

VMAXTANKS™
Model BC1204A



CE FCC RoHS IP65

Fully Automatic Smart Battery Charger

User Manual

The VMAX BC1204A utilizes the latest technology in AGM, Gel and flooded lead-acid battery charging. Can be used with 7-80ah batteries. For best results, use with 7-60ah batteries.

During the charging process; the charger's 4 LEDs indicate the battery capacity status from 25% (LED 1) to 100% (LED 4).

Fault LED: Light-Flashing, Battery is connected in reverse polarity or output is short-circuit
Light-ON: The battery is worn out or is possibly defective. Suggest replacing battery with a battery

The BC1204A is a 7-Stage Charger

Stage-1: Qualification Phase

Initially ensures the battery is in good condition prior to launch of normal charge processes, as a safety measure charge processes will not begin if battery is below 3 volts

Stage-2: Soft Start Phase:

Soft Start is applied when the charger has detected a battery at a very low initial state of charge Voltage and current are delivered at a specified rate to help the battery to recover prior to entering pulse charge mode

Stage-3: Recovery mode phase

Recovery processes will commence if the charger detects any charge acceptance problems, to help the deeply discharge battery recover normal battery state

Stage-4: Bulk Charge Phase

With the battery now having gone through Qualification and Recovery phases as needed the Bulk Charge phase gives the battery constant current, taking the battery up to 80% of its full Capacity

Stage-5: Adaptive charge Phase

The Adaptive charge phase follows the charging voltage changing when the battery voltage changes too quickly, the charger will drop the charging current automatically to ensure no overheat and no overcharge the battery.

Stage-6: Absorption Phase

In the Absorption phase the battery is given constant voltage while current is reduced based on actions taken from ongoing battery monitoring until the battery is 100% charged

Stage-7: Maintenance phase

The battery can be left safely connected to the charger indefinitely. The charger will constantly monitor the battery and turn-on again as needed to maintain the battery at a full state of readiness

Specifications

Input Voltage	100-240VAC, 50-60Hz 0.8Arms
Input Current	0.55A
Back current drain	1.3mA
Charge voltage	Rating 12V, Bulk limited voltage : 14.5V
Ripple current	Current-ripple: <= 0.13A rms
Bulk charge current	3.3A
Operate Temperature	-5F~120F
Cooling	Natural convection. Do not cover the charger.
Charge principle	Auto 7 stages by MCU controlled
Battery type	All types of 12V lead-acid batteries. (SLA, Gel, AGM)
Battery capacity	7-80Ah
Size	4 3/4 x 2 5/8 x 1 5/8 inches
AC cord	STP-2 3.95 ft
Enclosure	IP65 (Dust protected, Water splashing resistance)
Weight	0.6lb

Instructions:

1. Connect the AC cord to AC outlet. The power LED will light on solid.
2. Connect positive charger clip (red) to positive battery terminal, the black clip to negative. The 25%~100% LEDs will light in a sequence. If the batteries polarity is reversed or output is shorted, the "⚠️" LEDs will flash simultaneously, DISCONNECT & CHECK.
3. Depending on the charged capacity, 25%~100% LEDs will light up solid. When all are ON, the battery is fully charged. You can disconnect the battery to use OR keep it connected to charge in float mode. If battery stays at Stage 3 (25% LED ON) after 24 hours of charging, then the battery is defective.

The table shows the duration of the Bulk step-up to about 80% state of charge

Battery type(Ah)	BC1204A (hours)
7	2
20	6
45	14
80	24

WARNING!

1. This charger is designed for charging AGM, GEL & lead-acid, batteries from 7 to 80Ah. Do not use for any other purpose.
2. Since batteries may emit explosive gases, always provide good ventilation and avoid any source of flames or sparks when charging.
3. To reduce risk of damage to electric plug and cord, pull by the plug rather than by the cord when disconnecting charger.
4. Use of an improper extension cord could result in a risk of fire and electric shock.
5. Do not operate charger if you notice any signs of damage to charger or cords.
6. Do not disassemble the charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electrical shock or fire.
7. To reduce risk of electric shock, unplug charger from AC outlet before attempting any maintenance or cleaning.

Charger Selection and Use

Charge and maintenance capacity ranges are suggested only as a guide for battery charger selection and application based on varied customer charging and maintenance requirements. Please be sure to follow safety and use information in user guide for correct product application and use