





# POSICHARGE<sup>TM</sup> INTELLIGENT FAST CHARGING SYSTEMS FOR ELECTRIC GROUND SUPPORT EQUIPMENT

CATALOG



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# 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
- 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

**REDUCTION IN** FORKLIFT BATTERY



Round-the-clock. Productive 24/7 performance for multi-shift operations

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



DISCONNECT protects user & connectors



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

from overheating



**BMID** CONTROLLED EO 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
- 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

**FAST CHARGERS** WITH OVER 10 YEARS OF **OPERATION** 

**BATTERY** CAPACITY **RETAINED** 





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

**BATTERY EXPERTS** 

- 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.





# PosiCharge™ SVS 100

Single-Vehicle System Charger







#### Compact single-port intelligent charging

Posicharge SVS100 is a compact charger and a great fit for a variety of electric airport ground support equipment that require fast or opportunity charging. Typical customers for this charger include regional jet organizations, GA and FBO airport operators, and other non-hub maintenance and logistics companies. The SVS100 is outdoor-rated to withstand extreme environmental conditions. The SVS100 can provide up to 10kW of power in a single port, which is ideal for small electric belt vehicles, as well as for carts and people movers

Our unique technology utilizes battery voltage and temperature sensors to accurately control the charging profile, adding an unparalleled layer of efficiency and safety.

The SVS100 features IGBT technology for high performance and reliability. And like all Posicharge chargers, the SVS100 works with a broad range of battery voltages, types, and capacities for virtually any vehicle application. In addition, the chargers also capture the data required to analyze and manage individual and fleet vehicle battery status and usage.

#### **Key Features:**

- Smart Battery Monitor and Identification Device (BMID)
- Allows different vehicles/batteries to charge on the same charger
- Adaptable charge rate
- Lower maintenance & operational cost
- Affordable stand-alone solution for small or remote fleets
- Extended battery life & run time
- Euro and Burton output connector/cable options
- Automatic Start/Stop
- Anti-arcing Disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Compact, fits almost anywhere
- Easy to install, easy to use

#### **Technical Specifications**

	SVS 100
Power Rating	10kW
Utility Requirements	480 / 600 VAC, 3-phase
Full Load Amp Draw	15A / 12A MAX
Max Circuit Breaker Rating	20A / 15A
Power Factor	0.98
Efficiency	91%
Battery Voltage Range	24V - 80V
Max Output Current	250A
Weight	388 LBS
Dimensions	39.4"H X 22"W X 19.3"D

PosiCharge is a product line of Webasto Charging Sytems, Inc. 1333 S.Mayflower Ave Suite 100 Monrovia CA 91016

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# PosiCharge™ DVS 300 / 400

Dual-Vehicle System Charger







#### Flexible one- or two-vehicle charge option

PosiCharge DVS 300 / 400 is the stand-alone industrial charger that can charge one vehicle with up to 500 amps or two vehicles simultaneously at 250 amps. DVS features ultraefficient 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, adding an unparalleled layer of safety to fast charging.

And like all PosiCharge chargers, the DVS works with a broad range of battery voltages and has the same data management and on-board intelligence.

#### Key Features

- Capable of CAN communication with Lithium Batteries through our CAN protocol
- Smart Battery Monitor and Identification Device (BMID)
- Charge different vehicles or batteries on the same charger
- Adaptable charge rate
- Can charge 2 vehicles simultaneously or one vehicle twice as fast
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Can share power with the jet bridge or other devices to reduce installation costs
- Provides all environment/weather operation with rugged NEMA 3R Enclosure rating and conditions

#### **Technical Specifications**

	DVS 300: Powerserver	DVS 400: Powerserver		
Power Rating	30kW	40kW		
Utility Requirements	480 / 600 VAC, 3-phase	480 / 600 VAC, 3-phase		
Full Load Amp Draw	40A / 32A	40A / 32A		
Max Circuit Breaker Rating	50A / 40A	70A / 60A		
Power Factor	0.96	0.96		
Efficiency	90%	90%		
Battery Voltage Range	24V - 96V	24V - 96V		
Max Output Current (Dual Mode)	250A	250A		
Max Output Current (Single Mode)	500A	500A		
Weight	905 LBS	915 LBS		
Dimensions	60"H X 32.4"W X 21.9"D	60"H X 32.4"W X 21.9"D		
Communication Port	RS232	RS232		
Operating Temperature	-40°C -50°C	-40°C -50°C		

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# PosiCharge™ DVS 330

Dual-Vehicle System Charger







#### Flexible one- or two-vehicle charge option

PosiCharge DVS 330 is the stand-alone industrial charger that can charge one vehicle with up to 500 amps or two vehicles simultaneously at 250 amps. DVS features ultraefficient 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, adding an unparalleled layer of safety to fast charging.

And like all PosiCharge chargers, the DVS works with a broad range of battery voltages and has the same data management and on-board intelligence.

#### **Key Features:**

- GBT CAN Protocol compliant.
- Capable of CAN communication with Lithium Batteries through our CAN protocol.
- Smart Battery Monitor and Identification Device (BMID)
- Charge different vehicles or batteries on the same charger
- Adaptable charge rate
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Can share power with the jet bridge or other devices to reduce installation costs and conditions

#### **Technical Specifications**

	DVS 330: Powerserver
Power Rating	33kW
Utility Requirements	380 / 400 / 415 VAC, 3-phase
Full Load Amp Draw	56A / 53A / 51A
Max Circuit Breaker Rating	64A
Power Factor	0.96
Efficiency	90%
Battery Voltage Range	24V - 96V
Max Output Current (Dual Mode)	250A
Max Output Current (Single Mode)	500A
Weight	905 LBS
Dimensions	60"H X 32.4"W X 21.9"D
Communication Port	RS232
Operating Temperature	-40°C -50°C

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# PosiCharge™ DVS 330 II

Dual-Vehicle System Charger







#### Flexible one- or two-vehicle charge option

PosiCharge DVS 330 is the stand-alone industrial charger that can charge one vehicle with up to 500 amps or two vehicles simultaneously at 250 amps. DVS features ultraefficient 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, adding an unparalleled layer of safety to fast charging.

And like all PosiCharge chargers, the DVS works with a broad range of battery voltages and has the same data management and on-board intelligence.

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#### **Key Features:**

- **■ GBT CAN Protocol compliant.**
- Capable of CAN communication with Lithium Batteries through our CAN protocol.
- Smart Battery Monitor and Identification Device (RMID)
- Charge different vehicles or batteries on the same charger
- Adaptable charge rate
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- IP55 weather proof rating
- High efficiency IGBT technology
- Can share power with the jet bridge or other devices to reduce installation costs and conditions
- Easy to replace air filters

#### **Technical Specifications**

	DVS 330: Powerserver
Power Rating	33kW
Utility Requirements	380 / 400 / 415 VAC, 3-phase 50/60hz
Full Load Amp Draw	56A / 53A / 51A
Max Circuit Breaker Rating	64A
Power Factor	0.96
Efficiency	90%
Battery Voltage Range	24V - 96V
Max Output Current (Dual Mode)	250A
Max Output Current (Single Mode)	500A
Weight	905 LBS
Dimensions	60"H X 32.4"W X 21.9"D
Communication Port	RS232
Operating Temperature	-40°C -50°C

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# PosiCharge™ MVS 330

Multi-Vehicle System Charger



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#### Multi-port, multi vehicle fast charge system

The MVS 330 is especially designed to lower utility costs and maximize available infrastucture. An MVS 330 can charge up to 8 industrial vehicles (e.g. tow tugs, baggage tractors, belt loaders, etc.) at the same time. This cost saving alternative to conventional charging makes implementing and using electric GSE vehicles more cost effective. The more vehicles charged at once, the greater the cost benefit.

Like the DVS, MVS features the highest power quality and most diverse multi-voltage, multi-amperage flexibility of any fast charging system available today. MVS systems are installed all across the world's largest airports, as well as Fortune and Global 100 companies. And like all PosiCharge chargers, the MVS 330 works with a broad range of battery voltages and has the same data management and onboard intelligence.

#### **Key Features:**

- GBT CAN Protocol compliant.
- Capable of CAN communication with Lithium Batteries through our CAN protocol.
- Smart Battery Monitor and Identification Device (RMID)
- Charge different vehicles or batteries on the same charger
- Flexible up to 8-vehicle charge option
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Lower maintenance and operational cost
- Easy to install, easy to use

#### **Technical Specifications**

	MVS 330: Powerserver				
Power Rating	33kW				
Utility Requirements	380 / 400 / 415 VAC, 3-phase				
Full Load Amp Draw	56A / 53A / 51A				
Max Circuit Breaker Rating	64 A				
Power Factor	0.96				
Efficiency	90%				
Weight	915 LBS				
Dimensions	60"H X 32.4"W X 21.9"D				

	Powerstation
Power Rating	60kW
Battery Voltage Range	24V - 96V
Max Output Current (Dual Mode)	250A
Max Output Current (Single Mode)	500A
Weight	304 LBS
Dimensions	30"H X 30"W X 19"D
Communication Port	RS232

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# PosiCharge™ MVS 400

Multi-Vehicle System Charger







#### Multi-port, multi vehicle fast charge system

The MVS 400 is a multiple-port, multi-vehicle fast charge system, especially designed to lower utility costs and maximize available infrastucture. An MVS 400 can charge up to 8 industrial vehicles (e.g. tow tugs, baggage tractors, belt loaders, etc.) at the same time. This cost saving alternative to conventional charging makes implementing and using electric GSE vehicles more cost effective. The more vehicles charged at once, the greater the cost benefit.

Like the DVS, MVS features the highest power quality and most diverse multi-voltage, multi-amperage flexibility of any fast charging system available today. MVS systems are installed all across the world's largest airports, as well as Fortune and Global 100 companies. And like all PosiCharge chargers, the MVS 400 works with a broad range of battery voltages and has the same data management and onboard intelligence.

#### Key Features:

- Capable of CAN communication with Lithium Batteries through our CAN protocol.
- Smart Battery Monitor and Identification Device (RMID)
- Charge different vehicles or batteries on the same charger
- Flexible up to 8-vehicle charge option
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Lower maintenance and operational cost
- Easy to install, easy to use
- Rugged NEMA 3R Enclosure Rating, provides all environment/weather operation and conditions

#### **Technical Specifications**

	MVS 400: Powerserver
Power Rating	40kW
Utility Requirements	480 / 600 VAC, 3-phase
Full Load Amp Draw	56A / 45A
Max Circuit Breaker Rating	70A / 60A
Power Factor	0.96
Efficiency	90%
Weight	915 LBS
Dimensions	60"H X 32.4"W X 21.9"D

	Powerstation
Power Rating	60kW
Battery Voltage Range	24V - 96V
Max Output Current (Dual Mode)	250A
Max Output Current (Single Mode)	500A
Weight	304 LBS
Dimensions	30"H X 30"W X 19"D
Communication Port	RS232

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# PosiCharge™ MVS 800

Multi-Vehicle System Charger



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#### Multi-port, multi vehicle fast charge system

MVS is our multiple-port, multi-vehicle fast charge system, especially designed to lower utility costs for distribution, warehousing, and general manufacturing. An MVS 800 can charge up to 16 industrial vehicles (e.g. tow tugs, baggage tractors, belt loaders, etc.) at the same time. This cost saving alternative to conventional charging makes implementing and using electric GSE vehicles more cost effective. The more vehicles charged at once, the greater the cost benefit.

Like the DVS, MVS features the highest power quality and most diverse multi-voltage, multi-amperage flexibility of any fast charging system available today. MVS systems are installed all across the world's largest airports, as well as Fortune and Global 100 companies. And like all PosiCharge chargers, the MVS 800 works with a broad range of battery voltages and has the same data management and onboard intelligence.

#### **Key Features:**

- Smart Battery Monitor and Identification Device (BMID)
- GBT CAN Protocol compliant.
- Charge different vehicles or batteries on the same charger
- Flexible up to 16-vehicle charge option
- Charge 3x the equipment with the same power used for conventional chargers
- Euro and Burton output connector/cable options
- Automatic start/stop
- Anti-arcing disconnect
- Auto thermal shutdown
- High efficiency IGBT technology
- Lower maintenance and operational cost
- Easy to install, easy to use
- Rugged NEMA 3R Enclosure Rating, provides all environment/weather operation and conditions

#### **Technical Specifications**

	MVS 800: Powerserver				
Power Rating	80kW				
Utility Requirements	480 / 600 VAC, 3-phase				
Full Load Amp Draw	100A / 80A				
Max Circuit Breaker Rating	125A / 100A				
Power Factor	0.96				
Efficiency	95%				
Weight	1,405 LBS				
Dimensions	62"H X 42"W X 27"D				

	Powerstation			
Power Rating	60kW			
Battery Voltage Range	24V - 96V			
Max Output Current (Dual Mode)	250A			
Max Output Current (Single Mode)	500A			
Weight	304 LBS			
Dimensions	30"H X 30"W X 19"D			
Communication Port	RS232			
Operating Temperature	-40°C -50°C			

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# **PosiCharge SkyLink™**

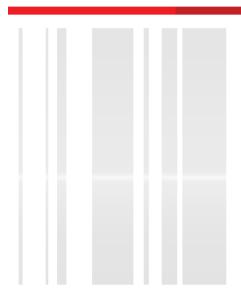
Cloud-Based Business Intelligence

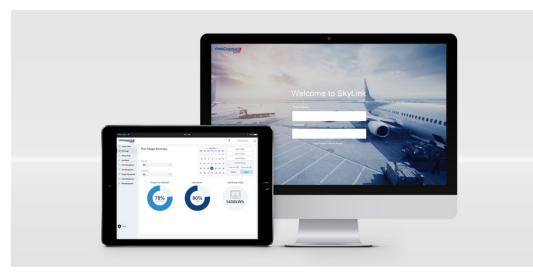
PosiCharge SkyLink™ is a cloud-based business intelligence platform designed to enhance the operational performance and safety of eGSE charging operations. By providing a one central location for asset management and actionable intelligence at-a-glance, eGSE operations run efficiently.



# PosiCharge SkyLink™

A cloud-based business intelligence platform





#### PosiCharge SkyLink

PosiCharge SkyLink is a cloud-based business intelligence platform that collects energy consumption, usage, safety, and performance data from your PosiCharge fast-charging systems. Asset management is centralized, intelligent, and scalable to your needs. With the right data, you can make smarter decisions to optimize your operations.

#### **Intuitive Interface for Quick Decision Making**

SkyLink's clean, simple and user-friendly interface makes it easy and effective for you to know immediately when interventions should be made. One small tweak can lead to thousands of dollars in savings.

#### **Key Features:**

- Protect your investment and eliminate stranded assets
- Manage all of your charging systems in one place
- World-class cloud based customer experience
- WiFi or Ethernet connectivity for data transmission and controls
- Energy consumption and billing reports
- Charger access control (vehicle authentication)
- Asset management status and reporting
- Multiple users and control management
- Built-in API to integrate customer SKADA / BI / Accounting systems
- Remote charger configuration and firmware updates

#### One Central Place for Asset Management

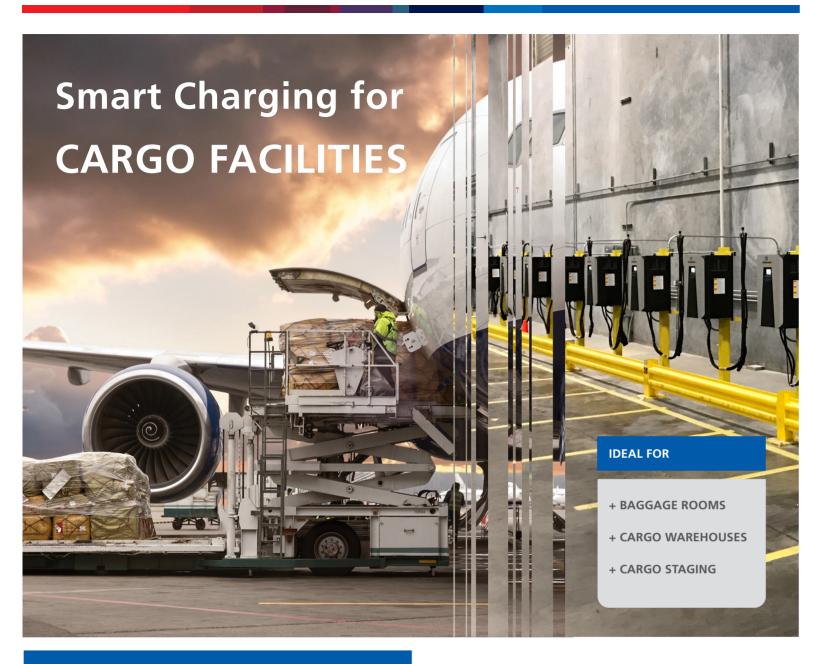
Manage your PosiCharge fast-charging systems through one central platform. Receive real-time data at your fingertips with actionable intelligence on the status, condition, and energy usage of your assets. Quickly identify, fix, and troubleshoot issues without negatively impacting your operations.

#### Gain an ROI on Your Investment

You've spent a lot of money on charging infrastructure. Don't let that investment go to waste. With SkyLink you can easily manage and measure energy usage, costs, and revenue. Identify, charge, and collect revenue from end-users based on utilization and energy consumed.

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"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. We're building stronger loyalty from our team members with our company which gives us much improved performance."

**GARY LICHO**VPO Roberts, SYSCO

Stay ahead of the curve with our most advanced indoor rated intelligent charging system, PosiCharge ProCore<sup>TM</sup>.

Your operation needs to be high performance to meet the demands of today's fast-paced ground support operations. Downtime, wasted effort and accidents due to battery changing 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?

From our energy-efficient smart charging systems to lifeextending and operationsaving battery and truck accessories – our mission is to enable your business to perform at its maximum while keeping your team and assets safe.





# **ProCore Edge Series**

Intelligent Charging System

For eGSE Conventional, Opportunity, and Fast Charging Operations



#### **Intelligent Charging with Unparalleled Performance**

The new PosiCharge ProCore Edge™ charger is the latest addition to our intelligent charging family that supports a wide array of eGSE 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 for all types of ground handling operations.

- Communication with wireless BMID through
- Mobile app programming / Data download
- Future-proof technology iOS Software Updater
- Universal controller with proprietary charge
- 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.

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

With ProCore Edge you can free up hangar space and reduce demands on line service 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. Users can integrate remote data monitoring through SkyLink™ and Battery Rx to view unit, battery, and charger data for superior fleet management.

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 ground handling operation is fully supported - all while being easy to use, safe, and reliable.





#### **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.



#### 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	В	В	С	С	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	В	С	С	D	D	D	D	D

Cabinet Dimension			
Туре	Bays	Dimensions (inches)	Dimensions (mm)
В	3	8.6"h X21'w X 14.7"d	472h X 533w X 373d
С	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









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\*96V Li-lon applications only

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# **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



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

options free up warehouse space



# **ProCore**<sup>™</sup>

#### Premium Intelligent Charging System



#### Maximum Performance. Unparalleled Safety.

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. With power ranges from 5kW to 30kW, multi-voltage flexibility and value added options, ProCore is ideal for your entire fleet.

A small, lightweight, powerful, highly efficient charger, ProCore is easy to use and provides extreme flexibility with multiple customization options. It takes up minimal floor space and requires no specific training to mount, install, and update.

ProCore's powerstage modules offer scalability for any forklift fleet - from the smallest to the largest operations. ProCore's modular design makes it easy to service, upgrade, troubleshoot, and repurpose, and its robust architecture makes it highly customizable. Compatible with both BMID and non-BMID and CAN devices.

High peak efficiency combined with low overcharge factor make ProCore the most efficient charger available with the lowest monthly utility costs.

#### **Key Features:**

- Certified to the highest industry product safety standards.
- Lighter weight for easier installation and additional mounting options
- Multi-input breaker selection offers installation flexibility and upgrade capability
- CEC tested and certified by exceeding the minimum efficiency and idle power consumption set by the California Energy Commission
- Power management tool enables full programmability to plan for peak utility demand periods
- CAN/PLC capability enables chargers to talk to to AGVs and mobile robots, and advanced batteries such as lithium
- Real time battery temperature / voltage monitoring and compensation enable precise charge control of batteries for fastest and safest charging
- Stacklight options for visual notifications of the battery/charger status
- Autowater control options for optimal battery watering during the equalization cycle

#### **ProCore™ and Advanced Connect Rx**

ProCore<sup>™</sup> with Advanced Connect Rx<sup>™</sup> combines a sophisticated charge algorithm, battery thermal management and anti-arc technology for unparalleled safety and performance.

#### **Mobile Access and Control**

Through an innovative mobile app, connecting with, programming and downloading data from ProCore can be done from a smartphone running iOS or Android. This tool allows remote set up of new units, troubleshooting, and makes changes to your fleet simple.

#### **Technical Specifications**

Power Rating	5 kW	10 kW	15 kW	20 kW	<b>30 kW</b> w/ single cable	<b>30 kW</b> w/ dual cable	<b>30 kW</b> w/ dual cable
Max Output Current 24 / 36 / 48 V	160 / 111 / 83	200 / 200 / 167	320 / 320 / 250	400 / 400 / 320	400 / 400 / 400	500 / 500 / 500	600 / 600 / 600
Max Output Current 48 / 72 / 80 V	N/A	160 / 111 / 100	250 / 167 / 150	320 / 222 / 200	400 /333 / 300	N/A	N/A
Circuit Breaker at 480 VAC	10A	20A	25A	40A	50A	50A	50A
Idle Power	<10W	<10W	<10W	<10W	<10W	<10W	<10W
Dimensions, H x W x D	31.5"x 20"x 10.5"	31.5"x 20"x 10.5"	31.5"x 20"x 15.2"	31.5"x 20"x 15.2"	31.5"x 20"x 20"	31.5"x 20"x 20"	31.5"x 20"x 20"
Weight (lbs)	86 lbs	91 lbs	144 lbs	144 lbs	190 lbs	196 lbs	206 lbs
Input Voltage SKUs for Nominal 380V, 400V, 415V, 440V, 480V (50/60HZ)	Υ	Y	Υ	Y	Y	Y	Y

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# Advanced Connect Rx<sup>TM</sup>

Advanced Cable Connector Health Monitoring Technology



#### Maximum Performance. Unparalleled Safety.

Advanced Connect Rx<sup>TM</sup> 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  $Rx^{TM}$  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.

#### **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

Advanced Connect Rx<sup>TM</sup> is a standard feature on the PosiCharge<sup>TM</sup> ProCore<sup>TM</sup>, 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<sup>TM</sup> gives you unparalleled operational safety.







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.

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# 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 eGSE, the amount of data, maintenance schedules, and potential problems can mount up in the blink of an eye. Our battery management tools, PosiLink and Battery RX, provide you the data you need to maximize your fleet performance without wasting your valuable time.

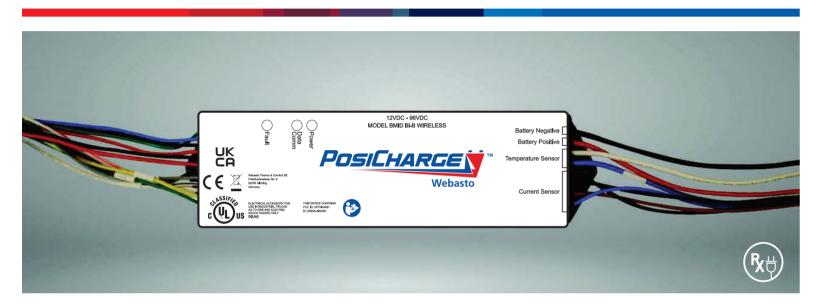
At a glance you have access to actionable, useful data on the state of your fleet's energy from anywhere with an internet connection.





# **Battery Rx**™

Advanced Battery Monitoring



#### **Battery Management**

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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

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

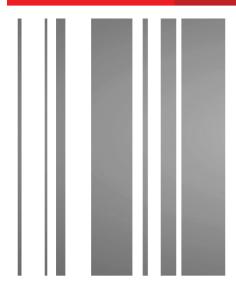
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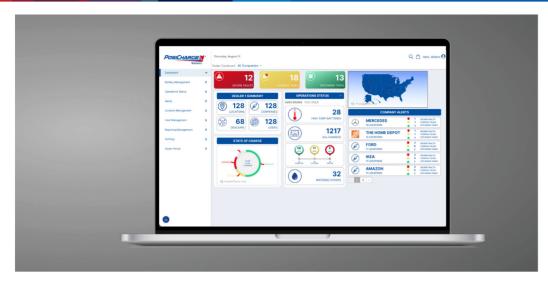
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#### PosiLink™

#### 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

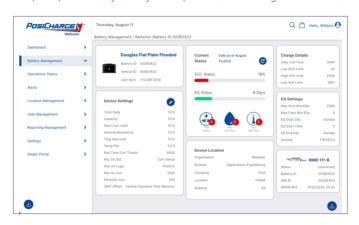
PosiCharge™ PosiLink is a comprehensive fleet management tool for fast charge operations. Built on a unique system architecture that links all fast chargers into a single network, PosiLink automatically captures and analyzes operational data, and then presents actionable fleet usage and warranty compliance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

#### 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.

#### Manage Battery Details

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



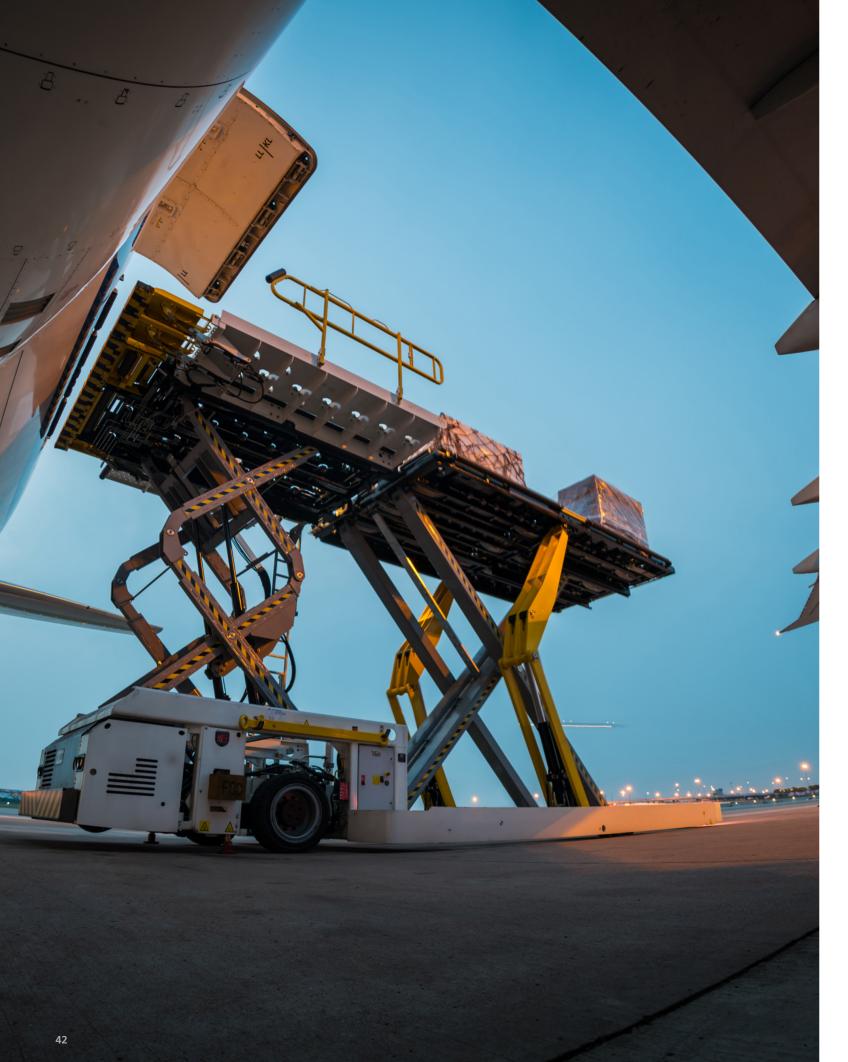
#### **Monitor Battery Temperature**

Review battery temperature in detail for selected date range



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# 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 nonstandard 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 accessoriese

#### **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
- Gravity feed via holding tank provides 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)

#### 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**

"Based on past performance ...the PosiCharge systems will be the UA standard."

**Andrew Alexander**Manager of GSE / Facilities Planning

"Not only do PosiCharge systems stand out because of their people, but the products are state-of-the art...PosiCharge products have consistently rated above the competition for our operational needs."

Jody Lonegan Manager of GSE Continental Airlines

"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

**United Airlines** 

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

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

**Van Hooper** VPO Portland 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

"Self watering system means no more forgetting to fill up the batteries, this has resulted in excellent life span of our batteries."

**Tim Kealley** 

Manager Airport Services Gold Coast Aerocare Pty Ltd. Australia

# THE POSICHARGE ADVANTAGE



# **DISTRIBUTED MULTI-VEHICLE CHARGING SYSTEM**

- One utility connection can charge up to 16 Vehicles simultaneously.
- Integrated software manages the charge with priority given to the battery with lowest State of Charge
- Reduces Infrastructure requirements and Installation cost
- Provides a flexible solution for the Airport Environment
- Robust and proven technology
- Over 3000 charging locations at Airports using MVS technology



# INTEGRATED OEM CHARGING SOLUTION

- GSE OEM's have discovered that fast charging helps them sell more electric vehicles
- Most OEMs provide "Fast Charge Kit" from the factory:
  - Integrates the BMID into their wiring harness
  - Provides external charging port for Battery Charging
  - Interlocks with vehicle drive system
  - Lowest cost solution



# **SUB-ZERO APPLICATIONS**

- PosiCharge is the only GSE Charger rated for OUTDOOR use in sub-zero applications
- All other "outdoor rated" GSE chargers have to be installed in a climate-controlled environment
- All other "BID Modules" do not work below freezing which prevents the charger from charging below zero







# **INTEGRATED POWER-SHARING**

- PosiCharge developed this technology in cooperation with the Electric Power Research Institute (EPRI) and Delta Airlines in 2004
- PosiCharge integrates the Power Sharing function into the intelligence of the charger
- Because it is done intelligently, PosiCharge can share circuit power with other equipment (Jet Bridge, PCA, etc)
- NO additional "interface box" required, no additional point of failure



# POSICHARGE PARTNERSHIP ADVANTAGE

- 95% of the world market share in eGSE Fast Chargers
- Wealth of experience in the eGSE market worldwide. One of the largest repositories of fastcharge battery data in the world thanks to our PosiNet battery management system
- 17 years of of historical knowledge and data on Airport Operations
- Internationally certified for safety, more than any other eGSE brand
- Over 3,500 chargers operating in airports around the world. 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 that helps to make our products the best choice

# POSICHARGETM eGSE INSTALLATIONS



















PosiCharge eGSE fast charging systems power 15 of the world's largest airports, 11 of the largest airlines, and US Air Force bases around the world.















For over a century, Webasto 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.

#### CONTACT

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