

[Manuals.plus](#) /

› [LVYUAN](#) /

› LVYUAN BC-10 Automatic Pulse Battery Charger User Manual

LVYUAN BC-10 AC Power Cord 150cm

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Model: BC-10 AC Power Cord 150cm

PRODUCT OVERVIEW

The LVYUAN BC-10 is an advanced automatic pulse battery charger designed for a wide range of 12V and 24V batteries, including lead-acid (open, sealed, AGM, GEL) and LiFePO4 lithium batteries. It features a 7-stage smart charging process, pulse repair mode for desulfation, and comprehensive safety protections. This manual provides essential information for safe and effective operation.



The Lvyuan BC-10 Automatic Pulse Battery Charger, showing the main unit, power plug, and battery clamps.

SETUP AND INITIAL USE

Before using the charger, ensure the battery type is compatible and follow these steps carefully to prevent damage to the charger or battery.

4 Steps for Easy Charging

- 1. Plug into Outlet:** Insert the charger's AC power plug into a suitable wall outlet. The charger's display will light up for 10 seconds.
- 2. Connect to Battery:** Connect the positive (red) clamp to the positive (+) terminal of the battery and the negative (black) clamp to the negative (-) terminal. The charger will automatically detect the battery voltage.
- 3. Select Battery Type:** Press the 'MODE' button to select the appropriate battery type (e.g., STD, AGM, GEL, LiFePO4).
- 4. Start Charging:** The charger will automatically begin the charging process based on the selected mode and detected battery status.



Visual guide for the 4-step easy charging process: plug in, connect clamps, select mode, and automatic charging begins.

Battery Status Detection

The charger automatically detects the battery's voltage and condition upon connection. This ensures the correct charging parameters are applied.



Illustration of the battery status detection process, showing the charger's display and connections.

Preventing Sparks

To prevent sparks, always connect the charger to the battery terminals first, then plug the AC power cord into the wall outlet. Disconnect in reverse order: unplug from wall, then disconnect from battery.

バッテリー状態検知

01

コンセントにプラグを差し込む、
充電器の画面が10秒間点灯した後、プラグを抜く。



02

バッテリーに接続すると、
バッテリーの状態を検出します。



03

バッテリーに異常がなくを確認した後、
コンセントにプラグを差し込む、
充電モードを選択してバッテリーの充電を開始します。



※順番を間違えてバッテリーの端子を接続すると、火花が発生することがあります。

Visual comparison of correct and incorrect connection methods to prevent sparks during battery charging.

OPERATING MODES AND FEATURES

7-Stage Smart Charging

The BC-10 utilizes a sophisticated 7-stage charging process to optimize battery health and longevity. This includes:

1. **Pulse Charging:** Initial stage to break down sulfation.
2. **Soft Start Charging:** Gently introduces current to the battery.

3. **Constant Current Charging:** Charges the battery at a steady current.
4. **Constant Voltage Charging:** Charges the battery at a steady voltage.
5. **Test Charging:** Checks battery condition.
6. **Recharge Mode:** Provides additional charge if needed.
7. **Float Charge Mode:** Maintains full charge without overcharging.



Detailed diagram showing the voltage and current profiles across the 7 stages of smart charging.

Pulse Charging (Repair Mode)

The pulse charging feature, also known as repair mode, uses high-frequency pulses to break down lead sulfate crystals that can build up on battery plates, restoring battery capacity. This mode is not suitable for LiFePO4 batteries.

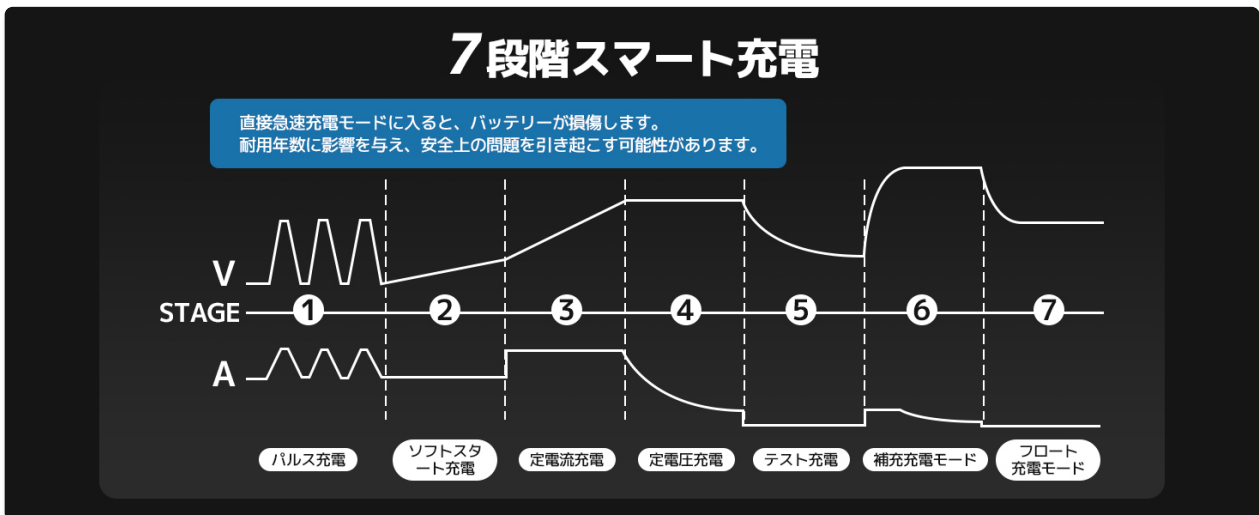


Illustration of the pulse charging function, highlighting its ability to remove sulfation from old batteries.

Float Charging (Lead-Acid Batteries Only)

For lead-acid batteries, the float charge mode allows the charger to remain connected indefinitely, maintaining the battery at full charge without overcharging. If the battery's voltage drops due to self-discharge, the charger will automatically resume charging.

常時接続可能なフロート充電 バッテリーをフル充電状態に維持します

一定の電圧まで自然放電すると、自動的に充電が開始します。



12V 鉛バッテリー

12.5V 開始 >> フル充電



24V 鉛バッテリー

25V 開始 >> フル充電

Visual representation of float charging maintaining 12V and 24V lead-acid batteries at full capacity.

Winter/Summer Smart Charging

The charger features intelligent temperature detection to adjust charging parameters based on ambient temperature. This ensures optimal charging performance and prevents overcharging or undercharging in extreme hot or cold conditions.

4ステップで簡単充電

01

コンセントにプラグを差し込む



02

バッテリーを繋ぐ
電圧を自動認識



03

バッテリーの種類を選択



04

自動充電開始



※順番を間違えてバッテリーの端子を接続すると、火花が発生することがあります。

Depiction of the charger's smart temperature compensation for winter (-10°C) and summer (45°C) charging.

MAINTENANCE

Regular use of the pulse repair mode can help maintain the health of lead-acid batteries by preventing sulfation buildup. However, physically damaged batteries cannot be repaired. Always ensure the charger and cables are clean and free from damage before and after use.

古いバッテリーを復活!

一秒間に1000回パルス電流を流すことで、
硫化物の結晶を除去できます。



The charger's pulse repair function can help revive old batteries by removing crystallization.

TROUBLESHOOTING AND SAFETY FEATURES

The Lvyuan BC-10 is equipped with multiple protection mechanisms to ensure safe operation and prevent damage to the charger or battery.

Protection Functions:

- **Overcurrent Protection:** Prevents excessive current flow.
- **Overheat Protection:** Shuts down if internal temperature exceeds safe limits.
- **Short Circuit Protection:** Protects against short circuits at the output.
- **Reverse Connection Protection:** Prevents damage if clamps are connected incorrectly.
- **Overcharge Prevention:** Automatically stops charging when the battery is full.

6つの保護機能



Visual representation of the six built-in protection features: overcurrent, overvoltage, overheat, short circuit, reverse connection, and overcharge prevention.

SPECIFICATIONS

Feature	Specification
Product Model	BC-10
Input Voltage	AC100V-240V, 50HZ/60HZ
Compatible Battery Voltage	DC12V / DC24V
Compatible Battery Types	Lead-Acid (Open, Sealed, AGM, GEL), LiFePO4 Lithium Iron Phosphate
Compatible Battery Capacity	12V: 6AH~180AH, 24V: 6AH~90AH
12V Output Current	1.5A / 10A (selectable)

Feature	Specification
24V Output Current	1.5A / 5A (selectable)
Max Output Power	140W
Charging Method	Automatic Charging / Pulse Charging
Operating Temperature	-10°C to 45°C
Product Dimensions	6.5 x 17 x 9.5 cm (D x W x H)
Product Weight	Approx. 0.55 KG
AC Power Cord Length	150 cm
Battery Clip Cord Length	85 cm

LVYUAN 鉛 / リチウム電池両用自動パルス充電器	
製品モデル :	BC-10
バッテリー電圧 :	12V/24V 鉛蓄バッテリー、 リン酸鉄リチウムイオンバッテリー
適合バッテリー容量 :	6Ah~180Ah
入力電圧 / 周波数 :	AC100V-240V 50/60hz 自動認識
12V 出力電流 :	12V:1.5A/10A
24V 出力電流 :	24V:1.5A/5A
最大出力 :	140W
充電方法 :	自動充電 / パルス充電
動作温度 :	-10°C-45°C
対応バッテリーの種類 :	12V/24V 鉛バッテリー (WET/MF/EFB/GEL/AGM) 12V/24V LiFePO4 リン酸鉄リチウムバッテリー

Detailed specifications for the LVYUAN BC-10 charger, including input/output, compatible batteries, and operating conditions.



クリップコード
85cm



電源コード
150cm



製品重量
約 0.55KG

Diagram showing the physical dimensions of the charger and the lengths of its power and battery clip cords.

100%純銅を採用されケーブル

最大**2000V**の高電圧と**70°C**の高温まで耐えられる
JET規格品ケーブルをアップグレードされます。



Close-up of the upgraded 100% pure copper cable, designed for high voltage and temperature resistance.

WARRANTY AND SUPPORT

LVYUAN provides high-quality after-sales service for its products. This includes:

- **1-Year Manufacturer Warranty:** The product is covered by a one-year warranty from the date of purchase.
- **Free Replacement During Warranty Period:** If issues arise within the warranty period, a free replacement will be provided.
- **Prompt Problem Resolution:** Dedicated support staff are available via phone or email to quickly resolve any issues.

LVYUAN 多機能充電器【2024 新登場】



LVYUAN is committed to providing excellent customer support and after-sales service.

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