



PCTI

Power Conversion Solutions



Battery Chargers for Industrial Applications

High Current Battery Chargers

Power Conversion Technologies, Inc. offers rugged high-current battery chargers to meet all of your high-current industrial charging applications from 25 to 2000A and up to 1000V. Our standard battery charger includes a battery eliminator, float and equalize adjustments, manual equalize timer, automatic shutdown and restart under a variety of fault conditions, low ripple, and paralleling capability. Options include computer interface, discharge capability, DC circuit breaker, temperature compensation circuit and more.



**Dutch Navy
Battery Charger and Discharger for Submarine Batteries**
Dual Input: 440V/50Hz, 480V, 60Hz. Output: 400ADC & 800ADC
350-650VDC, 520KW & 260KW

Standard Specifications

Input

Voltage: + 10%, 50/60Hz

Single Phase: 110, 115, 120, 130, 200, 208, 230

Three Phase: 208, 220, 230, 380, 415, 440, 450, 480, 575

Frequency: 60Hz

Power Factor: 0.7 minimum

Output

Voltage: 48V, 80V, 125V, 250V to 600V and others as requested

Current: 50 to 50,000A

Current Limit Adjust: 90% to 120% of full rated output to be maintained

Voltage Adjust: + 5% of rated output voltage for any load variation from 0 to 100%
with separate equalize and float voltage settings

Efficiency: 85% minimum

Features

- ▶ Six-pulse or 12 pulse thyristor bridge rectifier
- ▶ Soft Start with batteries disconnected
- ▶ Automatic Restart to Float Mode after loss and restoration of AC input power
- ▶ Manual selection of float or equalize charge mode
- ▶ Float Voltage Control per NEMA PE-5 depending on battery type
- ▶ Equalize Voltage Control per NEMA PE-5 depending on battery type
- ▶ Battery Charger can act as a DC power supply with batteries disconnected

Standard Specifications

Protection

- ▶ AC input circuit breaker
- ▶ AC and DC surge protection up to 5000 volts.
- ▶ Automatic Equalize Control automatically places charger in float mode after an AC power failure or charger shutdown
- ▶ Overcurrent/Overload: 125% for 2 hours
- ▶ Overvoltage
- ▶ Overtemperature
- ▶ Input and Output MOVs

Front Panel Devices/Instrumentation

- ▶ DC Ammeter, DC Voltmeter
- ▶ Float Level Control Potentiometer
- ▶ Equalize Level Control Potentiometer
- ▶ Equalizing Timer 0 to 24 hours operable in the manual equalize mode

Switches

- ▶ On/Off Switch
- ▶ Float/Equalize Selector Switch

Indicators

- ▶ AC power ON Indicator
- ▶ Float Charge Selected Indicator
- ▶ Equalize Charge Selected Indicator
- ▶ Rectifier Failure Alarm Indicator
- ▶ Input AC Failure Alarm Indicator
- ▶ DC Undervoltage Alarm Indicator
- ▶ DC Overvoltage Alarm Indicator

Note: Alarms can provide front panel indication, remote indication, audible alarm and/or shutdown

Environmental/Mechanical

Enclosure type: Nema 12 ventilated, Nema 3R, Nema 4, others

Cooling: Forced Air, Natural Convection, Heat Exchanger (water/air, water/water)

Altitude: Up to 10,000ft without derating

Temperature: Operating: 0 to 50°C; Storage: -40°C to 65°C

Humidity: up to 90% non-condensing

Options

- ▶ DC Output Breaker
- ▶ Optional alarm conditions (consult factory)
- ▶ Remote/local selector switch
- ▶ Output Diode for reverse polarity protection
- ▶ Battery Temperature Compensation
- ▶ Battery discharge back into power line
- ▶ Remote Control via analog signal or Computer Interface (RS232, IEEE488, Ethernet, Profibus)
- ▶ Blocking Diode to block feed-back through the charger during AC power failure or other shutdown conditions
- ▶ Consult factory for other options
- ▶ Battery Eliminator
- ▶ Audible alarm horn
- ▶ Equalize Timer 0 to 24 hours
- ▶ Parallel and Load Sharing
- ▶ Delayed Start (charge during off-peak hours)
- ▶ Ground Fault Protection and/or detection



Industrial Battery Charger 50KW
Output: 400ADC, 125VDC



Battery Charger for Minesweeper
Input: 450V, 50Hz
Output: 140ADC, 24VDC
Stainless Steel Enclosure

Power Electronic Equipment

About PCTI

Power Conversion Technologies, Inc. is a regular manufacturer of innovative power electronic products including control components, subassemblies and power electronic apparatus. With products like our IGBT drivers and Universal DSP Controller, we are addressing a new era in power electronics as applied to industrial equipment. Our engineering staff has in-depth knowledge in the key areas of power conversion such as power semiconductor analysis and application, thermal exchange, magnetic design and packaging. Let our extensive industrial applications expertise in power conversion benefit your products and markets.

Products

▶ Aircraft Ground Support

- 400Hz Frequency Converters
- 28.5V DC Power Supplies
- Gateboxes
- Switchboard
- Line Drop Compensators
- Line Protection Modules

▶ Power Supplies (AC & DC)

- Switched Mode
- Linear
- Custom Power Supplies
 - High Precision
 - High Frequency
 - High Current
 - High Voltage
 - Low Voltage

▶ Battery Chargers

- High Current
- Switched Mode
- Linear

▶ Inverters

- AC/AC, DC/DC, DC/AC/DC
- For 50/60Hz or 60/50Hz Conversion,
- Fuel Cells, Solar, Wind
- Transportation

▶ Control Products

- IGBT Drive OEM Board
- SCR Firing Circuit
- DSP Control for OEM or Retrofit Applications
- Load Sensing Circuits

Partial List of Customers

Industrial/Commercial/Aerospace

- BAE Systems
- General Dynamics
- Bechtel International Systems, Inc.
- Ford Motor Company
- Boeing Corporation
- NASA
- Raytheon Missile Systems
- Delphi Automotive
- Caterpillar
- Mitsubishi
- Occidental Petroleum
- Cutler Hammer
- Massachusetts Bay Transportation
- Glegg Water Conditioning
- Chang Hua Water Refiners
- Vermont Yankee Nuclear
- Duquense Light
- Georgia Power
- General Motors Power Train Division
- National Institute of Standards & Technology
- New York Power Authority
- Westinghouse Science & Tech. Center

Department of Defense/Military

US Navy

- Bayview Large Scale Vehicles
- Los Alamitos Naval Air Station
- China Lake Naval Weapons Center
- Jacksonville Naval Air Station
- Pacific Missile Range, Hawaii
- Naval Surface Warfare Center
- Ocean Surveillance Center
- Sigonella Naval Air Station-Italy
- Miramar Naval Air Station
- Seal Beach Naval Weapons Station

US Army

- Fort Campbell
- Army Corps of Engineers, Fort Bragg,
- Aberdeen Proving Ground
- Fort Rucker
- Corpus Christi Army Depot

US Marines

- Camp Le Jeune
- Camp Pendleton

US Air Force

- Al Udiel Air Force Base
- Robins Air Force Base
- McClellan Air Force Base
- Tyndall Air Force Base
- Miramar Air Force Base
- Spangdahlem Air Force Base
- Sigonella Air Force Base

US Coast Guard

- Los Alamos National Laboratory
- Bureau of Reclamation/Dept. of Interior
- Western Area Power Administration/DOE
- Canadian Department of National Defense

Foreign Military Sales

- Taiwan Navy
- Pakistani Air Force
- Bangladesh Air Force
- Egyptian Navy
- Dutch Navy



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