

DUAL-80 secondary battery charger

Dear Customer,

Thank you for buying our product. Please make sure to read this manual carefully before putting the unit into operation.

WARNING!!! Important security advice!

- For safety and technical approval reasons, the unauthorized modification of the unit is not permitted. Do not open the housing of the auxiliary battery charger. The device must only be used for the intended purpose.
- The use of the split charger under unfavourable conditions must be avoided. Unfavourable conditions include: temperatures above 50 °C, moisture, environments containing flammable gases, solvents, vapours, dust or relative humidity in excess of 80%.
- If there is reason to believe that safe operation of the device is no longer possible, it must be switched off immediately and secured against unintentional operation. A safe operation can no longer be assumed if the device shows visible signs of damage or after the device has been stored under adverse conditions.
- Observe proper start-up of the device. Please consult an expert immediately if you have doubts regarding proper operation, safety or connection of the device.
- Don't leave packaging material (plastic foil, styropor) heedlessly. It could become a hazardous toy for children.
- We cannot assume liability for material or personal damage caused by improper handling or non-observance of these instructions or safety notes. Any warranty claim shall be void under those circumstances!

Description

The DUAL-80 secondary battery charger enables you to easily retrofit your car with a secondary (auxiliary) battery. The twin battery charger is intended to charge a secondary battery while saving energy in your starter battery thus avoiding cranking problems of your car. An auxiliary battery should not simply be paralleled to the starter battery. If the batteries discharge below a certain voltage level, there is not enough current to crank the engine. While the vehicle is on the way the alternator charges the engine start battery. When it is fully charged and the alternator puts the battery voltage above 13.6V, the DUAL 80 split charger connects the auxiliary battery also to the alternator. Now both batteries are being charged and remain parallel-connected until their voltage stays above 12.8V. When their voltage drops below 12.8V the DUAL 80 split charger disconnects the auxiliary battery from the alternator. The charging current of a car alternator is usually approx. 25% of the battery power, e.g. 25 amperes in case of a 100Ah battery. This current is then distributed to both batteries if the DUAL-80 split charger is activated. The current switching capacity is sufficient for batteries up to 500 Ah.

Installation

- The DUAL-80 secondary battery charger must be installed in such a way that it does not impair traffic safety or the constructive stability of the car.
- The installation spot must not be exposed to heat and must be ventilated sufficiently as the device produces heat when operating. (Observe a free distance of 5 cm around the housing.) Should you have doubts concerning the selection of the appropriate installation spot, please contact a specialist.
- Before mounting and drilling holes for installation, make sure that you do not damage electrical cables, brake lines or similar by doing so.

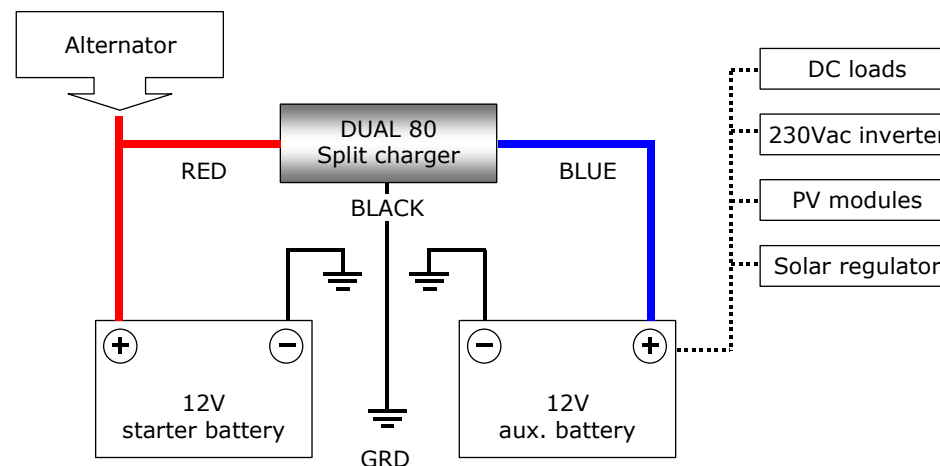
Note: Never solder up cables in car engineering. Vibrations cause the soldering joints to break after a certain time. Please use screw terminals or crimp connections.

Battery connection

- The electrical installation should be performed by an expert.
- Use the twin charger at 12 V battery bank only (negative battery terminal is connected to the chassis of the car). Never connect the dual battery charger to a battery with different voltage!
- Voltage for the dual battery charger must be supplied directly over the positive pole of the starter battery.

- To avoid short circuits or damages to the dual battery charger, the negative poles (earth) of the starter battery and the secondary battery must be disconnected during installation. Reconnect the negative poles of the batteries only after having completed the connection of the twin battery charger and after having checked the connection.
- When placing the cables, take care that they are not pinched or damaged. If necessary, use rubber sleeves for bushing.
- For necessary cable extension use a cable diameter as large as possible for connecting the dual charger, i.e. only equal or bigger cable sizes (at least 10mm²). Cable cross sections which are too small may cause a cable to heat up and char through in the worst case. The increased ohm resistance may cause unnecessary loss of power.
- The earth connection of the secondary battery charger requires a 0.75mm² cable only because current flow is quite low. Use correspondingly stronger cables as earth cables of the batteries.
- To avoid short circuits of the connection between starter battery, secondary battery and the split battery charger, a fuse (at least 100A) must be installed for each of the positive poles of the starter battery and the secondary battery.

- Red cable:** Connect to the positive pole (+) of the starter battery
Blue cable: Connect to the positive pole (+) of the secondary battery
Black cable: Connect to earth (-), e.g., to the chassis.



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| Battery voltage: | 12Vdc |
| Nominal charging current: | 80A |
| Max. battery voltage: | 16V |
| Power consumption – aux. battery connected: | 3.6W |
| Power consumption – aux. battery disconnected: | 1.2W |
| Auxiliary battery connection voltage point: | 13.6V |
| Auxiliary battery disconnection voltage point: | 12.8V |
| LED is on: | Aux. battery being charged |
| Dimension (W×H×L): | 105×49×62 mm |
| Weight: | 300 g |