PROJECTA

AUTOMATIC
BATTERY CHARGER
CHARGE N' MAINTAIN

WARNING

- **Explosive gases. Prevent flames and sparks. Provide adequate ventilation during charging.**
- **Before charging, read the instructions.**
- **For indoor use. Do not expose to rain.**
- **For charging lead acid batteries ONLY (of the size & voltage specified in the specifications table).**
- **Disconnect the 240V mains supply before making or breaking the connections to the battery.**
- **Do not attempt to charge non-rechargeable batteries.**
- **Never charge a frozen battery.**
- **This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely.**
- **Young children should be supervised to ensure that they do not play with the appliance.**

FEATURES

Automatic Charger
An automatic battery charger stops charging when the battery is full. You can leave the charger connected to the battery without risk of overcharging. Once the battery is full, the battery charger will automatically start to maintain the battery. The charger monitors the battery Voltage and continues to top up the battery, keeping it fully charged and ready for use.

Thermal Overload/Polarity Protection
Prevents the output leads from sparking due to accidental reverse connection or short circuit making the charger safer to use around batteries.

LED Charge Indication
Three LEDs display the charger's status (except AC250B).
- RED LIGHT ON: Power On,
- ORANGE LIGHT ON: Charging,
- GREEN LIGHT ON: Fully charged and maintaining.

Wiring harness (AC150 & AC250B only)
The wiring harness allows for easy connection to vehicles that have hard to reach batteries. Includes an inline fuse (AC150) to protect the harness from accidental short circuits.

'On Board' Battery Charging (AC250B only)
The AC250B 'On Board' charger allows the charger to be conveniently mounted on the vehicle next to the battery. This is an ideal solution for vehicles left unused for some time. When the vehicle is to be garaged, simply pop the hood and plug the charger in to a 240 Volt extension cord. When the vehicle is to be used, disconnect the extension cord, close the hood and start the engine, it's that easy!

Multi Voltage (AC400 only)
Can charge either 6V or 12V batteries.

Engine Start (AC800 only)
When time is short, this feature will deliver the battery a short yet powerful enough charge to start the engine.

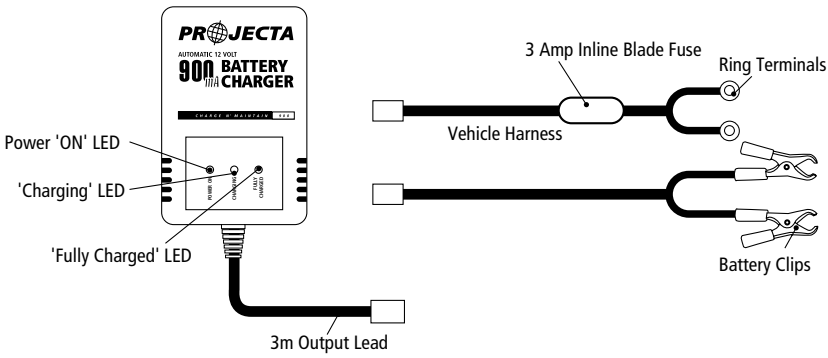
Toroidal Transformer (AC1000, AC1500 & AC600-24 only)
Using the latest technology in transformer design, toroidal transformers don't use a solid iron core (like traditional transformers) making them lighter and more compact. They deliver more power than a traditional transformer charger of the same size.

SPECIFICATIONS

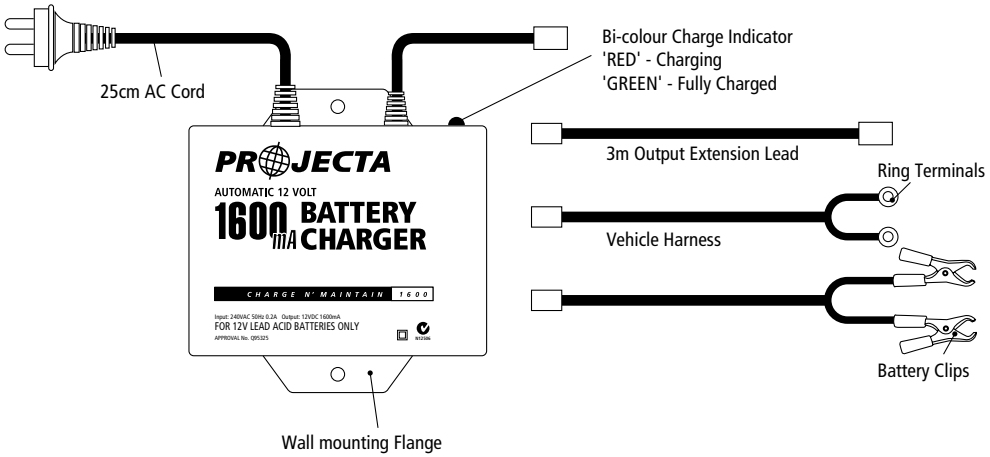
P/No.	AC150	AC250B	AC400	AC600	AC800	AC1000	AC1500	AC600-24
Type:	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC
Input:	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz	240VAC 50Hz
Input power:	0.09A (17W)	0.2A (28W)	0.23A (53W)	0.37A (70W)	0.43A (91W)	0.5A (108W)	0.83A (161W)	0.6A (116W)
Output Voltage: (Nominal)	12VDC	12VDC	6 VDC/12VDC	12VDC	12VDC	12VDC	12VDC	24VDC
Output Current: (Continuous)	900mA@12V	1600mA@12V	2700mA @6 or 12V	4300mA@12V	5400mA@12V	6200mA@12V	10000mA@12V	3500mA@24V
Engine Start:	N/A	N/A	N/A	N/A	3 Cycles: 5min 'ON' 20min 'OFF'	N/A	N/A	N/A
Suitable for Charging	12V Battery	12V Battery	6 or 12V Battery	12V Battery	12V Battery	12V Battery	12V Battery	2 x 12V in series (24V)
Battery Range: (CCA) (MCA) (Ah)	100-350* 150-400* 7-24	200-650* 250-700* 16-40	250-550 250-600 20-70	250-650 300-700 25-80	300-700 375-800 35-100	300-800 375-900 50-100	450-1000 600-1200 65-150	400-900* 450-1000* 35-70
Minimum Start Voltage:	5V	5V	3V	3V	3V	3V	3V	15V
Charge Control: (Cut out) (Cut in)	14.2V 13.4V	14.2V 13.4V	7.1/14.2V 6.7/13.4V	14.2V 13.4V	14.2V 13.4V	14.2V 13.4V	14.2V 13.4V	28.4V 26.8V
Size:	65x85x95mm	123x43x120mm	150x140x85mm	150x140x85mm	190x220x120mm	190x220x120mm	190x220x120mm	190x220x120mm
Weight:	0.75Kg	1.3Kg	1.5Kg	1.9Kg	2.5Kg	2.6Kg	3.4Kg	2.6Kg

*Only suitable for maintaining larger size batteries.

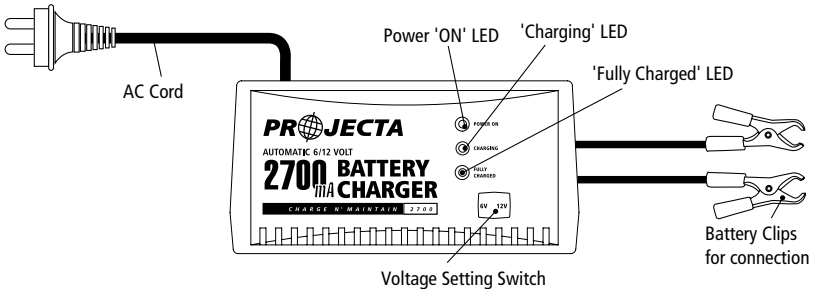
AC150



AC250B



AC400



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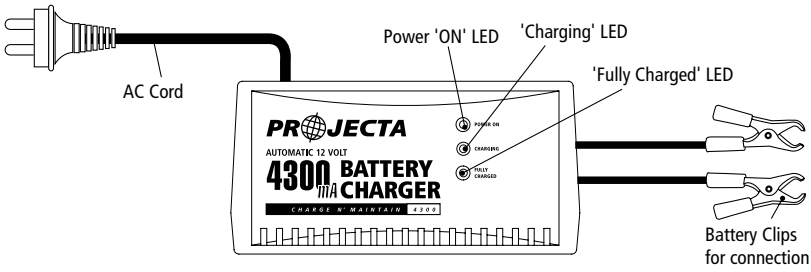
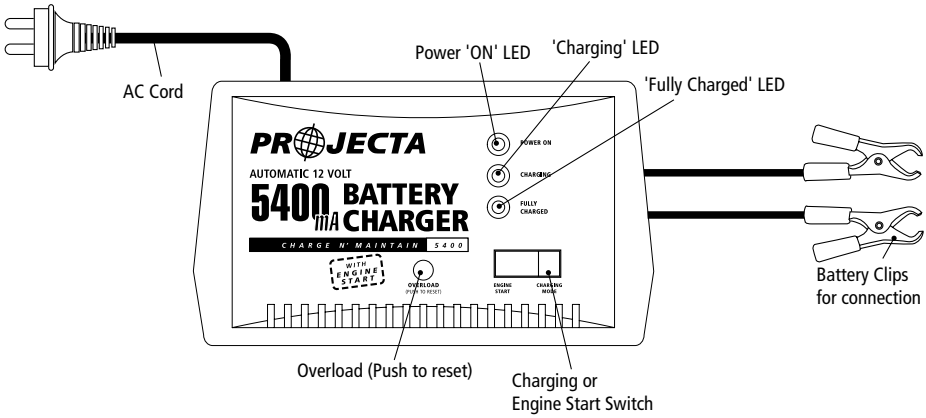
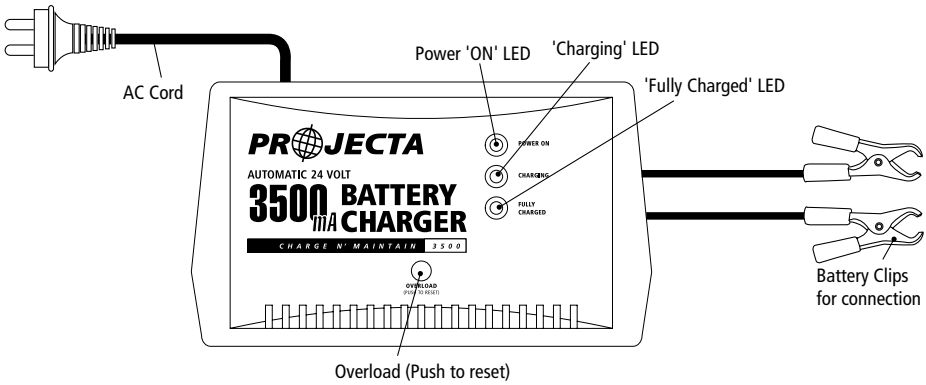


AC800



AC1000/1500/600-24



CHARGING INSTRUCTIONS

STEP 1 - CHECK THE ELECTROLYTE LEVEL

Prior to charging the battery, remove the vent caps and check the electrolyte level.
(Not required on sealed & maintenance free batteries).
The electrolyte should be 6mm (1/4") above the battery's plates.

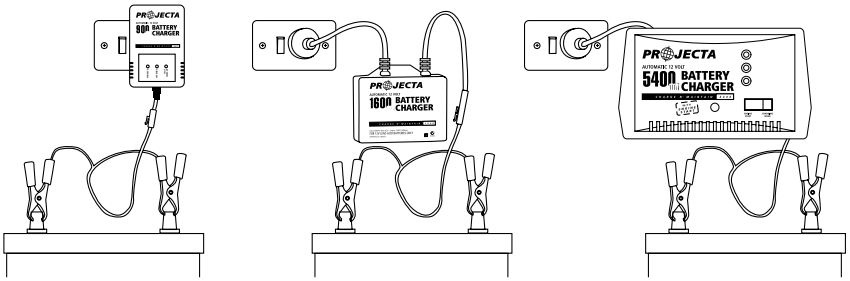
If low, top up the electrolyte with distilled water to the correct level and refit the vent caps.

STEP 2A - CONNECTION OUT OF VEHICLE

Connect the RED lead (battery clip) from the charger to the Positive (+) battery post.

Connect the BLACK lead (battery clip) from the charger to the Negative (-) battery post.

CONNECTION OUT OF VEHICLE



STEP 2B - CONNECTION IN VEHICLE

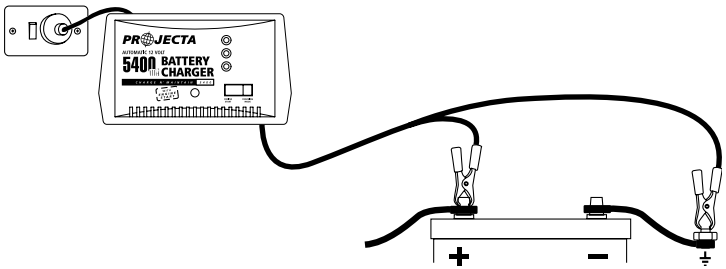
Determine if the vehicle is Positively (+) or Negatively (-) earthed. Negatively earthed vehicles have a cable (usually black) from the Negative battery terminal to the vehicle's chassis.

Negatively earthed (Most Vehicles)

Connect the RED lead (battery clip) from the charger to the Positive (+) battery terminal.

Connect the BLACK lead (battery clip) from the charger to the vehicle's chassis away from the fuel line or moving parts.

CONNECTION IN VEHICLE (NEGATIVELY EARTHED)

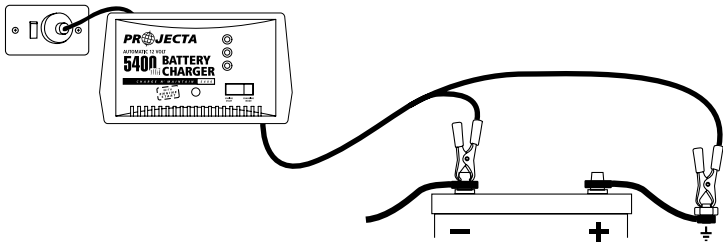


Positively earthed

Connect the BLACK lead (battery clip) from the charger to the Negative (-) battery terminal.

Connect the RED lead (battery clip) from the charger to the vehicle's chassis away from the fuel line or moving parts.

CONNECTION IN VEHICLE (POSITIVELY EARTHED)



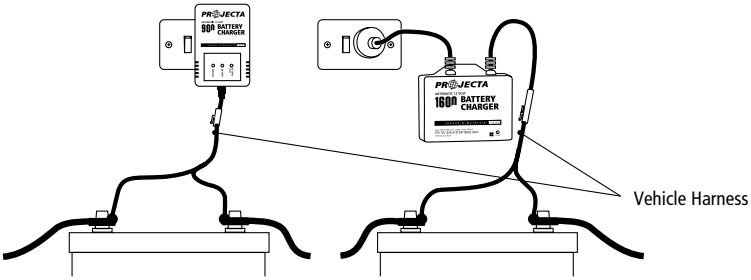
STEP 2C - CONNECTION IN VEHICLE WITH HARNESS (AC150 & AC250B ONLY)

Connect the RED ring terminal of the harness to the Positive (+) battery terminal.

Connect the BLACK ring terminal of the harness to the Negative (-) battery terminal.

Connect the plug on the harness to the charger's output lead socket.

CONNECTION IN VEHICLE USING HARNESS

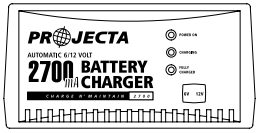


STEP 3 - BATTERY CHARGER SETTINGS (AC400 & AC800 ONLY)

Set the voltage selection switch to either 6V or 12V (AC400)

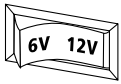
Set the 'Charge/Engine Start' switch to the 'Charging' position (AC800).

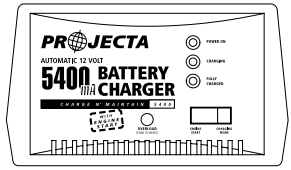
SWITCH SELECTION



AC400

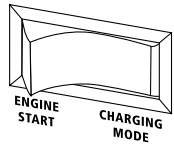
Push in 12V side for 12V Battery





AC800

Push in Charging side for charging



STEP 4 - CONNECT TO 240V MAINS POWER.
Connect the battery charger to a 240V mains powered socket.

Turn on the 240V Mains Power.

The RED 'POWER ON' LED will illuminate to confirm that the charger is receiving power (except AC250B).

STEP 5 - CHARGING
The orange 'Charging' LED (or red LED on AC250B) will illuminate to confirm that the battery is charging.

When the battery is fully charged the Orange 'Charging' LED (or red LED on AC250B) will extinguish and the Green 'Fully Charged' LED will illuminate. The battery is now fully charged and ready for use.

If left connected, the charger will monitor the battery and maintain the battery ready for use until required. This prevents the battery from slow self-discharge, which is detrimental to lead acid batteries.

STEP 6 - DISCONNECTION.
Turn the 240V mains power off.

Battery out of vehicle
Remove the BLACK lead (battery clip) from the battery.

Remove the RED lead (battery clip) from the battery.

Battery in vehicle
Remove the chassis connection.

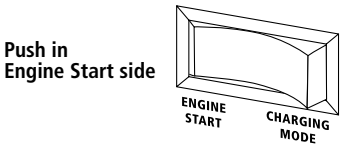
Remove the battery terminal connection.

Battery in vehicle using harness (AC150 & AC250B only)
Unplug the harness from the charger's output lead.

ENGINE START (AC800 ONLY)

The Engine start function on the AC800 is designed to provide a short term 'Boost" to the battery and then assist the battery to start the vehicle.

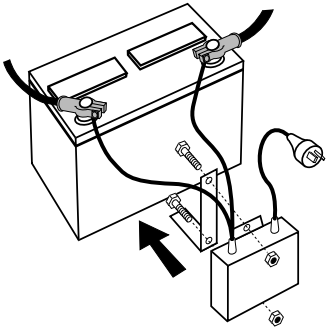
1. Connect the charger to the battery as described above in step 2b 'In Vehicle Connection'.
2. Connect the battery charger to the 240V mains power.
3. Set the 'Charge/Engine Start' switch to the 'Engine Start' position.



4. Turn on the 240V Mains Power. The RED 'POWER ON' LED will illuminate to confirm that the charger is receiving power. If the battery is connected properly and above the charger's minimum voltage the Orange 'Charging' LED will illuminate to confirm that the battery is being charged.
5. After 5 minutes or if the Green 'Fully Charged' LED illuminates, attempt to crank the engine (with the charger connected / turned on).
6. If the engine starts,
   - Turn 'OFF' the 240V mains power and disconnect the charger from the mains power.
   - Remove the chassis connection.
   - Remove the battery terminal connection.
7. If the engine does not start,
   - Turn 'OFF' the 240V mains power
   - Wait 20 minutes and then repeat steps 4-6
   - If after 3 cycles the engine does not start, the battery is probably too flat or defective. Recharge the battery completely.

'ON BOARD' BATTERY CHARGING (AC250B ONLY)

The AC250B 'On Board' charger allows the charger to be conveniently mounted on the vehicle. The charger can be mounted to any flat surface using the mounting tabs or bolted to the supplied 'L' Bracket (Bolts, Washers & Nuts Supplied) and mounted next to the battery as per the diagram.



FREQUENTLY ASKED QUESTIONS

Q. How do I know if the battery is charged?

A. The battery charger's GREEN 'FULLY CHARGED' LED will illuminate to indicate when the battery is fully charged. Alternatively use a Battery Hydrometer (Projecta Part No. BH100). A reading of 1.250 or more in each cell indicates a fully charged battery.

Q. Why does the battery charger have two ratings?

A. Battery chargers for automotive use have traditionally been given an RMS rating or peak rating in the past. This rating is now used as an industry reference only.

Australian Standards now require all battery chargers to be rated at the charger's continuous output at 12.0 Volts, we express this as mA (milliamps) rather than A (Amps) to avoid confusion.

Q. Why does the 'FULLY CHARGED' LED come on straight away?

A. There are three possible reasons why the 'FULLY CHARGED' LED may come on straight away.

1. The battery is fully charged.
2. The battery has taken a surface charge.
3. The battery has a faulty cell.

Q. What is Surface Charge?

A. Batteries unused or left flat for some time build up a resistance to being recharged. When the charger is first connected, these batteries will take a surface charge, and the 'FULLY CHARGED' LED will illuminate within a short while. The battery however is not fully charged, the charger is voltage sensitive and cannot differentiate between a surface charge and a fully charged battery. After a few hours the battery may start to accept some charge but most batteries with this condition will not recover.

Q. What is a Faulty Cell?

A. 12 Volt batteries contain 6 cells and one faulty cell is enough to ruin your battery. If after eight hours of charging your battery is still flat, you should test the cells using a hydrometer. If one reading is lower than the rest it indicates a faulty cell. It is pointless to continue charging, as the battery needs replacing.

Q. I have connected the charger properly but the 'Orange' charging light does not come on?

A. In some cases batteries can be flattened to the point where they have very little or no Voltage, this is called a deep discharge. This can occur if a small amount of power is used for a long time, for example a map reading light is left on for a week or more. Projecta automatic chargers are designed to charge from as little as 3 Volts (except AC150 & AC250B which is 5 Volts). If the battery is below this voltage the charger will not start charging, the battery may be permanently damaged.

Q. Can I use the charger as a power supply?

A. Projecta automatic chargers are designed to only supply power to the battery clips when they are correctly connected to a battery, this is to prevent sparks or damage to the charger or battery if connected incorrectly by mistake. This safety feature prevents the charger from being used as a 'Power Supply'. No Voltage will be present at the clips.

Q. Why does the 'Overload' button pop out?

A. The larger chargers (AC800, AC1000, AC1500 & AC600-24) incorporate a manual reset overload breaker. If there is a fault with the battery or vehicle and the charger is overloaded the 'Overload' button will pop out to protect the charger from damage. Simply check the battery/vehicle to find the fault and check that the battery is within the size specified for the model, once the problem is fixed, press in the 'Overload' button and the charger will resume charging.

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