

# PowerCharge™

Battery Charger  
HV Series

The PowerCharge HV Series is a line of high voltage battery chargers that feature advanced power electronics technologies and microprocessor controls developed by PowerDesigners, LLC. The new charger product line incorporates soft switching power conversion and advanced planar magnetics for high efficiency and high power density. The advanced on-board microprocessor controls incorporate programmable charging algorithms that can be tailored to meet the needs of various battery chemistries including Gel and AGM Lead-Acid batteries as well as other battery chemistries.



#### Advantages:

- Compact size
- High performance
- Programmable charging routines

#### Applications:

- Electric Vehicles
- Hybrid Electric Vehicles
- Hybrid Electric Buses

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## FEATURES & BENEFITS

### ❖ Programmable Charging Algorithms

The advanced microprocessor controls features fully programmable charging profiles. Customers can program various charging parameters and select among many charging sequences that best meet their specific battery needs. Programmable parameters bulk charge voltage and current set points, float and equalize charge voltage and current set points, charging timers, voltage and temperature alarm set points, temperature compensation droop characteristics, dV/dt charge termination limit, and many other.

### ❖ High Efficiency Soft Switching Power Conversion Technology

PowerCharge product line utilizes state of the art soft switching power conversion technology, which greatly improves efficiency and reduces electromagnetic interference. By eliminating the switching losses in the power semiconductor devices, higher switching frequencies are achieved thus reducing the size of the magnetic and capacitive components and increasing the power density of the charger.

### ❖ Sealed and IP65 Compliant

To meet the stringent requirements of electric and hybrid vehicles and buses, the PowerCharge HV Series chargers are offered in an optional sealed, IP65 compliant package.

### ❖ Remote Control Capability

Equipped with RS-232, RS-485 optional ports, PowerCharge extends its programmability and monitoring features to remote hosts such as PCs and PLCs.

For further information please visit our website at [www.powerdesigners.com](http://www.powerdesigners.com)  
or contact PowerDesigners, LLC at +1-608-231-0450.

## PowerCharge HV Series Product Matrix

Specifications	PCHV-6kW-200V	PCHV-6kW-400V	PCHV-6kW-800V
<b>Nominal VA Ratings</b>	200V / 40A	400V / 20A	800V/10A
<b>Input Specs.</b>			
Voltage	Single phase, 220VAC (190-266VAC)		
Current	30Arms maximum		
Power Factor	0.99		
Current THD	< 5%		
Connection	User accessible terminal block		
<b>Output Specs.</b>			
Voltage	140V-200V	250V-400V	500V-800V
Current	40A max (Power limited)	20A max (Power limited)	10A max (Power limited)
Power	6.0 kW at 220VAC (Max. of 6.2kW at 30Arms)		
Pk-Pk Ripple	<1%		
Connection	User accessible terminal block		
<b>Efficiency</b>	92%		
<b>Control</b>			
Load Regulation	<1% of full scale		
Control Mode	Voltage control with current limit		
<b>Protection</b>			
Input	<ul style="list-style-type: none"> <li>➤ Under voltage</li> <li>➤ Over Voltage</li> </ul>		
Output	<ul style="list-style-type: none"> <li>➤ Over Current</li> <li>➤ Over Voltage</li> <li>➤ Over temperature</li> <li>➤ Reverse polarity protection</li> </ul>		
<b>Operating Conditions</b>			
Ambient Temperature	0 – 50°C		
Packaging	Air Cooled <b>Sealed unit option available (IP65)<sup>1,3</sup></b>		
<b>Microprocessor Interface</b>	<ul style="list-style-type: none"> <li>➤ Ribbon cable interface</li> <li>➤ 5V, 10W power supply provided</li> <li>➤ Output referenced levels</li> <li>➤ Signal Interface: Voltage / Current commands, Voltage / Current feedbacks, Enable, Faults</li> </ul> <b>Microcontroller with RS-232 interface option available<sup>2,3</sup></b>		
<b>Cooling</b>	Forced air through heat sink fins		
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>➤ Size: 21.25”L x 13.61”W x 7.21”H</li> <li>➤ Wt.: ~ 50lb</li> </ul>		
<b>Safety</b>	DTM UL 1564		

1 For sealed unit option, use part number **PCHV-6kW-xxxV/SL**.

2 For microcontroller option, use part number **PCHV-6kW-xxxV/MIC**.

3 For sealed units with microcontroller options, use part number **PCHV-6kW-xxxV/SL/MIC**.