# POSICHARGE™
## INTELLIGENT
## CHARGING SYSTEMS
FOR ELECTRIC MATERIAL HANDLING EQUIPMENT

CATALOG

# Contents

## PosiCharge Revolutionized Fast Charging
## Let us do the same for your operations!

Your operation needs to be high performance to meet the demands of today's fast-paced material handling operations. Downtime, wasted effort and accidents mean lost productivity – and lost money. Why not choose the charging solution that allows you to meet those demands, and expand effortlessly in the future?

With a full line of distributed forklift chargers that live across your facility where forklifts are used – not in a battery room – our PosiCharge series of premium intelligent chargers free up valuable real estate from battery rooms, and eliminate wasted time from battery changes.

From our full line of energy-efficient smart charging systems to life-extending and operation-saving battery and truck accessories – our mission is to enable your business to perform at its maximum.
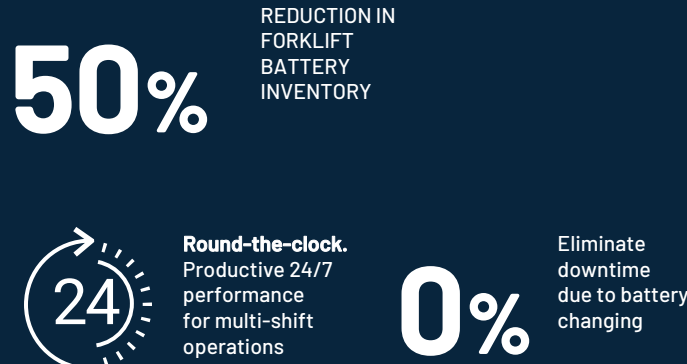
# WHY POSICHARGE?

## PERFORMANCE

- Our hands-off technology simplifies operations to the point where your drivers hardly have to think about charging.
- Intelligent charging gives each battery exactly the charge it needs.
- Closed loop gassing control allows precise charging to optimize battery performance and to eliminate gassing.
- Only outdoor-rated charger to have proven to be reliable in subzero / extreme weather.
- Multiport charging on a single circuit allows you to greatly reduce installation and construction costs. Chargers can also share power with other equipment at the jet bridge.

**MAXIMUM PERFORMANCE + INCREASED PRODUCTIVITY**

**50%** REDUCTION IN FORKLIFT BATTERY INVENTORY

**24** **Round-the-clock.** Productive 24/7 performance for multi-shift operations
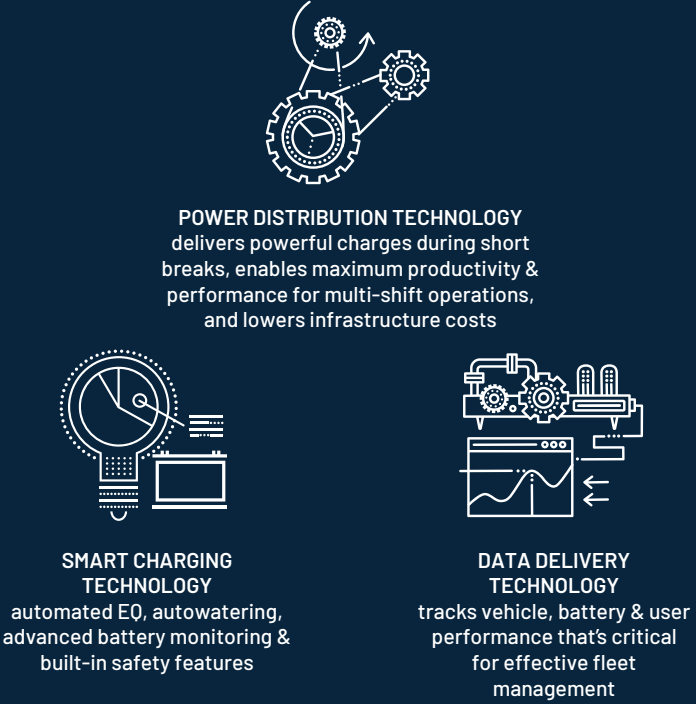
**0%** Eliminate downtime due to battery changing

**SIMPLER AND SAFER CHARGE + LONGER BATTERY LIFE**

## EFFICIENCY

- Hi-frequency, multi-voltage and modular chargers so that every battery gets the precise charge it needs in the shortest time without negatively impacting facility space.
- Only thermal management system for heavy use vehicles to maintain the optimal temperature, reduce charge times and extend the life of your batteries.
- Reduces your battery inventory by more than 50% and eliminates wasted facility space from battery changing or refueling.
- Automatic watering, battery reports and more features reduce man hours needed for daily operations and allows you to schedule maintenance before there's an issue.

### FULLY AUTOMATED INTELLIGENT SYSTEM

**POWER DISTRIBUTION TECHNOLOGY** delivers powerful charges during short breaks, enables maximum productivity & performance for multi-shift operations, and lowers infrastructure costs

**SMART CHARGING TECHNOLOGY** automated EQ, autowatering, advanced battery monitoring & built-in safety features

**DATA DELIVERY TECHNOLOGY** tracks vehicle, battery & user performance that's critical for effective fleet management

## INNOVATIVE SAFETY FEATURES

**CLOSED LOOP GASSING CONTROL** eliminates gassing during fast charging

**ANTI-ARC DISCONNECT** protects user & connectors

**AUTO THERMAL SHUT DOWN** direct temperature sensing protects battery from overheating

**BMID CONTROLLED EQ** allows battery to use any charger

## SAFETY

At PosiCharge, safety has always been our top priority. Designing for safety begins at the product concept stage and continues through manufacturing and training. Our intelligent charging technology removes problem areas and environmental factors that impact workplace safety across your operations.

- Anti-arcing technology and the exclusive advanced Connect RX™ protect your workers and equipment.
- First charger with automatic battery watering, so you'll reduce the chances of hazardous chemical spills.
- Intelligent Battery Protection Technology custom charges, monitors & protects any type of batteries, and extends battery life.
- PosiCharge eGSE chargers are the only fast chargers on the market that have been tested and certified to meet the most demanding requirements and regulations.
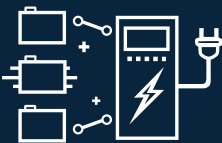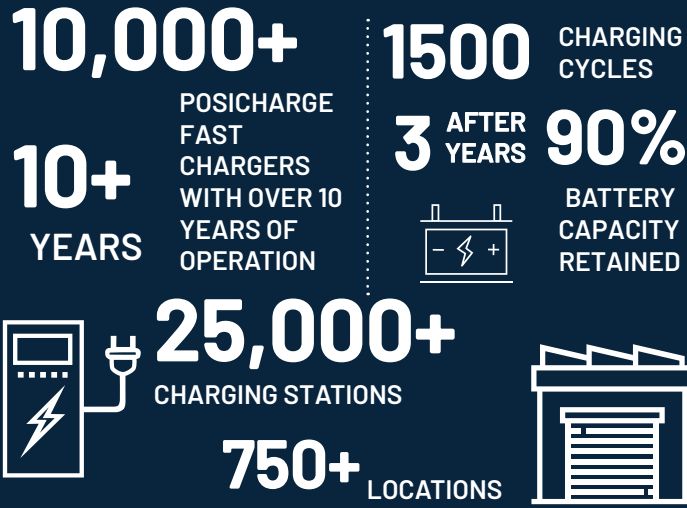
**BATTERY UNIVERSAL** advanced algorithms custom-charge, monitor & protect any type of batteries, and extend battery life

**FUTURE PROOF** CAN/PLC capability allows charging AGVs, robots and new battery chemistries such as lithium

**PROVEN TO EXTEND BATTERY LIFE IN THE LAB & IN THE FIELD**

**10,000+** POSICHARGE FAST CHARGERS WITH OVER 10 YEARS OF OPERATION

**10+ YEARS**

**1500** CHARGING CYCLES

**3 AFTER YEARS** **90%** BATTERY CAPACITY RETAINED

**25,000+** CHARGING STATIONS

**750+** LOCATIONS

## BATTERY EXPERTS

- One of the largest repositories of fast-charge battery data in the world thanks to our PosiNet battery management system.

- Dedicated battery lab where we test every size, voltage, type and manufacturer of battery on the market with PosiCharge systems.

- Tens of thousands of units delivered all over the world, from Fortune 500 corporations to the U.S. Military, gives us the practical experience and data to make industry-leading products.

## ProCore™

Intelligent Charging. Unparalleled Performance.

The PosiCharge ProCore™ Series is a premium intelligent charging family that supports and charges any material handling battery - regardless of type, brand, chemistry, voltage or size. From industry-leading fast-charging to opportunity charging, the ProCore and ProCore Edge deliver the unparalleled performance and efficiency that can only come from a trusted partner and pioneer in eMHE charging.

# ProCore Edge Series
## Intelligent Charging System
### For Conventional, Opportunity, and Fast Charging Operations



Minimum downtime thanks to high quality components and modular design

Future-proof your fleets with a modular, multi-voltage, battery-universal charger

## Intelligent Charging with Unparalleled Performance

The PosiCharge ProCore Edge™ charger is the latest addition to our intelligent charging family that supports a wide array of forklift batteries – of varying type, brand, chemistry, voltage or size.

ProCore Edge is built on the same technology that has earned our industry-leading fast-charge line the reputation for delivering reliability and extending battery life. Intelligent smart controls and a universal control board equips ProCore Edge with proprietary charge algorithms to optimize performance for lead acid and lithium batteries. ProCore Edge offers a value-oriented charging solution, which offers convenience, efficiency, flexibility, and affordability.

### Key Features:
- Communication with wireless BMID through Bluetooth
- Mobile app programming / Data download
- Future-proof technology - iOS Software Updater
- Universal controller with proprietary charge algorithms
- Reduced Arc Technology with anti-arc feature
- Hi-Frequency modular power stage
- Multi Voltage Range: 24-80V Lead, 24-96V Lithium
- LED Light Bar Status Indicator
- Comprehensive data analytics
- High efficiency
- Modular Design for Reliability & Scalability
- USB port to allow for detailed diagnostics and software uploading
- Backwards compatible with BMIDs

## Robust Features. Reliability You Can Depend On.

Low upfront costs allow for maximum ROI – while reaping the benefits of a smart charging system that improves the performance and efficiency of your electric forklift fleet.

With ProCore Edge you can free up warehouse space and reduce demands on personnel. Productivity is enhanced, assets are optimized, battery rooms are eliminated, and workplace safety is improved. Communication with the wireless BMID provides real-time battery data so you can ensure your batteries are properly and safely charged.

ProCore Edge delivers multi-voltage flexibility, and is easily adaptable for any battery type. Built-in features and functionality typically found on premium fast charger solutions ensure that your material handling operation is fully supported - all while being easy to use, safe, and reliable.
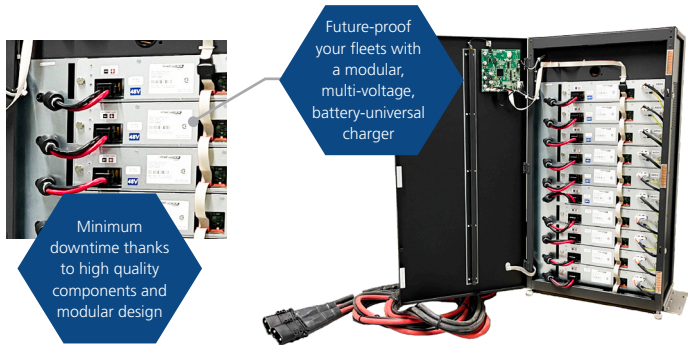
Mobile app allows detailed data analytics, diagnostics, and remote software updates

### Mobile Access and Control

ProCore Edge uses the same innovative app as ProCore, meaning you can program and download data from a smartphone running iOS or Android. Set up new units remotely, troubleshoot, and make changes to your fleet – all from the palm of your hand. No special tools are required to install or service ProCore Edge. What's even better is you no longer have to mess around with bulky laptops or data cables. Check the state of charge of your battery, or start/stop a charge session right from your phone.
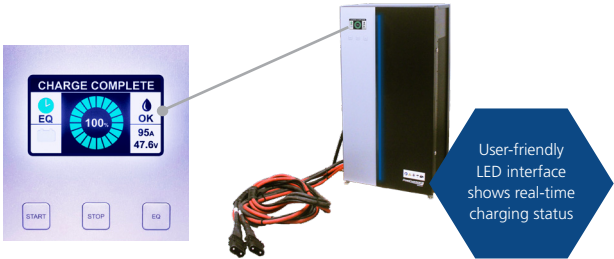
User-friendly LED interface shows real-time charging status

### ProCore Edge 24 / 36 / 48V

| Output Power Rating | 6 kW | 9 kW | 12 kW | 15 kW | 18 kW | 21 kW | 24 kW | 27 kW | 30 kW |
|---|---|---|---|---|---|---|---|---|---|
| Max Output Current (A) | 128 / 128 / 104 | 192 / 192 / 156 | 256 / 256 / 208 | 320 / 320 / 260 | 384 / 384 / 313 | 448 / 448 / 365 | 512 / 512 / 417 | 576 / 576 / 469 | 640 / 640 / 521 |
| Full Load Amp Draw 480 VAC (A) | 9 | 14 | 19 | 24 | 25 | 29 | 33 | 37 | 41 |
| Circuit Breaker at 480 VAC | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 |
| Cabinet | B | B | C | C | D | D | D | D | D |

### ProCore Edge 48 / 72 / 80 / 96V*

| Output Power Rating | 9 kW | 12 kW | 15 kW | 18 kW | 21 kW | 24 kW | 27 kW | 30 kW |
|---|---|---|---|---|---|---|---|---|
| Max Output Current (A) | 120 / 111 / 100 | 160 / 148 / 133 | 200 / 185 / 167 | 240 / 222 / 200 | 280 / 259 / 233 | 320 / 296 / 267 | 360 / 333 / 300 | 400 / 370 / 333 |
| Full Load Amp Draw 480 VAC (A) | 14 | 19 | 24 | 26 | 30 | 35 | 39 | 43 |
| Circuit Breaker at 480 VAC | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 |
| Cabinet | B | C | C | D | D | D | D | D |

*96V Li-Ion applications only

### Cabinet Dimensions

| Type | Bays | Dimensions (inches) | Dimensions (mm) |
|---|---|---|---|
| B | 3 | 8.6"h X21"w X 14.7"d | 472h X 533w X 373d |
| C | 5 | 24.8"h X 21"w X 14.7"d | 630h X 533w X 373d |
| D | 10 | 40"h x 21"w x 14.8"d | 1028h X 537w x 375d |

PosiCharge™

www.posicharge.com

# ProCore Edge™

**Engineered to provide unparalleled performance, ProCore Edge's multi-voltage modular design allows reliability and scalability. Configured for multiple power levels with a range of 24V to 96V, additional modules can be added as needed.**

## Universal Control Board

With charge algorithms configured for each battery and type, optimizing performance of lead acid and lithium batteries

## LED Color-Coded Light Bar

Status indicator light bar provides visibility across facility

## Multi-Voltage Modular Design

If more power is needed, more modules can be added. Should one module fail, the other modules will efficiently continue operation, reducing downtime and interruption

## Flexible & Easy Installation

On a pole, wall-mounted, or free standing on the floor, options free up warehouse space

# Advanced Connect Rx™

## Advanced Cable Connector Health Monitoring Technology

### Maximum Performance. Unparalleled Safety.

Advanced Connect Rx™ enables industry-leading operational safety by providing early warning of high connector temperatures with an innovative dual set point sensor for warning and fault levels.

Everyday usage causes wear and tear on charging cable connectors, from connecting and disconnecting the charging cables to repeated drops. Often the first sign of a problem is an operator complaint of high connector temperatures, or a complete failure in the charging connection.

With Advanced Connect Rx™ you're given a warning before these problems arise and potential damage, or lost productivity, occurs.

As soon as there is an abnormality detected it immediately alerts users to possible charger and battery output connector problems that could potentially result in damage to the forklifts or facilities, and injuries to employees. This gives users and facilities managers the ability to address problems before they become costly or potentially hazardous.

Advanced Connect Rx™ is a standard feature on the PosiCharge™ ProCore™, and can be enhanced with an optional battery cable connector monitor that adds an additional layer of protection. Combined with our anti-arc technology, battery thermal management and sophisticated charging algorithms, Advanced Connect Rx™ gives you unparalleled operational safety.

### Key Features:
- Unparalleled safety
- Standard feature on PosiCharge ProCore™
- Provides early warning of high connector temperatures with an innovative, patent-pending, dual set point sensor for warning and fault levels
- Enables users to address overheating connectors before problems arise and potential damage occurs

Compatible with iPhone iOS 8.1 or later; iPod Touch iOS 8.1 or later; macOS 11 or later. Search for the PosiCharge ProCore™ app in your iOS or Android App Store.

PosiCharge is a product line of Ampure
1333 S.Mayflower Ave
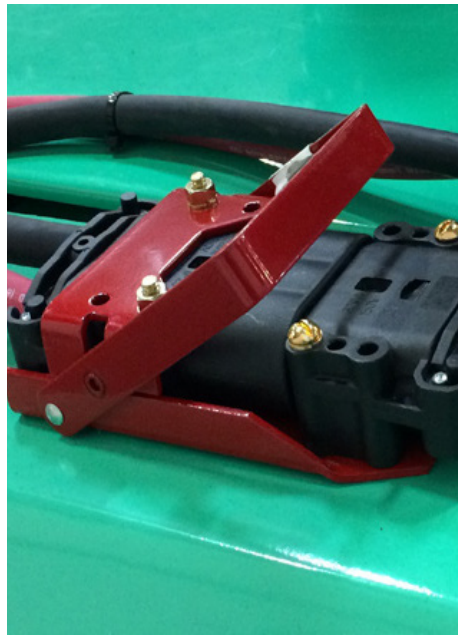Suite 100
Monrovia, CA 91016 USA

Hotline: +1 866-767-4242

www.posicharge.com

# PosiCharge



# PosiCharge SVS

## Single Port Electric MHE Chargers



### Reliable. Intelligent Fast Charge.

The PosiCharge SVS are intelligent fast charging systems that range in power capability from 7kW to 30kW and are designed to handle multiple shifts for round-the-clock performance from lightduty vehicles to the hardest-working electric forklifts in your fleet.

The SVS 80/200/300 models are based on our robust single-port architecture for maximum flexibility and modularity. Vehicles conveniently recharge at various times throughout shifts during short, but opportune, "fast-charge" windows, such as breaks, lunches, shift changes, or during downtime.

Like with all PosiCharge chargers, advanced built-in battery protection technology can automatically custom-charge batteries of various sizes, capacity and duty-cycles, and can ensure that each battery receives maximum charge without exceeding safe temperatures.

### Key Features:
- **Highest Safety Standards: UL1564, CEC (except SVS80), CSA, CE, RoHS Compliant**
- **Unique built-in safety features protect employees & equipment**
- **0% battery changing-related accidents**
- **BMID-managed, automated worry-free charging**
- **Charge during scheduled breaks, keep your fleet running all day**
- **0% downtime due to battery changing**
- **Proven to extend battery life and surpass battery warranties**
- **Lower infrastructure & utility, operational, and maintenance costs**
- **Universal Battery Type, Brand, Voltage, Chemistry and AHCapacity**
- **Real-Time Clock, Auto Start/Stop, Auto Thermal Shut Down, and Shutdown Response Time 5ms**
- **Maintains 250 Charge Event Logs**
- **Closed Loop Gas Control**

The PosiCharge™ SVS80 is the cost-effective solution for fast charging high usage Class III vehicles such as pallet-jacks and tuggers. The versatile SVS80 has a compact footprint for easy integration, and it provides up to 200 amps of current through a single port, which makes it the optimal solution to round out your fast charge fleet.



The PosiCharge™ SVS200 can supply 320 Amps with maximum efficiency, making it ideal for hard working distribution centers and manufacturing facilities. Built using ultra-efficient IGBT technology, the SVS200 is the high output charger of choice for customers looking to combine power with performance.



Delivering up to 500 Amps, the PosiCharge™ SVS300 is a heavy duty charger designed for the toughest applications. A cost-effective stand-alone solution that combines exceptional output capability with compact size, the SVS300 can be mounted virtually anywhere, keeping operations performing with maximum productivity.



### Technical Specifications

|  | SVS80 | SVS200 | SVS300 |
|---|---|---|---|
| Power Rating | 7kW | 20kW | 30W |
| Max Output Current (A) | 200A | 320A | 500A |
| Efficiency up to | 88% | 92% | 92% |
| Idle Power | 27W/<10W* | 27W/<10W* | 27W/<10W* |
| Power Factor | 0.98 | 0.98 | 0.98 |
| Auto Range Battery Voltage | 24V to 48V | 24V to 80V | 24V to 96V |
| Full Load Amp Draw 480V/600V | 12/10 | 28/23 | 40/32 |
| Circuit Breaker Rating | 15/15 | 40/30 | 50/40 |
| Dimensions, H x W x D | 20"x18"x 36" | 25"x 20"x 42" | 25"x 20"x 42" |
| Weight | 242 lbs | 470 lbs | 560 lbs |

* with optional CEC upgrade

**PosiCharge**

www.posicharge.com

# PosiCharge DVS
## Dual Port Electric MHE Chargers

The PosiCharge™ DVS100 is a dual-port charging system that can supply 200A/port with maximum efficiency, in locations where trucks are parked in pairs. The DVS100 offers charger and battery data management, the Battery Monitor and Identifier Module (BMID), precise charging control, electrolytic thermistor, our "easy-service" modular cable system, and dynamic equalization scheduler that delivers weekly EQ compliance without assigning specific chargers to trucks.

**DVS100**

The PosiCharge™ DVS150 is a premium intelligent dual-port charging system that can supply 300A/port with maximum efficiency. The DVS150 offers charger and battery data management, the Battery Monitor and Identifier Module (BMID), precise charging control, electrolytic thermistor, our "easy-service" modular cable system, and dynamic equalization scheduler that delivers weekly EQ compliance without assigning specific chargers to trucks.

**DVS150**

## High Output. Reliable Dual Vehicle Charge.

The PosiCharge DVS 100 / 150 are intelligent fast charging systems that offer a lower cost alternative in locations where trucks are parked in pairs. The DVS100 can supply 200A/ port, while the DVS150 can supply 300A/port with maximum efficiency. Vehicles conveniently recharge at various times throughout shifts during short "fast-charge" windows, such as breaks, lunches, shift changes, or during downtime.

The DVS features ultra-efficient IGBT power electronics and an integrated AC to DC power server, delivering our customers significantly lower up-front installation and ongoing utility costs compared to other fast chargers. Our unique technology utilizes both temperature compensation and temperature foldback to accurately control battery temperatures during charging to ensure that the battery receives maximum charge without exceeding safe temperatures.

The revolutionary PosiCharge technology is designed to maximize fleet performance, productivity and battery life, and to make charging fast, worry-free and safe.

### Key Features:
- **Highest Safety Standards: UL1564, CSA, CEC, CE, RoHS Compliant**
- **Unique built-in safety features protect employees & equipment**
- **0% battery changing-related accidents**
- **BMID-managed, automated worry-free charging**
- **Charge during scheduled breaks, keep your fleet running all day**
- **Charge 2 vehicles simultaneously**
- **0% downtime due to battery changing**
- **Proven to extend battery life and surpass battery warranties**
- **Lower infrastructure, utility, operational, and maintenance costs**
- **Universal Battery Type, Brand, Voltage, Chemistry and AHCapacity**
- **Real-Time Clock, Auto Start/Stop, Auto Thermal Shut Down, and Shutdown Response Time 5ms**
- **Maintains 250 Charge Event Logs**
- **Closed Loop Gas Control**
- **NEMA 1 Rated Enclosure**

### Technical Specifications

| | DVS100 | DVS150 |
|---|---|---|
| Power Rating | 10kW / port | 15kW / port |
| Max Output Current (A) | 200A / port | 320A / port |
| Efficiency up to | 92% | 92% |
| Idle Power | 27W/<10W* | 27W/<10W* |
| Power Factor | 0.98 | 0.98 |
| Auto Range Battery Voltage | 24V to 80V | 24V to 80V |
| Full Load Amp Draw 480V/600V | 28/23 | 40/32 |
| Circuit Breaker Rating | 40/30 | 50/40 |
| Dimensions, H x W x D | 25"x21"x 52" | 25"x 21"x 52" |
| Weight | 529 lbs | 617 lbs |

\* with optional CEC upgrade

**PosiCharge™**

www.posicharge.com
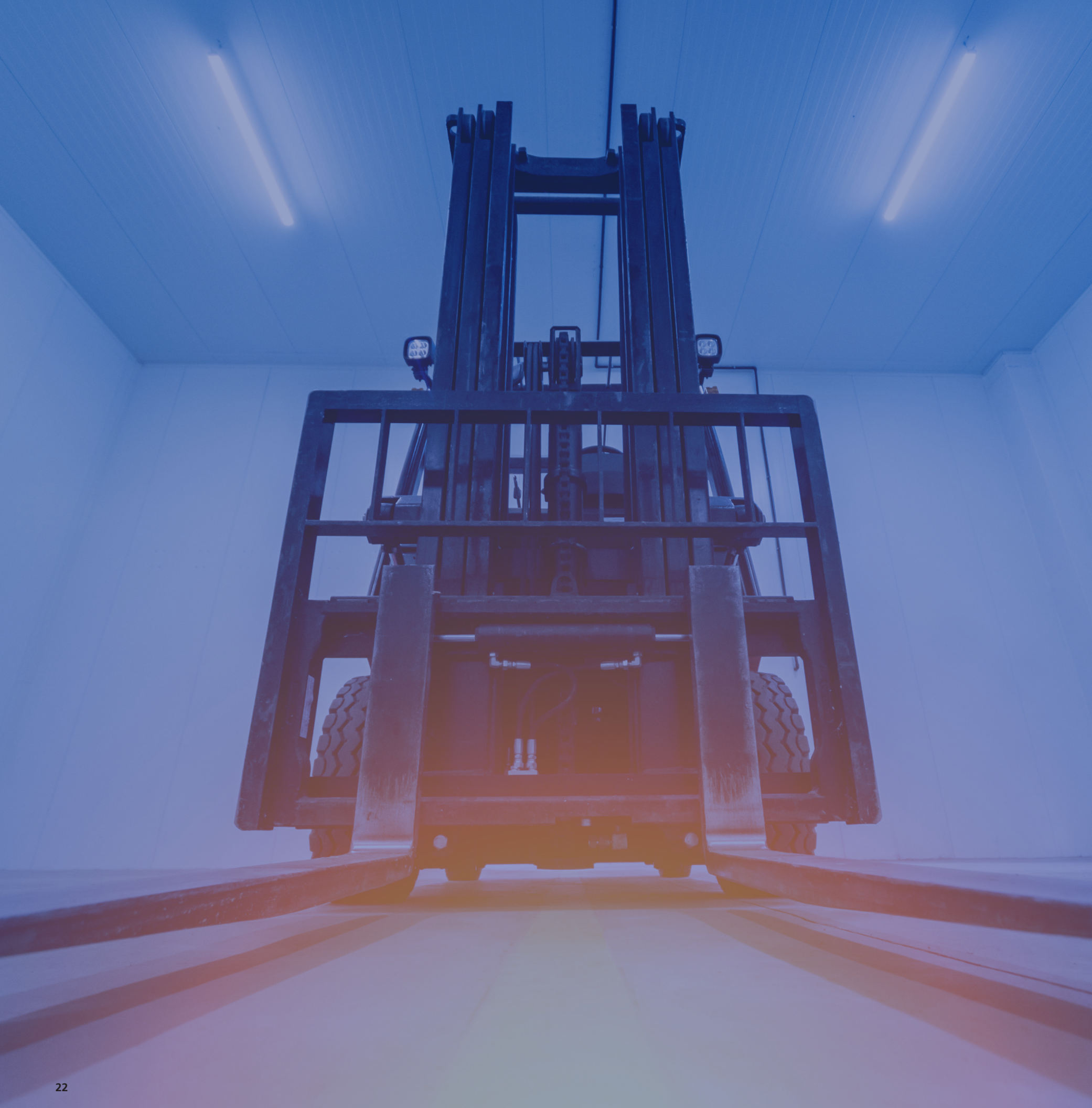
## Key Options with PosiCharge™

The revolutionary PosiCharge technology is designed to maximize fleet performance. All PosiCharge systems include these key options:

- **BATTERY RX™**
  Advanced battery monitor for maximum battery life with optional cellular connectivity and data services

- **POSINET™**
  Works with cellular Battery Rx to collect battery charge data and run usage reports

- **AUTOMATIC WATERING**
  Ensures that water is only added when it is safe and appropriate

- **ELECTROLYTE IMMERSED THERMISTOR**
  Temperature compensation to minimize gassing during fast charging & Temperature Fold Back to control battery overheating

- **MODULAR CABLE SYSTEM**
  For easy service

- **DYNAMIC EQUALIZATION SCHEDULER**
  Delivers weekly EQ compliance without assigning specific chargers to trucks

# PosiCharge™
# Battery Management

## KNOWLEDGE IS POWER

The more you know about your battery and its ongoing performance, the better your fleet operates. Even with only a handful of forklifts, the amount of data, maintenance schedules, and potential problems can mount up in the blink of an eye. Our battery management tools, PosiNet and Battery RX, provide you the data you need to maximize your fleet performance without wasting your valuable time.

At a glance you have access to actionable, useful data on the state of your fleet's energy from anywhere with an internet connection.
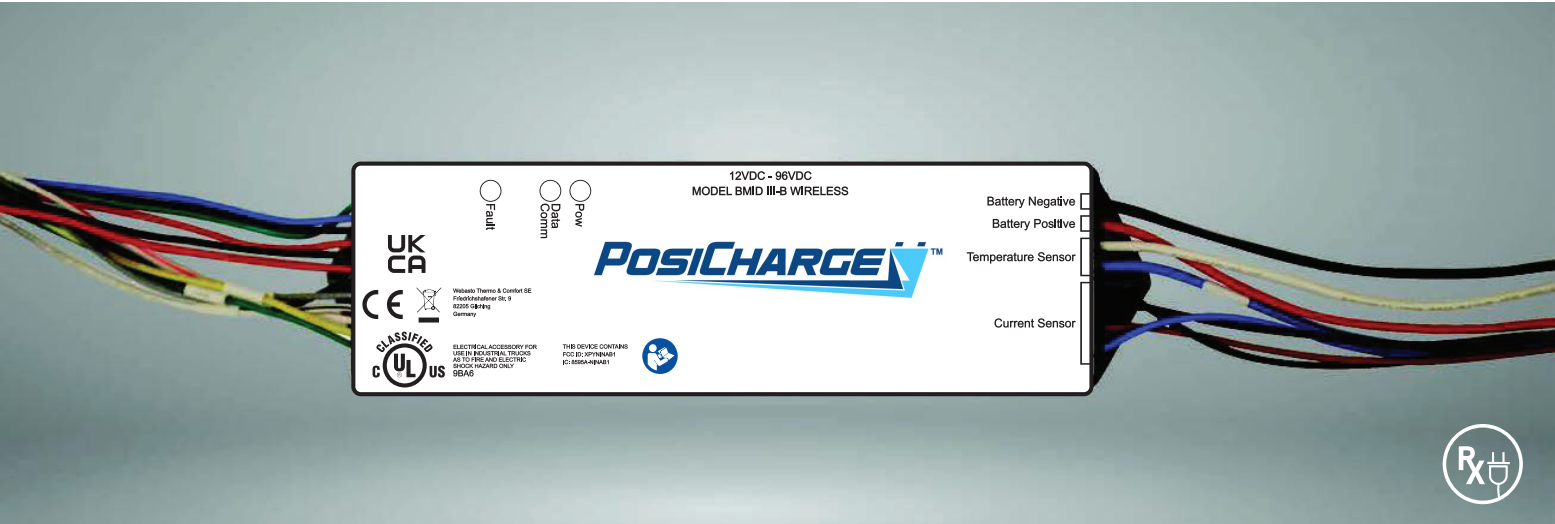
# Battery Rx™

## Advanced Battery Monitoring



Battery Rx also enables you to lower annual costs by minimizing downtime and reducing battery replacements through features such as preventative maintenance scheduling and real-time alerts for issues that might affect battery performance. It can also help you better control ongoing battery costs by automatically tracking your fleet's battery warranty compliance, and reporting on any warranty deviations.

All battery health and charge data is directly downloadable from the battery, delivering actionable data without costly infrastructure. In addition, Battery Rx features an optional cellular connection to let you view and download real-time fleet info from the web via PosiCharge PosiNet back-office system.

Battery Rx works with the complete line of PosiCharge products.

### Technical Specifications

| | |
|---|---|
| Battery Compatibility | All 24 to 96V batteries |
| Dimensions, H x W x D | 7.63" L x 2.25" W x 1.25" D |
| Current Measurement Range | +/- 1000 amps |
| Electrolyte immersed temp sensor | with –20F to 165F operating range |

## Battery Management

Battery Rx is a battery management tool designed to monitor, record and report on the health of your batteries, in turn extending useful battery life and enhancing overall fleet productivity. It provides an alert when there is an issue with the battery that might affect its performance or create downtime. Battery Rx provides annual cost savings by minimizing the need for battery replacements.

This advanced battery monitor is secured to the battery and communicates with your battery chargers, transforming your facility into a "smart fleet" operation. Battery Rx is able to uniquely identify each battery, and stays with it for the rest of its life, continuously monitoring use, recommending rotation schedules and advising users on estimated battery life expectancy.

### Key Features:
- **Easy set-up; installs in 20 minutes with no special battery requirements**
- **24/7 battery monitoring. Monitors battery SOC, water level, voltage and temperature in real-time**
- **Smart charging capability, transforms your facility into a "smart fleet" operation**
- **Warranty compliance tracking**
- **Stores cumulative battery data for the life of the battery**

- **Provides complete warranty history and helps you comply with your battery warranty – no more finger pointing**
- **Delivers actionable data via cellular communication, without IT department's involvement**
- **Receive alerts directly via email**
- **Water level detector**
- **Designed to handle acid immersion and high pressure spray from battery washing**

# PosiLink™

## Back Office Data Management Software



## Fleet Data Is Actionable

- Email alerts and exception notifications provide instant information on the health and treatment of the fleet so issues can be corrected before they cause productivity losses. Alerts can be selected by the user to control information volume and flow.
- Historical and predictive reports provide concrete information for training your operators, optimizing the distribution of vehicles throughout your facility, and planning for future orders or expansions.
- Real time views of your fleet allow you to immediately identify compliance problems, explore causes, and provide on-the-spot guidance to your operators.

## Fleet Data Is Automatic

- Charger and battery data are automatically downloaded from the charger and uploaded to the PosiLink for processing. No manual download procedures are required.
- Key insights via dashboards. View real-time insights about fleet performance, scheduled weekly, monthly or annual reports on fleet activities.

## Fleet Data Is Accessible

- Web-based system architecture allows access to operations information from any place in the world.
- Simple, intuitive controls allow the user to rapidly navigate to the information they need.
- Optional third-party access to fleet data can dramatically improve service response time. Battery and charger service personnel can review data in order to identify issues, remotely diagnose, and provide fast solutions, minimizing downtime and maximizing productivity.

### Key Features:

- Access comprehensive reporting capabilities to gain deep insights into your fleet's performance
- Easily view and download fleet information from the internet, streamlining your data management process
- Intuitive user interface that simplifies navigation and data analysis
- Receive weekly exception reports and lifetime battery historical reports for informed decision-making
- Stay informed with real-time alerts, enabling early detection and proactive issue resolution
- Identify and prevent long-term battery damage before it becomes irreversible
- Monitor critical health events, including power loss, low battery state of charge (SOC), low battery voltage, and missed equalizations
- Review daily usage and plug-in data based on selected date ranges to optimize operational efficiency

- Generate concise one-page battery reports with the option to schedule emails or download directly from the portal

- Access preventative maintenance and warranty information to ensure efficient asset management

## Full suite of battery and charger data analysis

PosiCharge™ PosiLink is a comprehensive fleet management tool for fast charge operations. Built on a unique system architecture that links all fast chargers into a single network, PosiLink automatically captures and analyzes operational data, and then presents actionable fleet usage and warranty compliance reports, thereby empowering operations professionals to manage their fleet effortlessly.

## Manage Battery Details

Add, view, and modify battery details, from state of charge to fault alerts
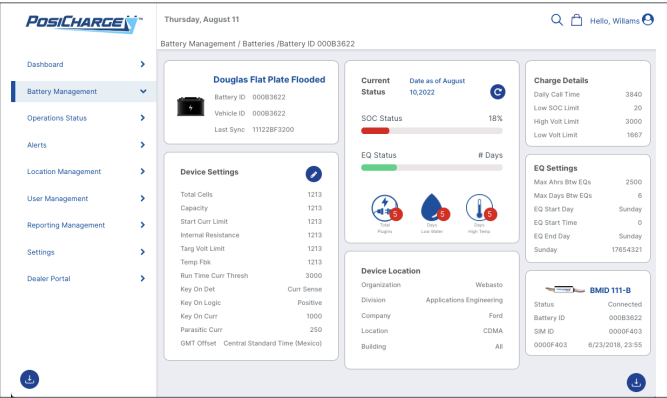


## Accurate for maximizing fleet performance

Detailed daily tracking reports, weekly exception reports and lifetime statistical analysis provide easy visibility to battery health across the entire fleet, helping identify potential issues before they become larger problems and simplifying warranty compliance.

## Monitor Battery Temperature

Review battery temperature in detail for selected date range

# Case Study

## Overview

**Caterpillar in Seguin, TX manufacturers aircraft engines and needed a solution to increase operational efficiency and keep their forklifts running in a heavy use, 2 shift facility.**

### Caterpillar System Improvements

- NO BATTERY CHANGING - Improved performance & productivity recovered real estate
  EASY installation and TROUBLEFREE maintenance
- BATTERY THERMAL MANAGEMENT extended battery life
- USER-FRIENDLY AUTOMATED FAST CHARGING
- POSINET BACK OFFICE - Web-based real-time data analysis system monitors battery health
- Charge ANY battery size or brand
- SAFER WORKPLACE + LESS noise and vibration

### Savings

By choosing PosiCharge's electric versus LP solution, Caterpillar was saving:

- $378,000 / Year*
- $263,000 In Fuel Cost
- $115,000 In Maintenance Cost
- 354 Tons Of Greenhouse Gases
- 70% Reduction In Capital
- Expenditure / Facility
- 30% Reduction In Energy Consumption Vs. Standard Practices

*Based on Caterpillar Fork Truck Usage. 59 Trucks each using about 1000Ah/day, 5 days a week. Assuming $2.00/gallon of LP and $0.065/kWh and $7.00/kW.

## Switch from LP to Electric Fleet

**With over 45 years in the efficient energy systems business, we've done it all. Whether you're running a handful of forklifts or an entire fleet, our team of experts will ensure that you get the perfect charging solution for your unique operation.**

**Using our advanced analytical tools, our team will work closely with you to perform an in-depth assessment of your entire operation, not just your lift truck assets – now and in the future.**



**CAT**

**59** POSICHARGE SVS 320A CHARGERS

**59** FORKLIFTS

**59** BATTERIES

- Smart Battery Management: Battery Rx & Posinet Back Office
- Automatic Battery Watering
- Automatic Battery Equalization
- Vented Trays & Cooling Fan Box
- Custom Stand & Cable Management

**4** DE-CENTRALIZED CHARGING BANKS

CHARGE DURING SCHEDULED BREAKS & SHIFT CHANGES

**By Installing Posicharge Intelligent Fast Chargers, Caterpillar Eliminated The Need To Change Batteries**

**1** CHARGER **+** **1** TRUCK **+** **1** BATTERY

**0** BATTERY ROOM / **0** BATTERY CHANGING

**50%** REDUCTION IN FORKLIFT BATTERY INVENTORY

**24** ROUND-O-CLOCK PERFORMANCE FOR MULTI-SHIFT OPERATIONS

**0%** NO DOWNTIME, CROSS-PLANT TRAFFIC AND INJURIES RELATED TO BATTERY CHANGING

# LP Meter
## Cellular LP Forklift Meter



### Customized Liquid Propane to Electric Solution

Getting the maximum return from converting your LP forklift fleet to electric requires a plan - a one-size-fits-all solution will not work. To ensure that your operation gets the most out of switching to electric, PosiCharge offers a consulting service using our innovative cellular LP forklift meter technology. The PosiCharge™ LP Meter is industry's only tool that can demonstrate a customized LP to Electric solution that is guaranteed to meet your bottom line.

The LP Meter captures the fuel consumption and usage data on propane-powered lift trucks without the hassle of manual data collection by operators or maintenance staff. It measures and records gas flow and truck operation every 10 seconds using an internal flow meter and real time clock.

### Key Features:

- **Unparalleled ability to measure & analyze exact, real time LP forklift energy usage**
- **Portable & convenient to ship. Installs in minutes. Can be mounted to the overhead guard or LP tank**
- **Hassle-free automated data collection. Cellular communication for data capture**
- **Customized cost-saving fleet solution. Data collected is used to create a detailed electric fleet profile and recommendations.**
- **Real time fleet data identifies LP fuel use, lost productivity, and billing discrepancies**
- **Comprehensive analysis for IC to Electric Fleet Conversion includes operating costs, productivity, capital expenses, and employee safety**

### Applications:
- **Truck Utilization**
- **Fleet Fuel Consumption**
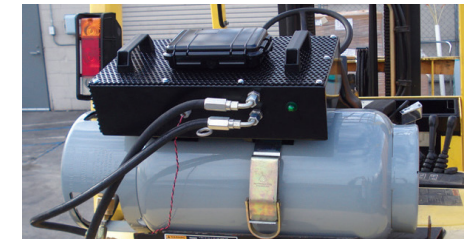- **IC Truck Efficiency Comparison**
- **IC to Electric Truck Conversions**



*Figure 1.* ENERGY USAGE – Data provides a complete understanding of the fuel usage and available charge time.



### Data Storage

Data is stored on internal memory and communicated via cellular connection back to PosiCharge for analysis. The data is typically collected over a one week period, but the LP Meter can hold up to 4 weeks of data if longer analysis is needed.

Using the data collected, the PosiCharge team prepare an in-depth assessment of the LP fleet and a detailed, custom electric fleet profile – including the number of trucks, batteries, and chargers required, and recommended battery sizes and charge power requirements.

*Figure 2.* DAILY SUMMARY REPORT – The daily data report includes accumulated propane usage and run, idle and key off times.



### Sample of Data Included:
- **REAL TIME FUEL USAGE (Gallons/hr) - Forklift fuel use every 10 seconds**
- **CUMULATIVE GALLONS CONSUMED - Fuel Usage per day**
- **RUN TIME - Total time truck is operating per day (engine on/off status)**
- **IDLE TIME - Total time truck is idle per day**
- **CHARGE TIME - Sum of the idle times greater than 15 minutes per day**

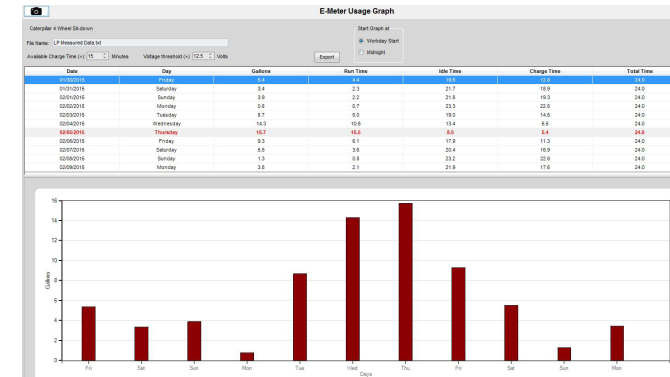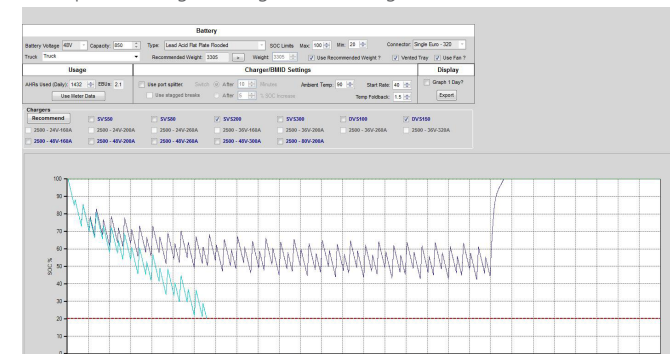*Figure 3.* PC APPLICATION – View battery state-of-charge simulations and optimal charger configurations using data from the LP Meter.



PosiCharge is a product line of Ampure
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## POSICHARGE FAST CHARGING SOLUTION

SVS300 Installation with Charger Stand Kit and
Pogo style Cable Handler, Stack lights & Automatic
Watering System.

**ZERO BATTERY ROOM / BATTERY CHANGING
1 TRUCK + 1 BATTERY - BATTERY STAYS IN TRUCK**

"Everything is good! We like the product and the company.
We are looking into buying more units in March. Energy
savings – drastic improvements across the board. Safety –
because we have made the commitment to provide a safer
environment for our team. They aren't lugging around 3000
lb. batteries. We're building stronger loyalty from our team
members with our company which gives us much improved
performance.

Gary Licho

VPO Roberts, SYSCO

## Get the most out of your Electric Fleet

Let's face it, battery changing is labor intensive, costly and potentially hazardous, while battery rooms take up valuable real estate. Knowing when to choose PosiCharge instead of battery changing can save you millions over the life of your fleet.
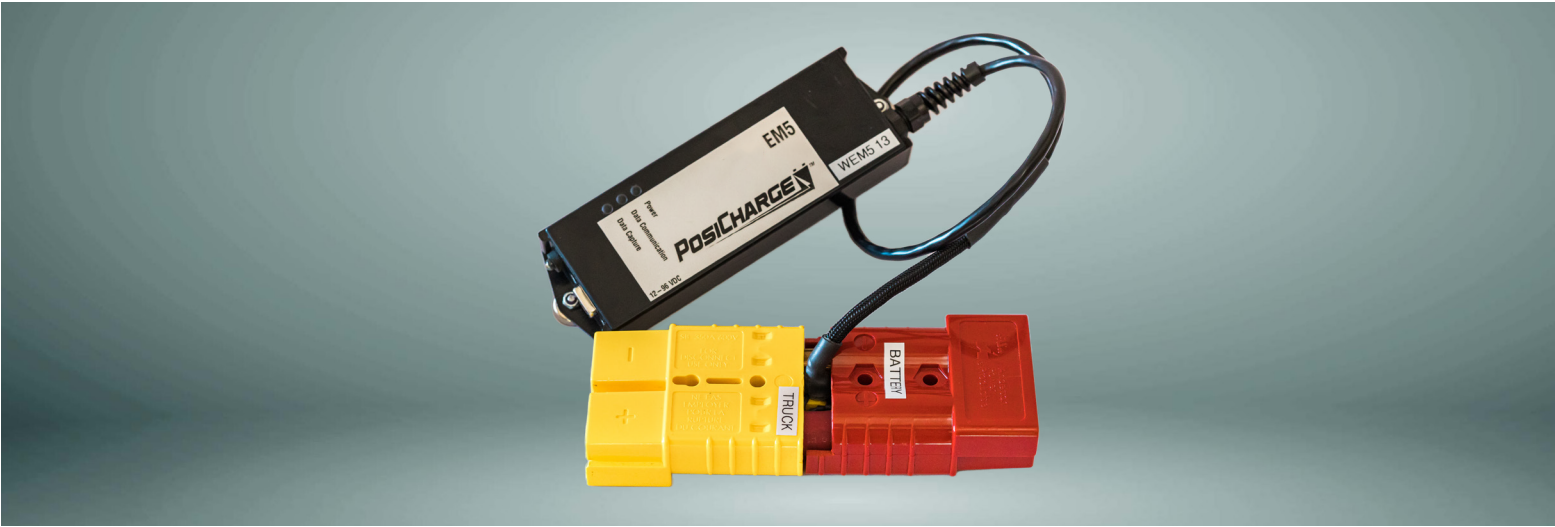
If you are changing your batteries, now is the time to do the right thing. Simply get in touch with our team of experts for a quick review of your facility, and we guarantee an objective look at whether this technology is right for you.

# E-Meter

## Wireless Electric Fleet Energy Meter



### Optimize Electric Fleet Operations

The PosiCharge™ E-meter captures energy and usage data of your existing electric fleet automatically without operator or maintenance staff management. Using a real-time clock, the E-meter monitors and records truck data and generates reports and analyses that identify opportunities for improved efficiency. The E-meter is designed to work in all ambient conditions including freezers.

With the data captured, our team will prepare a comprehensive analysis that includes critical factors like operating costs, productivity, capital expenses, and employee safety. Our custom cost-saving recommendation is guaranteed to improve the efficiency and productivity of your operation.

### Key Features:

- **Compatible with a wide array of equipment, from a 24V pallet jack up to a 80V forklift**
- **Unparalelled ability to measure & analyze exact, real-time electric forklift energy usage**
- **Portable & convenient to ship. Compact box design - fits right into the battery compartment. Installs in 5 minutes**
- **Cellular communication for data capture. Ability to record up to 4 weeks of data**
- **Data collected is used to create a detailed electric fleet profile and recommendations**
- **Real time fleet data identifies energy usage, battery health and charger performance analysis, lost productivity, and billing discrepancies**
- **Comprehensive analysis for fleet optimization includes operating costs, productivity, capital expenses, and employee safety.**
- **Cost-saving recommendation for charging solution and battery sizing.**




**BEFORE**
Battery Room + 1 Truck + 2 Batteries
Wasted Productivity & Real Estate
Accident-Prone Workplace




**WITH POSICHARGE**
1 Truck + 1 Battery (No Battery Room)
Recovered Real Estate + Productivity
Safer Workplace + Streamlined Workflow

### Applications:
- **Truck Utilization Assessment**
- **Electric Fleet Optimization**
- **Truck Energy Consumption**
- **Charger System Configuration**
- **Battery Health Analysis**
- **Charger Performance Analysis**

*Figure 1.* ENERGY USAGE – Track the battery charges, Ahr throughput, battery usage, available charge time, and confirm operating schedule.
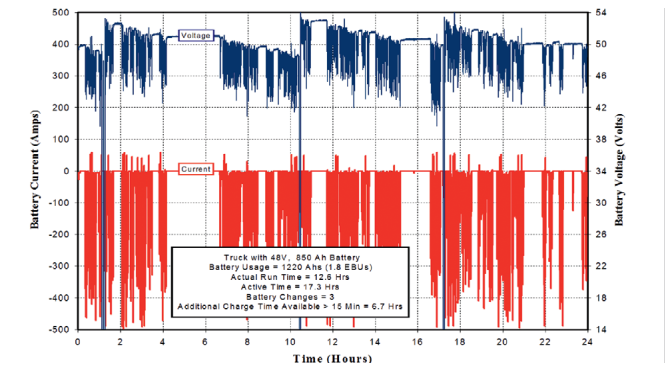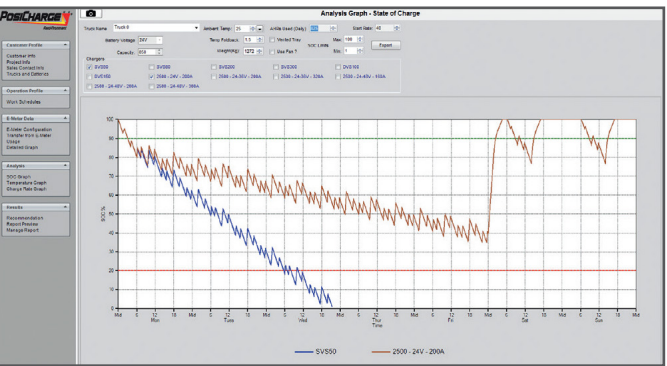


*Figure 2.* DAILY SUMMARY REPORT – Track daily usage and available charge time for the week. The highest daily usage in Ahrs is used to size your charging system and your weekly battery equalization schedule.

| Day | Dis Ahrs | Dis kWhrs | Run Time | Idle Time |
|-----|----------|-----------|----------|-----------|
| Thursday | -1158.2 | -55.59 | 12.9 | 11.1 |
| Friday | -1036.2 | -49.74 | 10.9 | 13.0 |
| Saturday | -441.1 | -21.17 | 4.3 | 19.7 |
| Sunday | -240.7 | -11.55 | 1.8 | 22.1 |
| Monday | -559.8 | -26.87 | 8.5 | 15.4 |
| Tuesday | -1220.1 | -58.56 | 12.6 | 10.2 |
| Wednesday | -755.0 | -36.24 | 6.6 | 17.3 |

*Figure 3.* PC APPLICATION – View battery state-of-charge simulations and optimal charger configurations using data from the E-meter.



### Technical Specifications

| | |
|---|---|
| Battery Compatibility | 24 to 80V batteries |
| Dimensions, H x W x D | 1.5" x 6.5" x 9.5" |
| Current Measurement Range | +/- 1000 amps |
| Input Voltage | 24-96VDC nominal |
| Connectors | SB350 |
| Cable Size | ≥3/0 welding cable |

# PosiCharge™ Accessories

## CABLE MANAGEMENT

### EXTENDED, CUSTOM MODULAR CHARGE CABLES



- For the SVS & DVS systems
- 20ft, 25ft, 30ft charge cables
- Modular cable design for easy replacement
- Custom cables with non-standard connectors also available

### CHARGER STAND KIT WITH POGO STYLE CABLE HANDLER



- For the SVS & DVS systems
- Keeps cables off floor for a clean and safe operation
- Provides platform for mounting charger accessories



- For ProCore
- Keeps cables off floor for a clean and safe operation
- Provides platform for mounting charger accessories

## BATTERY MANAGEMENT

### COOLING FAN BOX



- Ideal for heavy use trucks or large batteries that need the highest charge rate
- Low profile design fits easily in most truck battery compartments
- Requires vented tray batteries

### AUTO WATERING KIT



Single point, charger controlled automatic battery watering system
- Ensures battery watering control at the right time, and to the right levels
- Charger waters weekly during EQ cycle and prevents overfilling
- Gravity feed via holding tank provides the most reliable watering solution
- Requires Accessory Driver Kit (ADK)

### STACK LIGHTS



3 color stack lights provide clear visual of charge status
- Green = charged, Yellow = charging, Red = not charging or fault
- Requires Accessory Driver Kit (ADK)

### DIY FAST CHARGE KIT



- For local qualified truck repair dealers, including easy instructions for performing standard conversions
- Includes Fast Charge battery Cable
- Kit – hardware and cabling to connect battery to fast charger (requires fast charge configured battery)
- Includes Fast Charge Truck Kit – hardware and cabling to adapt truck for fast charging
- Usually requires both kits (image
- doesn't show full kit )

## DID YOU KNOW?

If you are an existing customer, you can sign up to get access to our online Spare Parts Store.

- Extensive selection of spare parts
- Easy, secure & fast checkout
- Say goodbye to timeconsuming phone orders
- Major credit cards accepted

**If you'd like to set up an account, please contact us at 1-866-767-4242.**

# TESTIMONIALS

"Since installing PosiCharge, we have generated a 30% savings in our energy costs. We are more productive, too!"

**Van Hooper**
VPO Portland, SYSCO

"I didn't want the cost, lost productivity and injury risks associated with changing batteries to impact our business. Posicharge gave me the solution I had been searching for."

**Glenn Sutcliffe**
Distribution Manager
Metcash Food & Grocery, Australia

"Bolthouse has seen a large reduction in maintenance costs associated with battery care, and most importantly, our operators love the ease of operation with the system and the improved productivity it allows them to attain."

**Joe Gamez**
Mobile Equipment Supervisor
Bolthouse Farms

"A world of difference in productivity. Big savings that others just do not see. Employee morale has been key! They are no longer frustrated with the unproductive time and the safety concerns involved with having to change a battery in the middle of trying to get something done. A great tool - every SYSCO operating company should get a PosiCharge fast charge system."

**Roy Willard**
VPO Raleigh, SYSCO

"The system is allowing our operation to be more efficient, more productive and run 24/7. Love the system. Service has stepped up to retrain our staff with turnover."

**Robert Garcia**
Director of Facilities
Freshpoint A1A

"Our investment in the PosiCharge system more than covered the potential costs associated with putting together a fully functional battery room. When service was needed, PosiCharge stepped right up! Cost savings in reducing unproductive labor hours. Does everything the system is designed to do …excellent."

**Rick Poole**
VPO Spokane, SYSCO

Ampure has continued to set new technological standards – in both the original equipment sector and the aftermarket. As one of the 100 biggest suppliers in the automotive industry worldwide, we develop and produce roof, convertible as well as heating, cooling and ventilation systems. Our products help provide a better atmosphere on the road, more comfort and security, as well as increased efficiency for cars, commercial and special vehicles, motor homes and boats. An outstanding network of production facilities and dealers guarantees high-quality products, installation standards and services worldwide.

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