

BC SMART 4000



BC Smart 4000 is a battery charger designed for the maintenance of all car batteries and large-capacity motorcycle batteries, featuring a LED bar voltmeter. The device is ideal for the recovery, charge, desulfation, maintenance and analysis of all 12V batteries and it can be left always connected to the battery, with no risk and no need to disconnect the battery from the vehicle, keeping it fully charged during long periods of inactivity (even months). BC Smart 4000 delivers a maximum

current of 4 Amps and runs a fully automatic 8-cycles charging algorithm, providing a complete solution to recover deeply discharged batteries (from 1.5 volts) and to recharge, desulfate and maintain all 12V batteries (traditional, gel, sealed...) from 15 to 80 Ah (up to 150 Ah for maintenance). A LED bar shows the charging cycle executed, any functioning error as well as the battery state of charge (50%, 65%, 80%, 100%) in real time. BC Smart 4000 does not produce

sparks and it is protected against short circuit, reverse polarity, overcharging and overheating. The package includes a waterproof battery cable with eyelets (code STD2V), which can be left always installed on the vehicle, and a battery cable with insulated clamps (code 30AMPPZ). A universal 12/18 mm adapter (code ACC612V - optional) is available to recharge the battery from the cigarette lighter. The warranty is extended to 3 years.



TECHNICAL DATA

Input Voltage
Charge Voltage
Charge Current
Charging Algorithm

Types of Batteries

Battery Capacity

Operating Temperature
IP Class

BC SMART 4000

220÷240 Vac, 50÷60 Hz
13.8 V / 14.4 V - nominal 12 V
4.0 A max
8 cycles, automatic (Initialization, Recovery, Soft Charge, Bulk Charge, desulfation, Battery Analysis, Maintenance and Equalization)
12 V Lead Acid
(Traditional, Gel, MF, VRLA, AGM, Ca/ca, etc.)
From 15 Ah to 80 Ah (Charge),
up to 150 Ah (Maintenance)
from -20° to +50°C
Weatherproof - Protection against water splash IP44. Suitable for outdoor use



Featuring wall mounting system with fast dismounting

8 CYCLES CHARGING TECHNOLOGY

BC SMART 4000 is managed by a **latest-generation microprocessor**, which is in charge of monitoring the battery parameters in real time and to execute a **new multi-cycle charging algorithm**:

1. **Initialization**: the device checks if one or more cells are shorted, in order to verify that the battery is in a proper condition to be recharged/recovered.
2. **Recovery**: if the battery is deep discharged (battery voltage starting from 1.5 V), the device tries to recover it, taking it back to a higher voltage.
3. **Soft Charge**: if the battery is in a condition of significant undercharge, the device provides a light pulsing current to the battery, to overcome this critical phase.
4. **Bulk Charge**: the device provides full current to the battery, recovering about 85-90% of the battery capacity.
5. **Desulfation / Absorption**: the device provides a "controlled overcharge" to recover the remaining 10-15% of the battery capacity, through the desulfation/recovery the lead-acid cells (for low or medium sulfation).
6. **Battery Analysis - End Cycle Test**: the device stops providing current to the battery for a short time, in order to verify whether the battery is able to retain the charge received. This test is periodically repeated during the Maintenance.
7. **Maintenance**: the device keeps the battery in the best charge conditions for very long periods (even months) during which your vehicle is left unused, without any possible drawback (battery overcharge, battery overheating, water and/or electrolyte loss, etc).
8. **Equalization**: every 30 days during long term maintenance, the device executes an equalization charge in order to balance the battery lead-acid cells, avoiding electrolyte stratification within the cells.

SAFETY AND PROTECTIONS

BC SMART 4000 features a series of **8 protections and active guard mechanisms** that make it easy to install and to use, without any risks even for users without expertise:

- **No interferences the vehicle's on board electronics** (control unit, ABS, GPS...)
- Protection from output lines short circuit, even for an indefinite time: **no sparks!**
- Protection from battery polarity inversion
- Protection from battery overcharge/overheating
- Thermal protection from overtemperature
- No need to disconnect the battery from your vehicle
- Very few gas development during the charge: no need to remove the battery plugs

Laboratory Tests ensure the manufacturing of products in conformity to the regulations in force on safety and electro-magnetic compatibility. Norms and Regulations: EN55014-1, EN55014-2, EN60335-1, EN60335-2-29, EN61000-3-2, EN61000-3-3.

BATTERY TYPES AND CAPACITY

BC SMART 4000 is specifically designed for charging and maintaining **all 12V lead-acid batteries** currently available on the market (traditional, VRLA, MF, AGM, GEL, Ca/Ca, etc). BC SMART 4000 is addressed to recharge batteries with a capacity **from 15 to 80 Ah (up to 150 Ah for Maintenance only)**.

EQUIPMENT & ADD-ONS

The package includes:

- the battery charger **BC SMART 4000** for long term battery maintenance, provided with a 220V power cable (2 meters long) and a battery output cable;
- **STD2V** waterproof battery cable with eyelets, which can be left always installed on board;
- **30AMPPZ** battery cable with clamps;
- according to the selected kit, the universal 12/18mm cigar socket adapter (cod. **ACC612V**) may be included;
- a copy of the User Manual.