



# EV.charge

INTELLIGENT MULTI-STAGE MULTI-TYPE BATTERY CHARGER FOR ELECTRIC VEHICLES



## Features :

### POWER

- 240V ac mains or generator supply
- Selectable voltages 72V, 84V, 96V, 108V, 120V, 144V
- 10A available on all battery voltages

### PROTECTION

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

### CONTROL

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

### DISPLAY

- LED indication of charging status and faults
- Large analog meter display Amps & Volts

### BATTERIES

- Gel cell
- Sealed lead-acid
- Deep cycle LA
- Lead-Calcium
- Wet Ni-Cad
- Genesis®/Optima®/Odyssey®

### 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 EV.charge** battery charger has been designed for use with modern electric vehicles and battery reseller outlets where banks of multiple batteries need to be charged simultaneously. It 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 **EV.charge** successfully recharges deeply discharged batteries and batteries which are loaded during charging.

The **EV.charge** will not overcharge batteries which are already fully charged.

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

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



# EV.charge

INTELLIGENT MULTI-STAGE MULTI-TYPE BATTERY CHARGER FOR ELECTRIC VEHICLES



## 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 of THD% tolerance. Also available in 110Vac by order..
- ✓ **Available in multi-voltage** - A range of battery terminal voltages are available, 72V, 84V, 96V, 108V and 120V is selectable from the rotary switch on the front panel.
- ✓ **Available in 7.5, 15A & 30Amps** - 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 EV.charge, 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 EV.charge 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 EV.charge, 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 EV.charge, eg: Gel cell, Sealed Lead-Acid, Deep Cycle Lead Acid, Lead-Calcium, Wet Ni-Cad, Genesis®/Optima®/Odyssey®, 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 meter displays Amps, displaying Volts is switch-selectable.

## CABINET

- ✓ **Strong, durable, attractive** - Powder-coated zinc-annealed steel cabinets.
- ✓ **Mountability** - Pre-drilled mounting holes means the EV.charge 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 EV.charge 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>EV.charge</b>	<b>12007E</b>	<b>12015E</b>	<b>12030E</b>
Nominal Battery Voltage	120.00 Volts	120.00 Volts	120.00 Volts
Maximum Output Voltage	149.00 Volts	149.00 Volts	149.00 Volts
Max Output Current (Ave)	7.50 Amps	15.00 Amps	30.00 Amps
Max Output Current (RMS)	12.50 Amps	25.00 Amps	50.00 Amps
Max Output Ripple (RMS)	10 Vac p-p	20 Vac p-p	40 Vac p-p
Total Battery Capacity	10 Ah ~ 150 Ah	20 Ah ~ 300 Ah	40 Ah ~ 600 Ah
Max. Load during recharge	3.00 Amps	6.00 Amps	12.00 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)	2100 VA	4200 VA	8400 VA
Minimum Genset (max output)	4200 VA	8400 VA	16800 VA
Tolerance to Mains Distortion	16% THD	16% THD	16% THD
Mains Input Protection	16 Amps manual reset	32 Amps manual reset	63 Amps manual reset
Battery Output Protection	20 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
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	50A Anderson® Plug	50A Anderson® Plug	75A Anderson® Plug
Connections : cable min. size	10mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters	15mm <sup>2</sup> per 2 meters
Cabinet Dimensions: LxWxD	270 x 270 x 270 mm	400 x 270 x 270 mm	400 x 270 x 450 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
			