

MOD3 | LIFESPEED®

Where TECHNOLOGY meets INNOVATION™



HAWKER®'s modular charging revolution continues with the new LIFESPEED® MOD3 charger – the latest innovation of high-frequency switch-mode smart chargers from HAWKER®, the world leader in high-frequency charging technology. Offering the flexibility of a fast charger, an opportunity charger, and a straight-through charger, LIFESPEED® MOD3 chargers provide optimum charging, peak efficiency, and non-stop power while reducing charging costs and energy demands.



BENEFITS AND HIGHLIGHTS

Combining HAWKER®'s LIFESPEED® charging expertise with the advantages of modular technology, LIFESPEED® MOD3 chargers deliver a variety of benefits to enhance your operation.

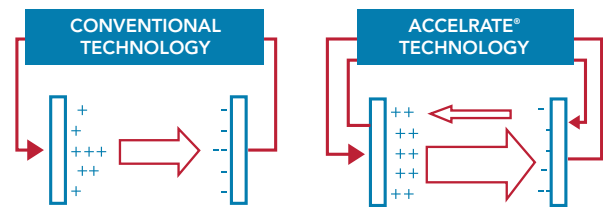
- **Fast Charging** – The LIFESPEED® MOD3 charger utilizes patented AccelRate® technology to create a unique charge algorithm. When combined with the exceptional efficiency and power factor of high-frequency switch mode technology, these chargers can recharge your batteries 3-5 times faster than conventional units.
- **Energy Savings** – LIFESPEED® MOD3 technology offers the highest conversion efficiency and power factor available in the industry – significantly reducing electrical consumption and demand charges. The LIFESPEED® MOD3 operates at efficiencies of up to 94% and a power factor of .96.
- **Plug-and-Play Flexibility** – The LIFESPEED® MOD3 responds dynamically to charge a wide range of battery voltages and capacities without user intervention. LIFESPEED® is the easiest high-frequency switch-mode charger in the industry to operate. On-site programming capabilities allow the charger to be custom tailored to the application's specific needs.
- **Advanced Data Management** – The chargers communicate wirelessly with the Battery Boss® WC (BBWC) and maintain a data history of numerous charge parameters for analysis and optimization. Optional Ethernet interface can provide network connectivity for remote monitoring and data collection with HAWKER®'s LifeNetwork™.

Every module in the HAWKER® LIFESPEED® MOD3 chargers are stand-alone, eliminating the risk of catastrophic failures and downtime.

- **Opportunity Charging** – The LIFESPEED® MOD3 includes a distinct opportunity charge profile which returns capacity to the battery during breaks without excessively gassing the battery. The opportunity profile can be set either manually using front panel menus or automatically using HAWKER®'s BBWC.

ACCELRATE® FAST CHARGING

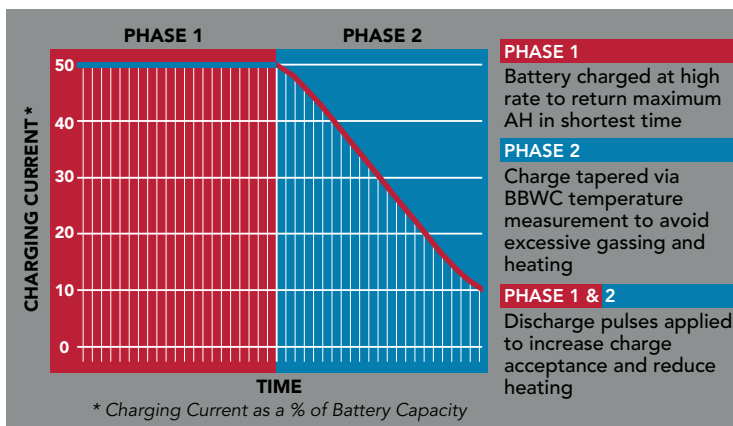
Coupled with the BBWC, this patented charge algorithm enables the LIFESPEED® MOD3 charger to automatically adapt to battery voltage, AH capacity, and state of charge. This provides a 100% ampere hour return from an 80% DoD in just 2-3 hours while avoiding excessive heat generation.



ACCELRATE® TECHNOLOGY'S DISCHARGE CIRCUIT

Through a patented charge algorithm, the AccelRate® profile reduces the natural resistance of the battery by inserting regular discharge cycles at precise intervals into the charging profile. This homogenizes the ion field around the plates, promoting a far better distribution of the active ions over the entire charging area. Therefore, a substantially higher charging current can be applied and maintained, resulting in a much faster charge with a controlled increase in the electrolyte temperature.

The adjacent chart depicts the two phases of the fast charging profile. Vertical lines identify pulses.



ADDITIONAL CHARGE PROFILE OPTIONS

The LIFESPEED® MOD3 offers two additional charge profile options based on your operation's requirements:

- 1. IONIC** – This patented, exclusive profile is the preferred choice for most applications. Employing periodic current pulses which both identify the battery's true capacity and state of charge, as well as mix the electrolyte throughout charge to avoid acid stratification. This profile provides the optimal recharge with minimal heating.
- 2. Opportunity** – The charger current is up to a 25% start rate depending on battery and charger size.

The opportunity profile may be used with or without a BBWC. When employing a BBWC, the charger will change profiles based on the BBWC's settings. Without a BBWC, you must program the charger in opportunity charge mode. When using a BBWC in opportunity mode, POWERLINE™ and ENERGY-PLUS™ batteries receive an extra year of warranty.

Equalize and complete charge time parameters must be programmed through the charger configuration screen.

Cold Storage Program – The LIFESPEED® MOD3 charger series automatically engages to the cold storage program if the battery temperature is below 59°F.

ADVANTAGES OF MODULAR POWER

- ⚡ Power You Can Count On** – The new high-frequency modular LIFESPEED® MOD3 charger supplies dependable, proven power – delivering maximum reliability and improved efficiency to keep you moving.
- 🔧 Simplified Service** – The LIFESPEED® MOD3 self-diagnostics feature alerts operators to any possible failures. Replacement modules are available for quick delivery, and because of their design, installation is fast and simple.



LIFESPEED® Mod3



3.5 kW Modules

6-bay or 12-bay* cabinets

480 V 3-phase

Output voltage: 24/36/48V or 72/80V*
from 10.5kW to 42kW

⚡ Flexible. Adaptable. Fast. – The modules in HAWKER®'s chargers automatically adjust to effectively charge the battery while maintaining optimal efficiency and best power factor.

The modular design of the LIFESPEED® MOD3 allows for adaptation to a variety of battery capacities, potentially reducing or eliminating the need for more chargers in your fleet.

🔄 Eliminate Downtime – When employing two to twelve* individual power modules, LIFESPEED® MOD3 chargers provide you with a non-stop charge. Even if one module stops working, the rest will keep working to continue charging the battery – making downtime a thing of the past.

🏗️ Scalability for Future Needs – Our modular charger design offers the advantage of scalability. The 6-bay and 12-bay* LIFESPEED® MOD3 charger cabinets allow modules to be added in response to changing power needs. Your current operations may require only a few modules to effectively charge your batteries, but if your workload changes, these larger cabinets can quickly accommodate additional modules to meet your expanded power requirements.

🌿 Environmentally Engineered – The HAWKER® LIFESPEED® MOD3 chargers consume less electricity, simultaneously reducing battery recharge costs while positively impacting our carbon footprint.

The modules in the HAWKER® LIFESPEED® MOD3 chargers work as a team to deliver consistent power. Even if one module goes down, the other modules will continue charging.

* coming soon

For more information on the HAWKER® LIFESPEED® MOD3 chargers, call 1.877.7HAWKER today to speak with a HAWKER® representative in your area.

Key Features

CHARGING

Automatic diagnosing of the battery

Automatic equalization charge day and time of day

Condition charge (programmable DoD)

De-sulphation charge

AccelRate® charge profile

IONIC smart charge profile

Opportunity charge profile

High temperature charge interruption with Battery Boss® WC

Programmable delay start, either period of time after plugged-in or specific time of day

Block-out timer to avoid peak demand

FLEXIBILITY

Multi profile capability /automatic with Battery Boss® WC

Automatic temperature adjustment with Battery Boss® WC

Multi capacity and scalable output power

Auto cell sizing for 12/18/24 cells (36/40 cells with BBWC)

Auto selection of I-E-I charge profile for cold storage applications

COMMUNICATION

Wireless communication between charger and battery via Battery Boss® WC

USB port to download charger data and upload firmware

Optional Ethernet adapter

LED indicators on each module for on/off or if a fault is detected

Built-in real-time clock

Programmable customer asset number

CONSTRUCTION

Light and modern design

Shelf or wall mounted (6-bay cabinet)

7" multi-color TFT screen with customer programmable menu

Background changes color with battery status

Adjustable cable settings: length and gauge

Utilizes SB-350 connector (no auxiliary wire needed)

GREEN TECHNOLOGY

Energy savings with efficiency up to 94% and .96 power factor

Consumption below 10W in Energy Saver mode

THE BOTTOM LINE FOR LIFESPEED® MOD3 CHARGERS

LIFESPEED® MOD3 modules are the most flexible in the industry, operating as a fast, IONIC, or opportunity charger. The LIFESPEED® MOD3 charger series provides optimum charging, peak efficiency, and non-stop power while reducing charging costs and energy demands.

GREATER FLEXIBILITY – LIFESPEED® MOD3 chargers with fast, IONIC, and opportunity charge profiles can grow with your business. They can charge a universal range of batteries (voltages from 24 to 80 volts) and AH capacities without any user intervention or programming. There's no need to interrupt charging at the 80% point to limit heating. Allows for a partial charge or full charge whenever your work cycle demands it.

IMPROVED EFFICIENCY – The LIFESPEED® MOD3's charging rate is increased without overheating the battery due to our patented fast charge algorithm, reducing the charge time up to four times.

WHERE TECHNOLOGY MEETS INNOVATION™

ENERGY SAVINGS – LIFESPEED® MOD3's IONIC charge profile lowers charge factor by diagnosing the battery and precisely returning the energy needed to completely charge your battery. The IONIC profile coupled with high electrical efficiency can offer significant savings on electrical costs.

OBSOLESCENCE SAVINGS – LIFESPEED® MOD3's flexibility and scalability means that your chargers may not need to be replaced when your present trucks or batteries are replaced.



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