

AccuMate

Automatic charger for 6V & 12V lead/acid batteries. Not for charging dry cell or NiCd batteries. Input supply : 220-240VAC. Output current : 1.2ADC, 18W (max.)

Instructions for Use : IMPORTANT : Read before charging.

WARNING! Batteries emit **EXPLOSIVE GASES - prevent flame or sparks near batteries.** Disconnect AC power supply before making or breaking DC/battery connections. Battery acid is highly corrosive. Wear protective clothing and avoid contact. In case of accidental contact wash immediately with soap and water. Check that the battery posts are not loose; if so, have the battery professionally assessed. If the battery posts are corroded, clean with a copper wire brush; if greasy or dirty, clean with a rag damped in detergent. Before charging batteries provided with filler caps check that the electrolyte level is correct, and top up with distilled water if necessary. Do not use the charger unless all input and output leads and connectors are in good, undamaged condition.



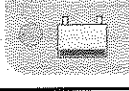

Protect your charger and it's leads, connectors, fuse holders, fuses and terminations from contamination by acids and fluids, from exposure to damp and humidity, and from physical and accidental damage. Any damage to the unit, it's leads or accessory parts resulting from such contamination, exposure or damage is NOT covered by warranty.

NOTE : This charger is delivered with two detachable battery connection lead sets. These sets terminate at one end with the male element of a special 2-pin connector to insert in the female element which terminates the main charger output cable. At the other end, one connection set has «crocodile» clips for quick connection to the battery, the other set has eyelet lugs for permanent attachment to the battery posts. This set has a resealable rubber protective capsule over the connector which should be kept closed when the vehicle is not connected to the charger, so as to protect the connector from dirt and damp. If intending to charge using the battery clips, first disconnect and remove the battery from the vehicle and place in a well ventilated area. To connect the eyelet connection set, fix the eyelets firmly through the holes in the battery posts with galvanised gutter bolts & nuts or in the case of solid posts by galvanised self-tapping screws engaging in suitable holes pre-drilled in the posts. Make sure that the eyelet on the lead with the in-line fuseholder is fixed to the positive pole (marked Pos or P or + and often red) and the other eyelet to the negative pole (Neg or N or - and often black). Ensure that the polarised connector is situated away from the battery and restrained so as not to come into contact with any moving part of the vehicle. Prevent ingress of grime and dirt to the 2-pin connector. In case of a blown fuse in the in-line fuseholder, check carefully for damage to the connection set's cables and replace if damaged or dubious. **Replace the burnt fuse only with a similar new fuse of identical type and 10 Amps rating.** If in any doubt concerning any of the above instructions, consult a professional service agent for assistance.

IMPORTANT! This charger has a charging output selector switch for charging either 6V or 12V rechargeable lead-acid batteries. **IT IS ESSENTIAL TO ENSURE THAT THE SELECTOR SWITCH IS CORRECTLY POSITIONED ACCORDING TO THE VOLTAGE OF THE BATTERY TO BE CHARGED BEFORE THE CHARGER IS CONNECTED TO THE BATTERY.** 6V batteries have three cells, 12V batteries have six cells. If unsure, contact the battery supplier before connecting the AccuMate.

WARNING! Connecting a battery to the AccuMate without ensuring the charging output selector is correctly positioned may cause a hazard resulting in the production & accumulation of dangerous explosive gases as well as the overheating & potential destruction or even the explosion of the battery. **THIS COULD RESULT IN SERIOUS PERSONAL INJURY OR EVEN DEATH.**

ALWAYS CHECK THE SELECTOR SWITCH POSITION!

| LED (light emitting diode) Indicator Information panel | | | |
|--|---|--|---|
| GREEN - Battery charged and ready for use |  | 12V  6V | - AC Power On 12V battery selection - AC Power On 6V battery selection |
| YELLOW - Battery discharged, but charging normally |  |  | - RED (INVERSE POLARITY) Battery connected inversely |

Charging procedure

1) Place the charger on a hard flat surface, but not on leather, textile or plastic. An optional wall mounting bracket is available. Verify that the 6V/12V selector is in the correct position for the battery you are going to charge. Consult a specialist if not sure.

2) Connect the charger to the battery - RED clamp to POSITIVE (POS, P, +) terminal and BLACK clamp to NEGATIVE (NEG, N, -) terminal. If the «INVERSE POLARITY» LED should indicate, your battery connections are inverted. The charger is protected against this error; no damage will result and it will automatically de-activate. Disconnect clamps and reconnect correctly.

3) Connect the charger to a mains supply socket providing AC supply of 220 to 240V. The «POWER ON» LED opposite the appropriate charging output voltage selection should illuminate. If not, check your AC supply or connections.

4) When connections are correct, the «POWER ON» and the yellow (charging) LED should light initially. If the battery is already 100% fully charged or in the case that it is sulphated, the green LED will then come on immediately.

NOTE : If only the «POWER ON» LED illuminates after correct connections have been established, the initial battery voltage was below 1V and the battery is probably irrecoverable.

5) If the initial battery voltage was more than about 1V, the charger will automatically charge, then maintain the battery very close to fully charged unless the battery is defective. During the «CHARGING» cycle (yellow charging LED) the battery is charged at the maximum constant current output until the monitored voltage rises to 14.3V. Charging then changes automatically to the absorption stage, with the voltage limited at 14.3V, so that the continuously monitored current will gradually reduce. When the current falls to 200mA, the charging voltage is then limited to 13.6V and the green LED will indicate the battery is ready for use. For as long as the charger remains connected it will continue to maintain the battery with a charge voltage limited at 13.6V, thus allowing the battery to draw a small current to compensate for any slight discharge, whether self-discharge or due to any alarm system or other current loss in the vehicle or other circuit. Should any factor place a load on the battery such that the battery's need for charging current rises to 200mA, the circuit will automatically revert to the absorption current stage until the battery is again charged or until the current loss has been stemmed.

6) It is recommended practice to disconnect the AC mains before disconnecting the battery connections, although the circuit will instantly disable the charging output on disconnection of the battery.

7) Refer to the section «Application Hints» below to obtain the most effective use of the AccuMate.

Application Hints & Interpretation of «LED» indications of Battery Status

General hints : the **AccuMate** has been designed to charge 6V or 12V lead-acid batteries that have been discharged during normal operation and that have not been damaged through extended non-use, physical misuse or internal defects. Non-use of a battery for an extended period during which the battery is left to self-discharge without being re-charged causes internal chemical change (sulphation) which this charger may not be able to reverse. Failure to maintain the correct electrolyte levels within batteries requiring occasional topping up with distilled water is also likely to result in damage to the battery which may be irrecoverable. Technically advanced professional chargers such as the **BatteryMate** may still be able to recover such neglected batteries, though full recovery to as new status may never be possible. All unused batteries will maintain their charge best when stored in a cold or cool environment. The warmer the surroundings the faster the battery will self-discharge.

1. Once you have connected the **AccuMate** to your battery, LEAVE it connected for the «maximum» time given for the battery size in the table below, OR, until you observe a steady green LED indication. If you do not know the rated capacity of the battery, use the category indications in the table (see §9). In most cases recharging of a discharged battery is indicated by a yellow LED for not more than the «maximum» time indicated in the table, succeeded by a steady green LED. When the steady green LED indicates, you can safely leave the battery connected to the **AccuMate** for longer than the «maximum» time indicated below, however, unless a steady green indication is observed, there may well be some defect or problem within the battery, or (if it is connected to the vehicle wiring system) a loss of current in the wiring system itself.

2. No LED indication except the 6V or 12V AC Power ON LED and the reverse polarity (RED) LED : there is mains power to the **AccuMate** but your battery is connected incorrectly to the charger. No damage will result as **AccuMate** is electronically protected. Reconnect the clamps making sure the RED clamp is on the RED or «P» or + battery post and the BLACK clamp on the BLACK or «N» or - battery post.

3. No LED indication except either the 6V or 12V selection AC mains «ON» : there is mains power to the **AccuMate** but the battery is too deep-discharged or sulphated to recover it.

4. Yellow and green LED's both flashing rapidly alternately : this may occur in cases of a deep-discharged (or perhaps slightly sulphated) battery which the **AccuMate** is trying to recover. This is possible when the battery has one or other internal defect but the **AccuMate** is still trying to recover the battery. LEAVE connected for up to the «maximum» time given below or until a steady green indication is observed, if sooner.

5. Yellow LED flashing or pulsing: this may occur in cases of a deep-discharged (or perhaps slightly sulphated) battery which the **AccuMate** is trying to recover. LEAVE connected for up to the «maximum» time given below, or until a steady green indication is observed, if sooner.

6. Steady yellow indication : LEAVE connected for up to the «maximum» time given below or until a steady green indication is observed, if sooner. In most cases, the charging programme will bring the battery to green status within the time period given in the «normal hours» column in the table below. If the green LED does not indicate within the «maximum» time, the battery is probably damaged internally.

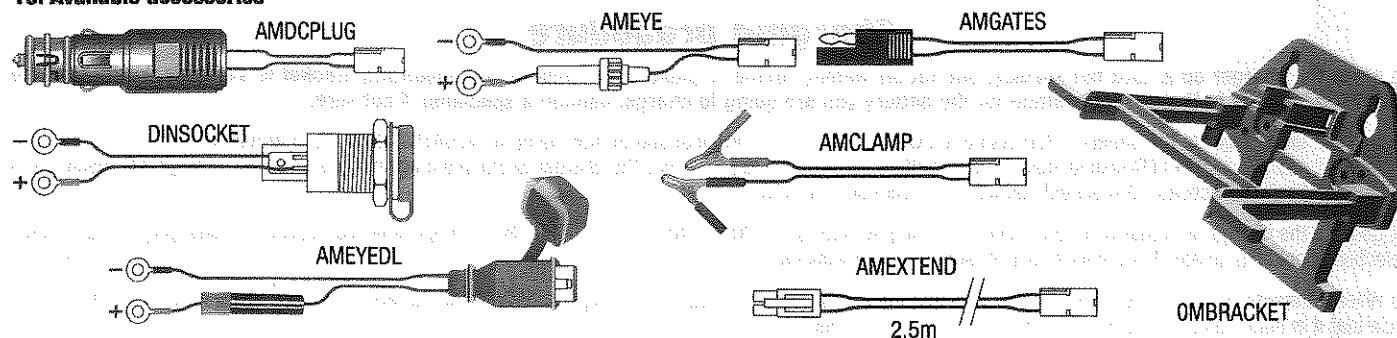
7. Steady green indication : the battery is fully charged and ready for use. You may now safely leave it continuously connected to the **AccuMate** if you wish to maintain it fully charged over a period of non-use, even over a few months. **NOTE :** if a steady green LED indication occurs immediately upon connection of a battery known to have been discharged or unused for some months prior to connection, the battery may well be deep-discharged. In such cases, leave connected for the «maximum» charging time per the table. If flashing or pulsing of the green and/or yellow LED's occurs during this time, refer to § 4 and 5 above. If the battery proves unusable thereafter, take it to a professional service dealer equipped with a **BatteryMate** recuperative charger/ load tester.

8. The table below gives approximate maximum charging times from a totally discharged flat battery to fully charged status. This time is roughly equal to the Ampère-hour capacity rating of the battery, so if this is printed on the battery you may easily form your own estimate. However it is only in cases such as car headlights being left on for a week or the battery being unused and kept in a warm environment for months that the battery will become totally discharged. The «Normal Hours from Flat» indicates the average charging time to attain a fully charged battery from a status whereby the battery is unable to turn the engine.

9. Table

| Vehicle description | Battery capacity | Normal hours from flat | Maximum time |
|---------------------------------------|--------------------|------------------------|--------------|
| 250-900cc motor-cycle/ATV/Snow-mobile | 4 to 14 Amp-hours | 2 to 7 hours | 14 hours |
| Touring motor-cycle or lawn tractor | 15 to 30 Amp-hours | 7 to 15 hours | 30 hours |
| Small car up to 1400cc | 31 to 44 Amp-hours | 15 to 22 hours | 44 hours |
| Medium car, 1400-1800cc | 45 to 55 Amp-hours | 22 to 27 hours | 55 hours |
| Touring car, boat, tractor | 56 to 75 Amp-hours | 27 to 37 hours | 75 hours |

10. Available accessories



LIMITED WARRANTY

TecMate (International) SA/NV, 252 Sint-Truidensesteenweg, B-3300 Tienen, Belgium, makes this limited warranty to the original purchaser at retail of this product. This limited warranty is not transferable. TecMate (International) warrants this battery charger for two years from date of purchase at retail against defective material or workmanship. If such should occur the unit will be repaired or replaced at the option of the manufacturer. It is the obligation of the purchaser to forward the unit together with proof of purchase, transportation or mailing costs prepaid, to the manufacturer or its authorized representative. This limited warranty is void if the product is misused, subjected to careless handling, or repaired by anyone other than the factory or its authorized representative. Any damage to the unit, its leads or accessory parts resulting from acid or fluid contamination, exposure to damp or humidity or from physical damage is **NOT** covered by warranty. The manufacturer makes no warranty other than this limited warranty and expressly excludes any implied warranty including any warranty for consequential damages.

THIS IS THE ONLY EXPRESS LIMITED WARRANTY AND THE MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME OR MAKE ANY OTHER OBLIGATION TOWARDS THE PRODUCT OTHER THAN THIS EXPRESS LIMITED WARRANTY. YOUR STATUTORY RIGHTS ARE NOT AFFECTED.