
Your EV is drawing 24 Amps
from charging station 2.

Charger Reservation

When all the charging stations in the lot are in use, the unique FuelForce-EV™ reservation feature can alert the driver when a specific charging station is available. The driver can return to initiate their own EV charging session. Fleet managers can additionally allow the EV driver to reserve more than one charging station at a time, taking advantage of parking lot topology. The driver receives a text when the next charger nearby is free. Fleet managers can tune the minimum charging and reservation durations to maximize efficiency, minimize EVSE requirements, and elegantly inform and reassure EV drivers.

16-Nov-17 17:31:34-
FuelForceEV charging station 1
is now available! Your reservation
will expire in 5 minutes.

Multiple Identification & Input Options

Keypad

Available on all 814 configurations, a full alphanumeric keypad can be used to input Vehicle IDs, Driver IDs, odometer readings, etc.



Credit, Fleet, House Cards

With the Mag Stripe Reader option, drivers can use standard credit cards, fleet cards like Voyager and WEX, as well as customizable house cards. Contact us if you need a receipt printer.



Prox Keys & Cards

With the Proximity Card Reader option, drivers and vehicles can be identified and authorized with a prox key or card.



Vehicle Tags

With an RFID vehicle tag system, you can automate the identification and authorization of vehicles and drivers, saving time and money.



Bar Code Scanners

The 814 series controllers can be integrated with bar code scanners for a quick and cost-effective approach to identify drivers and vehicles.



"Our drivers tell us that this is the easiest system they have ever used. Here in the office, the system provided utmost accuracy and ease of use for billing and tracking purposes. Great system and great value for the money!"

*— Jenna Miles
Delivery Coordinator at
MW Sewall*

Specifications

- Functional at -20° to 140°F and 95% humidity
- Weather & corrosion resistant housing
- Solid state data storage
- Glare free hood design
- Full alphanumeric flat faced keypad
- Large 16 line, 48 character LCD backlit screen
- Remote diagnostics and system updates
- Powerful surge protection included
- Underwriters Laboratories approved
- 110V AC; +5V DC



FuelForce® Fuel Management Software

Single Dashboard to Manage All Aspects of Fleet Fueling

The FuelForce® Fuel Management Software platforms allows fleet managers to access fuel and power management tasks of all types from a single dashboard. Available as a cloud-based solution, or on a hosted-server or a standalone PC application, the FuelForce® software platforms provide flexible and thorough reporting.

Integrated Management of EV Charging and Other Fuels

The FuelForce® management platform polls the 814-EV and other FuelForce® controllers in its network and aggregates all of the charging as well as fueling data. The key here is the *unique ability* to provide the data for EV charging alongside the fueling data for all other types of fuels. Total fuel costs can be calculated and assessed to sites, departments, or even drivers. See the example report below:

EV Charging Data Integrated with Gasoline Fueling

Occurred	Department	Vehicle	Vehicle desc	Meter	Product	Quantity	Controller	Hose	Sequence
2017-09-19 15:00:11	60136	867		35849	URLL	19.56000	001	1	101432
2017-09-19 14:56:23	60158	867		35849	URLL	0.00000	001	2	101431
2017-09-19 14:46:43	(None)	EVCHARGER		0	KWH	1.83200	002	1	30
2017-09-19 14:19:45	60125	1315	FORD F250 PICKUP	19541	URLL	21.49000	001	1	101430
2017-09-19 14:02:28	(None)	EVCHARGER		0	KWH	0.26500	002	1	29
2017-09-19 13:58:33	60125	1159	REFUSE SCOOTER	3515	URLL	4.19000	001	1	101429
2017-09-19 13:56:59	60125	1159	REFUSE SCOOTER	3515	URLL	0.00000	001	2	101428
2017-09-19 12:56:09	60145	1077		44544	URLL	25.22000	001	1	101427
2017-09-19 12:55:14	(None)	EVCHARGER		0	KWH	0.00100	002	5	28
2017-09-19 12:53:26	(None)	EVCHARGER		0	KWH	0.00100	002	4	27
2017-09-19 12:51:29	(None)	EVCHARGER		0	KWH	0.00200	002	3	26
2017-09-19 12:49:28	(None)	EVCHARGER		0	KWH	0.00100	002	2	25
2017-09-19 12:48:13	(None)	EVCHARGER		0	KWH	0.00100	002	1	24

"Our Fuel Force system has been very easy to adapt to. It is extremely user friendly. All of our drivers have found it to be a quick learning curve. The online web host is very easy to set up as well. I can set up a new truck in less than five minutes, including job set up. If I ever have any questions, our Fuel Force representative is always there to help me through any difficulty. He is courteous and very responsive. Fuel Force has been a quality product of our operations. I am very glad that we chose them as our fuel partner."

—Cris Nichols
Controller at

James E. Fulton & Sons

FuelForce® Database & Reports

FuelForce® allows users to look at their data with the functionality of running daily, weekly, monthly, and yearly reports as well as custom timeframes.

The platform has the following features, among others:

- Tailorable database to include client requested information.
- Customizable reports that can be modified by all relevant fields, and set up for automatic report generation.
- 50,000 vehicle & driver capacity, with a simple process to add more.

FuelServe.net, Cloud-Based Fuel Management

Outsource your fuel management administration with FuelServe.net, a secure web-based solution. First released over 10 years ago, FuelServe.net is a premier web-based fuel management platform. View and manage your data from any device with a standard web browser and download your fuel reports *anytime, from anywhere*.

Local Hosted Alternative

Your organization may also choose to utilize our FuelForce® Fuel Management Host Software, available for your PC or SQL Server on any currently supported Microsoft Operating System version.

World-Class Customer Support

When you purchase a FuelForce® system, you are not only purchasing the premier fleet fuel management system available, you also have the support of a professional staff that is able to answer every question you may have.

To Contact Multiforce Customer Support:

Email: customersupport@fuelforce.com

Phone: (800) 257-9512

Hours: Monday - Friday

8:00 am to 8:00 pm EST

24 / 7 Support Plans Available

"Call support is great. Call back from customer service is timely and they always answer my questions. The ability to create specialty reports is a great feature."

—Brian Barwick
Controller at
Jess Howard Electric
Co.



To learn more or to setup a demo contact us:

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