



# BETAcharge II

INTELLIGENT MULTI-STAGE MULTI-TYPE BATTERY CHARGING SYSTEM



## Features :

### POWER

- 240V ac mains or generator supply
- Available in 12V, 24V, 30V, 36V and 48Volt
- 15A, 30A, 60A and 100Amp

### PROTECTION

- Circuit breakers on input and output
- Over-temperature shutdown
- Temp controlled fan cooling
- Reverse Battery

### CONTROL

- Microprocessor controlled
- Multi-stage recharge programs - FLAT, BOOST, PEAK, FLOAT charging
- Four (4) program selections for different battery types

### DISPLAY

- LED indication of charging status and faults
- Add-on metering

### BATTERIES

- Gel cell
- Sealed lead-acid
- Deep cycle LA
- Lead-calcium
- Wet ni-cad
- Genesis®/Optima®

### ALARMS

- High/low battery
- Faulty battery
- No battery
- Excessive load
- Remote relay

### CABINET

- Powdercoated steel
- Wall or bench mount
- Compact

from.... **WOODS Battery Chargers**



The WOODS ELECTRIC BETAcharge II is a sophisticated electronic multiple-taper charger for most types of batteries. It employs microprocessor-controlled SCRs to precisely regulate charging voltages and currents during all phases of charging. The BETAcharge II successfully charges deeply discharged batteries and batteries which are loaded during charging. The BETAcharge II will not overcharge batteries which are already fully charged.

The BETAcharge II is ideally suited to unattended battery systems which must be kept in a good state of charge for months without maintenance.

The BETAcharge II "sleeps" when necessary, minimising loss of electrolyte over prolonged periods, and delivers a replenishing charge only as required by battery self-discharge.



# BETAcharge II

INTELLIGENT MULTI-STAGE MULTI-TYPE BATTERY CHARGING SYSTEM



## Features

### POWER

- **240V ac mains or generator supply** - While the mains input is predetermined for Australian conditions with a mild variance in the supply volts & hertz, remote use is available via generated power with an acceptable level THD% tolerance. Also available in 110Vac by order.
- **Available in 12V, 24V, 30V, 36V and 48Volt** - A vast range of battery terminal voltages are available 12Vdc to beyond 48Vdc up to 144Vdc.
- **Available in 15A, 30A, 60A and 100Amp** - The larger your battery system and loadings, the larger your charger should be to quickly bring depleted batteries back into service.

### PROTECTION

- **Circuit breakers on input and output** - Over current protection on both the mains input and the battery output is offered for immediate protection. The manual resettable switch circuit type breakers are of industrial grade.
- **Temperature controlled fan cooling** - The rectifier assembly is protected by an automatic thermostat. If the temperature rises above its preset level the fan will be enabled until it has cooled the system to below its lower setting; thus disengaging the cooling fan. This extends the fans' operating life.
- **Rectifier over-temperature shutdown** - The second temperature protection device is also on the rectifier assembly. If, due to severe loading or other fault, the temperature exceeds its level it will shut the battery charger down until the cooling fan brings the temperature back within safe operating levels.
- **Transformer over-temperature shutdown** - The third temperature protection device is deep within core of the power transformer. Activation of this device indicates serious overheating and will shutdown operation of the battery charger until the cooling fan brings the temperature back within safe operating levels.
- **Reverse battery** - If a battery is connected in reverse polarity, the battery charger will indicate this fault state and will not charge until the fault is cleared.
- **No battery connected** - The battery charger will maintain dead voltage-free output until it detects a battery has been connected.
- **Other battery faults** - The BETAcharge, will display a "battery fault" if it detects a battery of incorrect AmpHour rating has been connected; if a battery of incorrect terminal voltage has been connected; if a battery with shorted or faulty cells has been connected; if there is an excessive load connected preventing the battery from being recharged.
- **Remote alarm relay** - This item can be utilised to notify personnel of any faults the battery charger may be detecting.

### CONTROL

- **Microprocessor controlled** - Precise digital control is achieved using 16bit microprocessor. Deep thinking software constantly monitors all facets of the recharging process using unique algorithms that often outwit other "intelligent" battery chargers.
- **Multi-stage recharge program** - While triple-stage chargers are currently popular, it just isn't enough to cover all possible recharging situations and events. The BETAcharge employs SIX separate stages for a complete recharging process to ensure no battery escapes charging.  
FLAT charge is used to gently replenish severely depleted batteries before a recharge proper  
SOFT charge prepares the battery to receive the bulk of the recharge  
BOOST charge delivers the maximum amount of bulk charge to a healthy battery  
PEAK charge will, if needed, continue to equalize the batteries cells (preventing desulphation)  
FLOAT charge will provide a maintenance charge to hold the battery ready for use.  
STANDBY will monitor the 100% recharged battery
- **Four (4) program selections** - To compliment the versatility of the BETAcharge, there is also embedded into the controller, four different program selections to cover the widest range of different battery types.

### BATTERIES

- **Wide range** - due to the intelligence and selectability of the control software, nearly all large batteries can be recharged with a BETAcharge, eg: Gel cell, Sealed Lead-Acid, Deep Cycle Lead Acid, Lead-calcium, Wet Ni-Cad, Genesis®/Optima®, etc.

### DISPLAY

- **LED indication** - Bright, labelled LED's provide instant clear indication of the charging status and/or faults.
- **Metering** - Accurate electronically driven analog moving-coil meters are not fitted as standard. But, they are large and easy-to-read and a favoured extra.

### CABINET

- **Strong, durable, attractive** - Powder-coated zinc-annealed steel cabinets.
- **Mountability** - Pre-drilled mounting holes means the BETAcharge may be mounted either on a bench or shelf by the base or on a wall or bulkhead by the back of the cabinet.
- **Portability** - Due to the compactness of the cabinets, most BETAcharge units are portable if needed.



### COMPLIANCE

- **Safety Standards** - IEC33-2-29 (AS3350.2.29), IEC61558-1:1997 (AS/NZS61558.1:2000)
- **EMC Standards** - EN55014 (CISPR14, AS1044), EN55022 (CISPR22, AS3548), EN50082-1
- **IP Rating** - IP21

<b>BETAcharge II</b>	<b>1230B</b>	<b>1260B</b>	<b>12120B</b>
Nominal Battery Voltage	12.00 Volts	12.00 Volts	12.00 Volts
Maximum Output Voltage	14.90 Volts	14.90 Volts	14.90 Volts
Max Output Current (Ave)	30.00 Amps	60.00 Amps	120.00 Amps
Max Output Current (RMS)	50.00 Amps	100.00 Amps	200.00 Amps
Max Output Ripple (RMS)	1 Vac p-p	2 Vac p-p	3 Vac p-p
Total Battery Capacity	60 Ah ~ 400 Ah	100 Ah ~ 800 Ah	200 Ah ~ 1200 Ah
Max. Load during recharge	12.00 Amps	25.00 Amps	55.00 Amps
Mains Supply Voltage	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac
Mains Supply Frequency	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz
Maximum Consumption (RMS)	750 VA	1500 VA	3000 VA
Minimum Genset (max output)	1500 VA	3000 VA	6000 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD
Mains Input Protection	10 Amps manual reset	16 Amps manual reset	20 Amps manual reset
Battery Output Protection	63 Amps manual reset	3x40 Amps manual reset	3x63 Amps manual reset
Temperature Protection: Transformer core	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset
Temperature Protection: Rectifier ass'y	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset
Temperature Protection: Fan Cooling	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat
Temperature Compensation	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius
Operating Temperature range	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C
Connections : Input	10A 3pin 2m cable	10A 3pin 2m cable	15A 3pin 2m cable
Connections : Output	60A Binding posts	100A Binding posts	100A Binding posts
Connections : cable min. size	6mm <sup>2</sup> per 2 meters	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	270 x 270 x 270 mm	440 x 270 x 270 mm
Mounting Holes: LxW	250 x 120 mm	250 x 120 mm	420 x 120 mm
Mounting Holes: size	5/16" (8mm)	5/16" (8mm)	5/16" (8mm)
Weight	15kg	25kg	40kg
			

<b>BETCharge II</b>	<b>2415B</b>	<b>2430B</b>	<b>2460B</b>	<b>24120B</b>
Nominal Battery Voltage	24.00 Volts	24.00 Volts	24.00 Volts	24.00 Volts
Maximum Output Voltage	29.80 Volts	29.80 Volts	29.80 Volts	29.80 Volts
Max Output Current (Ave)	15.00 Amps	30.00 Amps	60.00 Amps	120.00 Amps
Max Output Current (RMS)	25.00 Amps	50.00 Amps	100.00 Amps	200.00 Amps
Max Output Ripple (RMS)	1 Vac p-p	2 Vac p-p	3 Vac p-p	4 Vac p-p
Total Battery Capacity	30 Ah ~ 200 Ah	60 Ah ~ 600 Ah	100 Ah ~ 800 Ah	300 Ah ~ 1500 Ah
Max. Load during recharge	6.00 Amps	12.00 Amps	25.00 Amps	55.00 Amps
Mains Supply Voltage	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac
Mains Supply Frequency	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz
Maximum Consumption (RMS)	750 VA	1500 VA	3000 VA	5000 VA
Minimum Genset (max output)	1500 VA	3000 VA	6000 VA	10000 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD	16% THD
Mains Input Protection	10 Amps manual reset	16 Amps manual reset	20 Amps manual reset	32 Amps manual reset
Battery Output Protection	32 Amps manual reset	63 Amps manual reset	3x40 Amps manual reset	3x63 Amps manual reset
Temperature Protection: Transformer core	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset
Temperature Protection: Rectifier ass'y	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset
Temperature Protection: Fan Cooling	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat
Temperature Compensation	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius
Operating Temperature range	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C
Connections : Input	10A 3pin 2m cable	10A 3pin 2m cable	10A 3pin 2m cable	10A 3pin 2m cable
Connections : Output	60A Binding posts	60A Binding posts	60A Binding posts	100A Binding posts
Connections : cable min. size	6mm <sup>2</sup> per 2 meters	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters	20mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	270 x 270 x 270 mm	440 x 270 x 270 mm	600 x 400 x 250 mm
Mounting Holes: LxW	250 x 120 mm	250 x 120 mm	420 x 120 mm	545 x 345 mm
Mounting Holes: size	5/16" (8mm)	5/16" (8mm)	5/16" (8mm)	3/8" (10mm)
Weight	15kg	25kg	40kg	60kg
				

<b>BETCharge II</b>	<b>3025B</b>	<b>3050B</b>	<b>3620B</b>	<b>3640B</b>
Nominal Battery Voltage	30.00 Volts	30.00 Volts	36.00 Volts	36.00 Volts
Maximum Output Voltage	37.25 Volts	37.25 Volts	44.70 Volts	44.70 Volts
Max Output Current (Ave)	25.00 Amps	50.00 Amps	20.00 Amps	40.00 Amps
Max Output Current (RMS)	40.00 Amps	80.00 Amps	33.00 Amps	65.00 Amps
Max Output Ripple (RMS)	1 Vac p-p	2 Vac p-p	1 Vac p-p	2 Vac p-p
Total Battery Capacity	50 Ah ~ 400 Ah	100 Ah ~ 800 Ah	40 Ah ~ 300 Ah	80 Ah ~ 600 Ah
Max. Load during recharge	10.00 Amps	20.00 Amps	8.00 Amps	15.00 Amps
Mains Supply Voltage	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac
Mains Supply Frequency	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz
Maximum Consumption (RMS)	1500 VA	3000 VA	1500 VA	3000 VA
Minimum Genset (max output)	3000 VA	6000 VA	3000 VA	6000 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD	16% THD
Mains Input Protection	10 Amps manual reset	16 Amps manual reset	10 Amps manual reset	16 Amps manual reset
Battery Output Protection	40 Amps manual reset	3x32 Amps manual reset	32 Amps manual reset	63 Amps manual reset
Temperature Protection: Transformer core	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset	150° C Normally closed-Auto reset
Temperature Protection: Rectifier ass'y	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset	100° C Normally closed-Auto reset
Temperature Protection: Fan Cooling	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat
Temperature Compensation	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius
Operating Temperature range	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C
Connections : Input	10A 3pin 2m cable	10A 3pin 2m cable	10A 3pin 2m cable	10A 3pin 2m cable
Connections : Output	60A Binding posts	100A Binding posts	60A Binding posts	100A Binding posts
Connections : cable min. size	6mm <sup>2</sup> per 2 meters	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters	20mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	440 x 270 x 270 mm	270 x 270 x 270 mm	440 x 270 x 270 mm
Mounting Holes: LxW	250 x 120 mm	420 x 120 mm	250 x 120 mm	420 x 120 mm
Mounting Holes: size	5/16" (8mm)	5/16" (8mm)	5/16" (8mm)	5/16" (8mm)
Weight	25kg	40kg	25kg	40kg
				

<b>BETAcharge II</b>	<b>4815B</b>	<b>4830B</b>	<b>4860B</b>
Nominal Battery Voltage	48.00 Volts	48.00 Volts	48.00 Volts
Maximum Output Voltage	59.60 Volts	59.60 Volts	59.60 Volts
Max Output Current (Ave)	15.00 Amps	30.00 Amps	60.00 Amps
Max Output Current (RMS)	25.00 Amps	50.00 Amps	100.00 Amps
Max Output Ripple (RMS)	1 Vac p-p	2 Vac p-p	3 Vac p-p
Total Battery Capacity	30 Ah ~ 200 Ah	60 Ah ~ 400 Ah	100 Ah ~ 800 Ah
Max. Load during recharge	6.00 Amps	12.00 Amps	25.00 Amps
Mains Supply Voltage	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac
Mains Supply Frequency	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz
Maximum Consumption (RMS)	1500 VA	3000 VA	6000 VA
Minimum Genset (max output)	3000 VA	6000 VA	12000 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD
Mains Input Protection	10 Amps manual reset	16 Amps manual reset	20 Amps manual reset
Battery Output Protection	32 Amps manual reset	63 Amps manual reset	3x40 Amps manual reset
Temperature Protection: Transformer core	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset
Temperature Protection: Rectifier ass'y	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset
Temperature Protection: Fan Cooling	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat
Temperature Compensation	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius
Operating Temperature range	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C
Connections : Input	10A 3pin 2m cable	10A 3pin 2m cable	15A 3pin 2m cable
Connections : Output	60A Binding posts	100A Binding posts	100A Binding posts
Connections : cable min. size	6mm <sup>2</sup> per 2 meters	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	440 x 270 x 270 mm	600 x 400 x 250 mm
Mounting Holes: LxW	250 x 120 mm	420 x 120 mm	545 x 345 mm
Mounting Holes: size	5/16" (8mm)	5/16" (8mm)	3/8" (10mm)
Weight	25kg	40kg	60kg
			

<b>BETAcharge II</b>	<b>7210B</b>	<b>7220B</b>	<b>7240B</b>
Nominal Battery Voltage	72.00 Volts	72.00 Volts	72.00 Volts
Maximum Output Voltage	89.40 Volts	89.40 Volts	89.40 Volts
Max Output Current (Ave)	10.00 Amps	20.00 Amps	40.00 Amps
Max Output Current (RMS)	15.00 Amps	33.00 Amps	66.00 Amps
Max Output Ripple (RMS)	4 Vac p-p	6 Vac p-p	8 Vac p-p
Total Battery Capacity	20 Ah ~ 150 Ah	40 Ah ~ 300 Ah	80 Ah ~ 600 Ah
Max. Load during recharge	4.00 Amps	8.00 Amps	15.00 Amps
Mains Supply Voltage	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac	220 Vac ~ 240 Vac
Mains Supply Frequency	50Hz ~ 60 Hz	50Hz ~ 60 Hz	50Hz ~ 60 Hz
Maximum Consumption (RMS)	1500 VA	3000 VA	6000 VA
Minimum Genset (max output)	3000 VA	6000 VA	10,000 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD
Mains Input Protection	10 Amps manual reset	20 Amps manual reset	40 Amps manual reset
Battery Output Protection	20 Amps manual reset	40 Amps manual reset	63 Amps manual reset
Temperature Protection: Transformer core	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset	150° C Normally closed - Auto reset
Temperature Protection: Rectifier ass'y	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset	100° C Normally closed - Auto reset
Temperature Protection: Fan Cooling	60° C Normally open - Thermostat	60° C Normally open - Thermostat	60° C Normally open - Thermostat
Temperature Compensation	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius	-3mV / cell / ° Celcius
Operating Temperature range	-10°C ~ 45°C	-10°C ~ 45°C	-10°C ~ 45°C
Connections : Input	10A 3pin 2m cable	10A 3pin 2m cable	20A 3pin 2m cable
Connections : Output	60A Binding posts	60A Binding posts	100A Binding posts
Connections : cable min. size	6mm <sup>2</sup> per 2 meters	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	440 x 270 x 270 mm	600 x 400 x 250 mm
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Mounting Holes: size	5/16" (8mm)	5/16" (8mm)	3/8" (10mm)
Weight	25kg	40kg	60kg
			