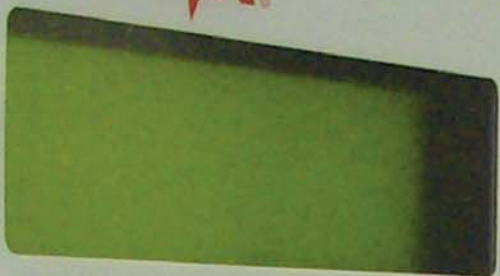


PRIMAX



F1 F2 F3 F4

CONTROL, ALARM & COMMUNICATION

PRIMAX TECHNOLOGIES
Description: BATTERY CHARGER
Mod. No: P4500F-1-40-S

Inlet:	V	A	Ph	Hz
Outfourt:	48	5	1	60

Date: 0 3 / 2007 Proj: 2760 Ser#: 4173
Primax Technologies Inc. Montreal, Canada
Tel: ++514-631-3630 Fax: ++514-631-8389
Email: info@primax-e.com Web: www.primax-e.com Made in Canada



P4500 Series

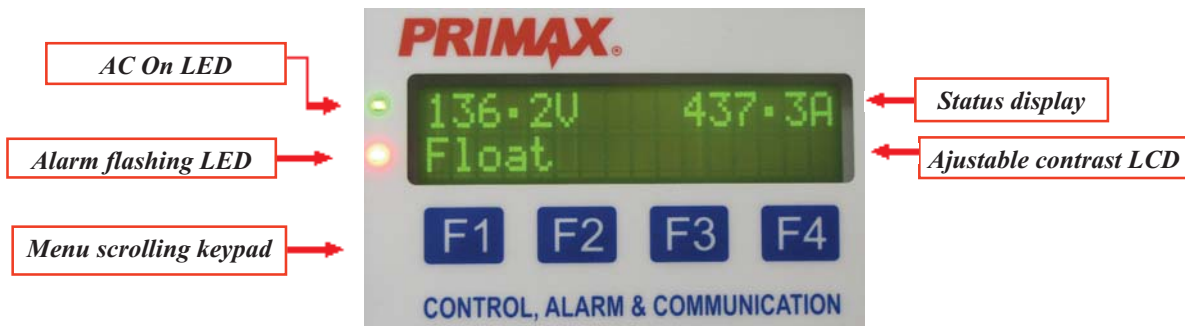
Stationary battery chargers and rectifiers

- Innovative **"DSP"** based controls
- Reliable heavy duty industrial design
- Standard comprehensive alarm package
- Advanced monitoring technology
- Latest networking capabilities

ISO 9001-2008 UL 1012-CSA C22.2-107.1  

PRESS ANY BUTTON TO ACCESS THE MANUAL EQUALIZE PROCEDURE
ANY BUTTON F1, F2, F3 OR F4
F1 (OK)
EQUALIZED

Control Display

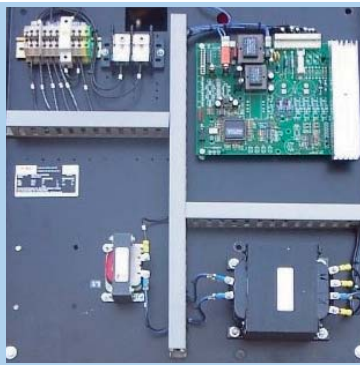


The P4500 takes advantage of efficient **Digital Signal Processing** to provide the most advanced control and computing algorithms. Reducing component count while enhancing functionalities; **DSP** increases flexibility and improves reliability. This new cost effective generation of chargers provides superior control over power electronics, allowing comprehensive monitoring of your DC system and especially your battery.

Opting for our advanced monitoring and networking options will allow users to automate some of their preventive maintenance, communicate with their charger and access data logs to develop cost effective predictive maintenance tools.



125Vdc-15A



Open frame



Custom cabinet with integrated DC distribution and batteries

Standard Metering, Alarms & controls (Password protected)

Logging, metering and timing:

- Simultaneous DC voltage and current metering 0.5 % Accuracy +/- 1 digit
- Line frequency monitoring
- Rectifier ambient temperature
- Remaining and elapsed equalize time
- Event log (Up to 250 events)

Control modes:

- Constant Voltage regulation with or without batteries. Limited current
- Forced load sharing without common wire connection
- Output current de-rating based on charger temperature

Indications:

- AC On green LED
- Common alarm with flashing red LED
- LCD contrast adjustment and sleep mode

Remote indications:

- All activated alarms are wired to a common relay with voltage free form "C" contact

Charging modes:

- Automatic or manual float / equalize
- Adjustable Float and equalize voltages
- Equalize period 0-134 months (in hours)
- Float period 0-134 months (in hours)
- Automatic equalize mode activation based on: time, low volt, charger start, AC fail, current limit: time adjustable 1-100hrs
- Automatic equalize mode termination based on voltage, time, current
- Antidepressant equalize mode
- Constant current mode (formation)

Alarms

- Alarm acknowledgement and reset
- LED, LCD and relay test and reset

Default alarms:

- Rectifier failure
- AC fail
- Battery high volt
- Battery low volt
- Segregated positive & negative ground fault

Factory* or customer activated alarms:

- End of discharge (2nd low volt level)
- High volts shutdown
- Equalization on
- High ripple
- Low & high frequency alarm and shutdown
- High & low temperature alarm and shutdown
- Rectifier high/low current
- Rectifier High volt
- Rectifier low volt
- Individually adjustable alarm time delay & thresholds

*Must be specified at order time

Partial options list

Interface:

- Individual alarm form "C" contacts
- MODBUS RTU or DNP3 via RS232/485
- MODBUS TCP/IP,
- Web page via Local or dynamic IP address
- 4-20mA & 0-10V current and voltage R/W loops
- 4 customer defined digital-inputs
- Remote equalize
- Remote shutdown

Alarms

- Date and time stamp on event log
- Audible alarm
- Hardware high volt shutdown
- High and low AC input voltage alarm
- Battery high and low temperature alarm and shutdown

Maintenance

- Battery imbalance alarm
- Battery partial capacity tester
- Battery continuity tester
- Temperature compensation, c/w battery temperature probe
- Battery circuit breaker
- Low DC volt load disconnect (load shedding)

Input and Output

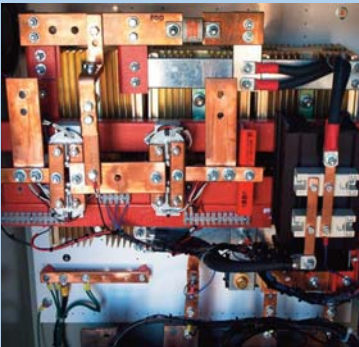
- DC output circuit breaker
- Integrated Distribution panel
- High capacity interrupting current CBs
- 12 pulse rectification to reduce reflected harmonics and output filtering
- 50Hz input frequency
- Dropping diode circuitry
- Forced load sharing

Enclosures

- Special paint and NEMA / IP protection
- Seismic design
- Fungus and tropical proofing
- Custom enclosures to fit batteries
- Halogen free and special wiring
- Welded bottom or top
- Custom enclosures: Stainless, aluminium, fiberglass, etc.

Metering

- Remote battery voltage sensing
 - Integrated digital AH meter
 - Battery ammeter and voltmeter
 - AC input volts, current and frequency readings
 - Digital Ampere-hour meter
- Lifeline Monitoring System®**



125Vdc-800A



24Vdc-600A



2 x 125Vdc-75A with battery cabinet

Standard mechanical specifications

Mechanical and physical:

Enclosure	NEMA1 (IP20), steel c/w hinged front access door
Finish	Standard ANSI 61, light gray
Cooling	Natural convection cooling up to 100A output current Forced air cooling assistance for units with over 100A output current

N.B. Floor mounted models are provided with 3 in. (75mm) clearance at bottom to facilitate handling by lift truck, pallet truck or slings

Environmental:

Audible noise	45 to 65 dBA at 3ft (1 meter) rating dependant
Operating temperature range	32°F to +122°F (0°C to 50°C)/Storage -40°F to 185°F (-40°C to 85°C)
Temperature de-rating	0.83% / °F from 122°F to 140°F (1.5% / °C from 50°C to 60°C)
Operating humidity	Up to 95% (non condensing)
Altitude de-rating	0% for 1st 3300 ft (1000m), 7% per 3300 ft (1000m) over 3300 ft (1000m)

Standard Electrical Specifications

Basic design features

UL/ANSI 1012 Listed, CSA C22.2 107.1.
Certified to applicable IEC standards (optional)
ISO 9001 Quality control
SCR (Thyristor) based rectifier c/w double wound isolation transformer
Electronic control, current limiting and voltage regulation
Modular construction using the latest power and microelectronic devices
Numbered PVC copper stranded wire
30 year design, MTBF of 300 000 hours typical, MTTR less than 1 hour

Input:

Available voltages 110, 120, 208, 220, 240, 380, 400, 460, 480, 550, 575, and 600 VAC
Phases 1 and 3 phase
Frequency 60Hz (50Hz optional)
Power factor 0.75 (1 phase), 0.85 (3 phase) at full load when tested on battery and resistive load
Efficiency at full load Typical 90%

Output:

Standard nominal voltages 12, 24, 36, 48, 72, 110, 125, 250, 380, 480 and 600 VDC
Power From 60 W to 400+ kW

AC ripple voltage(RMS)	12-24-48V	125V	250V	>250V
Unfiltered units [†]	1%	2%	2%	2%
Filtered ⁺	30mV, 32dBrc	100mV	200mV	1%
Battery eliminator	30mV	100mV	200mV	0.8%

⁺: Values are typical, measured at the terminals of a connected test battery with capacity 4 times the charger output current as per NEMA PE5. Other values are also available on request.

Static regulation < 0.5% for simultaneous variations of +10/-12% input voltage, +/- 5% input frequency and 0-100% load
Dynamic regulation +/-6% from 10%-90% and 90%-10% load variation (t < 300msec)

Load sharing

Random: Similar chargers can be operated in random parallel

Emc**

EN 61000-6-2:ESD, radiated, magnetic, conducted, dips/interrupts, surge, fast transient immunity and conducted emissions

EN 6100-6-4: Radiated emissions

EN 62040-1-1: Electrical safety

Protection:

Soft start

Over-current

Automatic current limiting circuit, adjustable from 20% to 100% of nominal rating, higher current limits optional

Input thermal-magnetic circuit breaker and DC output fuse standard

Voltage transients

Surge suppression on input and output.

Reverse polarity.

Part # Designation: P4500-①-②-③-④-⑤

① Version: B: basic E: extended ② Output Filter: N-F-T or TT ③ Input phase: 1: single phase - 3: three phase ④ DC voltage: 12VDC up to 600VDC ⑤ DC Current: 5A to 1500A
Ex. P4500B-F-3-125-75: Basic options, 100mV ripple, 3phase input, 125VDC, 75A charger

** : CE marked units only

† : Marine applications only

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