

eGSE

PosiCHARGE
Webasto



POSICHARGE™

INTELLIGENT FAST CHARGING SYSTEMS

FOR ELECTRIC GROUND SUPPORT EQUIPMENT

CATALOG

KOAM

An aerial photograph of an airport tarmac. A white service truck is partially visible on the right side. The tarmac has various white and red markings, including a red arrow pointing right and a red octagonal sign with a white 'X'.

POSICHARGE REVOLUTIONIZED FAST CHARGING – LET US DO THE SAME FOR YOUR OPERATIONS!

Airports and airlines are a high speed, high reliability operation where even the smallest issue can cause a massive problem. Every piece of equipment in your operation needs to work on time, every time, so you can continue to perform. Our PosiCharge outdoor-rated chargers have the proven reliability to be trusted in some of the world's most extreme environments, from airports in Alaska to U.S. military bases in Afghanistan, to do just that.

Our easy to use, intelligent and durable chargers can fit any charging need while keeping your employees safe, your equipment optimized and your operation performing smoothly all while reducing operating costs. With advanced battery optimization and safety technology, you can be assured that no matter the type, size, voltage or brand of batteries your equipment uses, they will be given the best charge possible.

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

3X

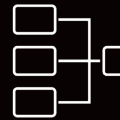
Charge 3x the equipment with the same power you were using for conventional chargers



Robust & reliable. Outdoor-rated to withstand extreme conditions.



Round-the-clock performance for multi-shift operations



POWER SHARE
share power with existing circuits and other devices at the jet bridge

SIMPLER AND SAFER CHARGE + LONGER BATTERY LIFE



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.

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





Efficiency

- » Multi-voltage and modular IGBT chargers so that every battery gets the precise charge it needs in the shortest time.
- » Only thermal management system for heavy use vehicles to maintain the optimal temperature, reduce charge times and extend the life of your batteries.
- » Can charge up to 16 vehicles simultaneously.
- » 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.
- » Low idle power and high efficiency certified.
- » CEC certified.

FULLY AUTOMATED INTELLIGENT SYSTEM



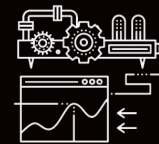
POWER DISTRIBUTION TECHNOLOGY

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



SMART CHARGING TECHNOLOGY

automated EQ, auto-watering, advanced battery monitoring & built-in safety features



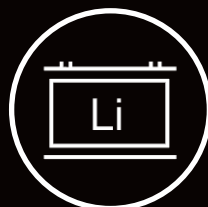
DATA DELIVERY TECHNOLOGY

tracks vehicle, battery & user performance that's critical for effective fleet management



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



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.

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

10,000+

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

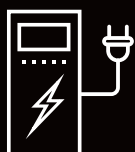
10+
YEARS

1500 CHARGING CYCLES

3 AFTER YEARS



90%
BATTERY CAPACITY RETAINED



25,000+

CHARGING STATIONS

750+ LOCATIONS



POSICHARGE™ DVS 300/400

eGSE

- 
- 1 INTELLIGENT**
Smart Battery Monitor and Identification Device (BMID) instantly recognizes voltage, state of charge, temperature
 - 2 MULTI VOLTAGE / MULTI-AH CAPABILITIES**
Allow different vehicles/batteries to charge on the same charger
 - 3 CUSTOMIZED**
Adapts charge rate according to charge acceptance limit and temperature for safest fast charge
 - 4 BMID CONTROLLED EQ**
Allows any battery to go to any charger and get a complete EQ each week
 - 5 RUGGED NEMA 3R ENCLOSURE RATING**
Provides all environment/weather operation and conditions
 - 6 SAFE**
Automatic Start/Stop Anti-arcing Disconnect & auto thermal shutdown
 - 7 PARALLEL CHARGE**
Can charge 2 vehicles simultaneously or one vehicle twice as fast
 - 8 POWER SHARE**
Can share power with the jet Bridge or other devices to reduce installation costs
 - 9 EASY**
Easy to install, easy to use
 - 10 EFFICIENT**
High efficiency IGBT technology

High Output. Reliable. Intelligent Dual Vehicle Charge

PosiCharge™ systems bring you industry-leading fast charge solutions for airport ground support equipment, outdoor-rated to withstand extreme conditions.

PosiCharge DVS300 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 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, 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 OPTIONS

CEC CERTIFICATION - Chargers meet CEC round trip efficiency and idle power standards required by certain states.

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.

POWER SHARE - Allows you to share power with existing circuits and other devices at the jet bridge.

POSICHARGE™ DVS

Dual-Vehicle System

ADVANTAGE

- » More charge power for heavy applications, compared to other multiple vehicle chargers
- » Charge 3x the equipment with the same power you were using for conventional chargers
- » Designed to maximize available electrical infrastructure, keep fleet operational 24/7 and extend battery life
- » Lower infrastructure costs compared to large scale single-vehicle systems
- » Lower maintenance & operational cost
- » Flexible one- or two-vehicle charge option
- » Requires no battery changing operations
- » Affordable stand-alone solution for small or remote fleets
- » Extended battery life & run time
- » Euro and Burton Output Connector/Cable Options



250A x 2 simultaneous -or- up to 500A charge

SPECIFICATIONS

	DVS300	DVS400
POWER RATING	30kW	40kW
UTILITY REQUIREMENTS*	480/600 VAC, 3-PHASE	480/600 VAC, 3-PHASE
FULL LOAD AMP DRAW	40/32A	56/45A
MAX CIRCUIT BREAKER RATING	50/40A	70/60A
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

HIGHEST SAFETY STANDARDS: UL1012, CSA

POSICHARGE™ MVS 800

eGSE

- 
- 1 INTELLIGENT**
Smart Battery Monitor and Identification Device (BMID) instantly recognizes voltage, state of charge, temperature
 - 2 MULTI VOLTAGE / MULTI-AH CAPABILITIES**
Allow different vehicles/batteries to charge on the same charger
 - 3 CUSTOMIZED**
Adapts charge rate according to charge acceptance limit and temperature for safest, fast charge
 - 4 BMID CONTROLLED EQ**
Allows any battery to go to any charger and get a complete EQ each week
 - 5 RUGGED NEMA 3R ENCLOSURE RATING**
Provides all environment/weather operation and conditions
 - 6 SAFE**
Automatic Start/Stop Anti-arcing Disconnect & auto thermal shutdown
 - 7 PARALLEL CHARGE**
Can charge up to 16 vehicles simultaneously
 - 8 EFFICIENT**
High efficiency IGBT technology
 - 9 EASY**
Easy to install, easy to use
 - 10 POWER SHARE**
Can share power with the jet Bridge or other devices to reduce installation costs

High Output. Reliable. Intelligent Multi-Vehicle Charge

PosiCharge™ systems bring you industry-leading fast charge solutions for airport ground support equipment, outdoor-rated to withstand extreme conditions.

MVS is our multiple-port, multi-vehicle fast charge system, especially designed to lower utility costs for distribution, warehousing, and general manufacturing. An MVS800 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 MVS800 works with a broad range of battery voltages and has the same data management and onboard intelligence.



KEY OPTIONS

CEC CERTIFICATION - Chargers meet CEC round trip efficiency and idle power standards required by certain states.

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 report.

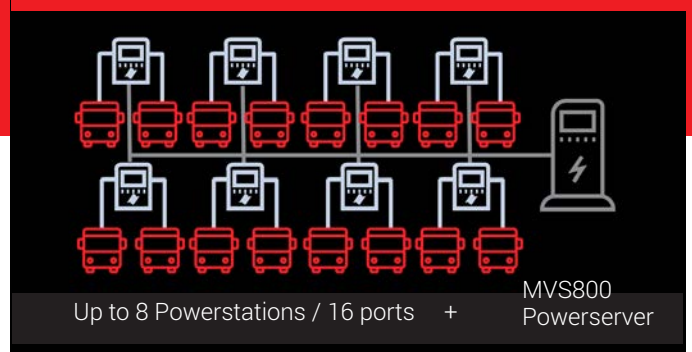
POWER SHARE - Allows you to share power with existing circuits and other devices at the jet bridge.

POSICHARGE™ MVS

Multi-Vehicle System

ADVANTAGE

- » More charge power for heavy applications, compared to other multiple vehicle chargers
- » Charge 3x the equipment with the same power you were using for conventional chargers
- » Lower infrastructure costs compared to large scale single-vehicle systems
- » Lower maintenance & operational cost
- » Flexible up to 16-vehicle charge option
- » Requires no battery change
- » Designed to maximize available electrical infrastructure, keep fleet operational 24/7 and extend battery life.
- » Euro and Burton Output Connector/Cable Options



SPECIFICATIONS

MODEL MVS800: POWERSERVER

POWER RATING	80kW
UTILITY REQUIREMENTS	480/600VAC, 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

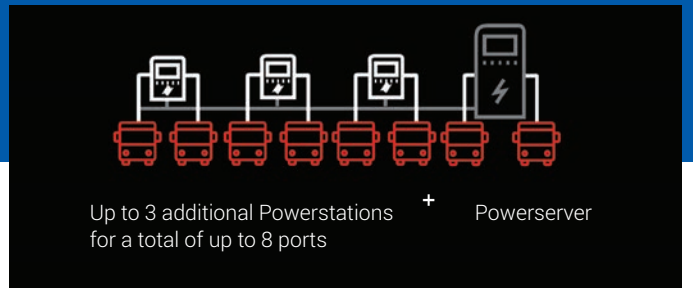
HIGHEST SAFETY STANDARDS: UL1012, CSA

POSICHARGE™ DVS 330

Dual-Vehicle System

ADVANTAGE

- » More charge power for heavy applications, compared to other multiple vehicle chargers
- » Charge 3x the equipment with the same power you were using for conventional chargers
- » Designed to maximize available electrical infrastructure, keep fleet operational 24/7 and extend battery life
- » Lower infrastructure costs compared to large scale single-vehicle systems
- » Lower maintenance & operational cost
- » Flexible up to 8-vehicle charge option
- » Requires no battery changing operations
- » Affordable stand-alone solution for small or remote fleets
- » Extended battery life & run time
- » Euro and Burton Output Connector/Cable Options



SPECIFICATIONS

EUROPE, MIDDLE EAST & ASIA

8x

DVS 330

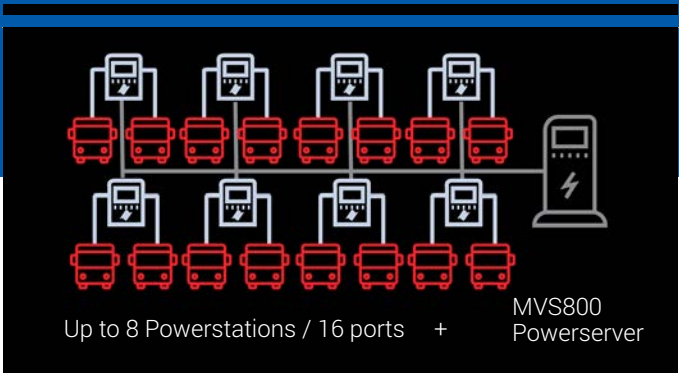
POWER RATING	33kW
UTILITY REQUIREMENTS*	380/440 VAC, 3-PHASE 50/60 HZ
FULL LOAD AMP DRAW	60/56/53A
MAX CIRCUIT BREAKER RATING	70A
POWER FACTOR	0.98 @ 380V
EFFICIENCY	90%
BATTERY VOLTAGE RANGE	24V - 96V DC
MAX OUTPUT CURRENT (DUAL MODE)	250A
MAX OUTPUT CURRENT (SINGLE MODE)	500A
WEIGHT	915 LBS / 415 KG
DIMENSIONS	60"H X 32"W X 22"D
COMMUNICATION PORT	RS232
AMBIENT TEMPERATURE RANGE	-40F to 140F / -40°C to 60°C
ENVIRONMENTAL RATING	NEMA 3R enclosure

POSICHARGE™ MVS 800

Multi-Vehicle System

ADVANTAGE

- » More charge power for heavy applications, compared to other multiple vehicle systems
- » Charge 3x the equipment with the same power you were using for conventional chargers
- » Lower infrastructure costs compared to large scale single-vehicle systems
- » Lower maintenance & operational cost
- » Flexible up to 16-vehicle charge option
- » Requires no battery changing operations
- » Designed to maximize available electrical infrastructure, keep fleet operational 24/7 and extend battery life
- » Euro and Burton Output Connector/Cable Options



SPECIFICATIONS

EUROPE, MIDDLE EAST & ASIA

16x 

MODEL MVS800: POWERSERVER

POWER RATING	80kW
UTILITY REQUIREMENTS	380/440VAC, 3 PHASE 50/60Hz
FULL LOAD AMP DRAW	100A
MAX CIRCUIT BREAKER RATING	125A
POWER FACTOR	0.96
PEAK EFFICIENCY	93%
WEIGHT	1,405 LBS
DIMENSIONS	60"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

HIGHEST SAFETY STANDARDS: CE, C-Tick

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 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

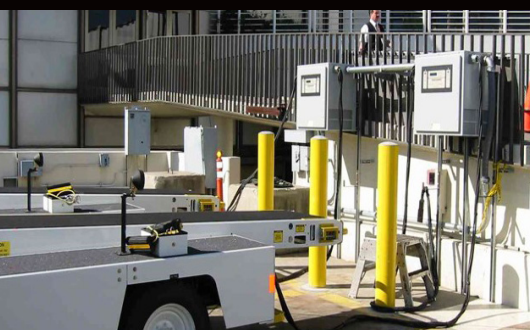


POSICHARGE PARTNERSHIP ADVANTAGE

- » 95% of the world market share in eGSE Fast Chargers
- » Wealth of experience in the eGSE market worldwide. One of the largest repositories of fast-charge 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



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.



PosiCharge eGSE INSTALLATIONS





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