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 - › Runleader DC12V-48V Mini Battery Indicator Volt Meter (Model RL-BI050B) User Manual

Runleader RL-BI050B

Runleader DC12V-48V Mini Battery Indicator Volt Meter (Model RL-BI050B) User Manual

1. PRODUCT OVERVIEW

The Runleader RL-BI050B is a multi-functional mini battery indicator and volt meter designed for various battery-powered equipment. It provides real-time display of battery power (percentage and progress bars), battery voltage, and total operating hours. This device supports 8 selectable battery types and voltage ranges from DC8V to 48V.



Image 1.1: Front view of the Runleader RL-BI050B Mini Battery Indicator Volt Meter, displaying battery charge, voltage, and total hours.

2. KEY FEATURES

- **Multi-Function Display:** Shows real-time battery power (percentage and progress bars), battery voltage, and total operating hours.
- **Wide Battery Compatibility:** Supports 8 selectable battery types including 3 types of lead acid, GEL, LiFePO4, "Trojan", AGM, and 18650Li(NiCoMn)O2/LiCoO Lithium batteries.
- **Voltage Range:** Compatible with DC12V, 24V, 36V, and 48V systems. Battery voltage measurement range: DC8V to 48V.
- **Total Hours Recording:** Records total operating hours from 0 to 99,999 hours.
- **Durable Construction:** Made from PC545 material with a PC transparent protection board for the display window, ensuring IP65 water resistance and anti-knock properties.

- **Programmable Parameters:** Working parameters such as battery power display mode, charge/discharge display mode, low battery reminder, and over/under voltage alerts can be set using the optional Runleader PG600 programmer.
- **User-Friendly Interface:** Features 3-button operation and a white backlight display for clear readability.

3. INSTALLATION

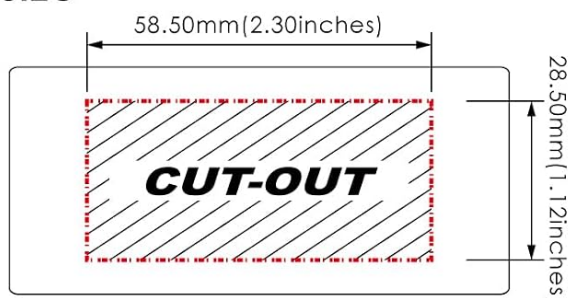
3.1 Panel Cut-out and Mounting

The meter is designed for drill-in mounting. Ensure the panel cut-out dimensions are precise for a secure fit.

- **Panel Cut-out Size:** 58.50mm x 28.50mm (2.30 inches x 1.12 inches).
- **Mounting Method:** The improved 4 snap-in clips design ensures stable mounting into the cut-out.

MOUNTING & POWER CONNECTION

■ Mounting panel cut-out size

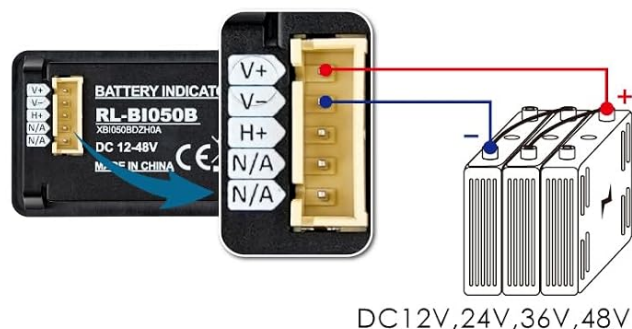


■ plug-in mounting

The 4 sided mounting clips will be kept the product more stable into cut-out.



■ Direct connection



■ External key switch connection

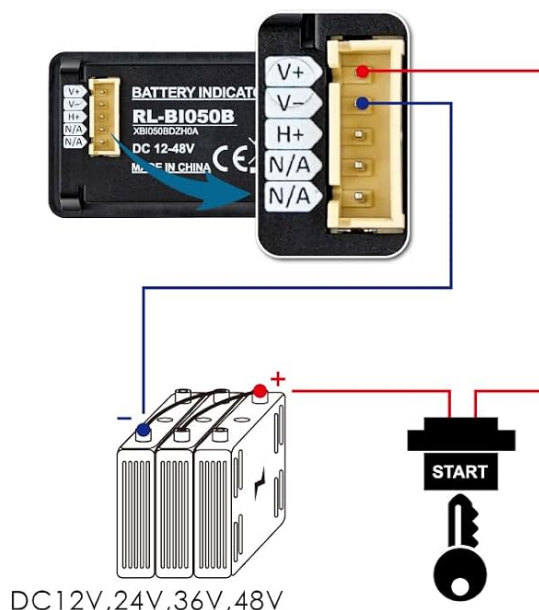


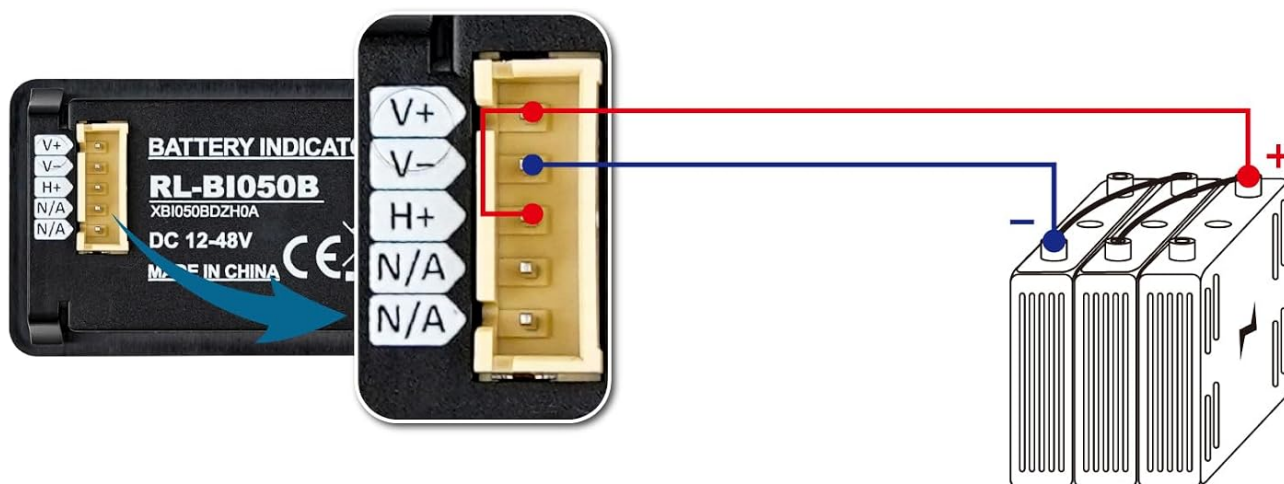
Image 3.1: Diagram illustrating the panel cut-out dimensions and the plug-in mounting method for the battery indicator.

3.2 Power Connection

The meter requires a simple positive and negative connection to the battery. An external key switch can be connected for power control.

- **Direct Connection:** Connect the red wire to the positive (+) terminal and the black wire to the negative (-) terminal of the battery.
- **External Key Switch Connection:** For controlled power, connect the meter through an external key switch. Refer to the wiring diagram for proper connection.

TOT HOURS RECORDING



- It begin to record the total running hours when battery powered machine is on.

Image 3.2: Wiring diagram showing direct connection to a battery for total hours recording. The meter begins recording when powered on.

4. OPERATING INSTRUCTIONS

4.1 Selecting Battery Type and Voltage

The meter allows selection of 8 battery types and corresponding voltages to ensure accurate readings.

1. Power on the device.
2. Use the designated buttons (typically 'SET' or arrow buttons) to navigate through the battery type options (e.g., TYPE 01 for Lead Acid, TYPE 03 for LiFePO4).
3. Once the battery type is selected, proceed to select the corresponding voltage (e.g., U 12 for DC12V, U 48 for DC48V).
4. Confirm your selection to apply the settings.

APPLICABLE BATTERY TYPES & VOLTS

Selectable battery types



Lead acid battery
(1st discharge types)

Selectable battery volts



DC12V

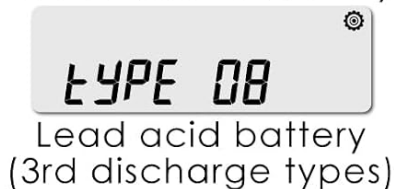
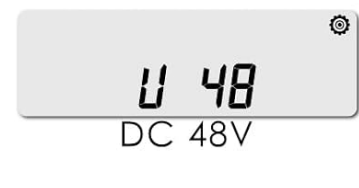
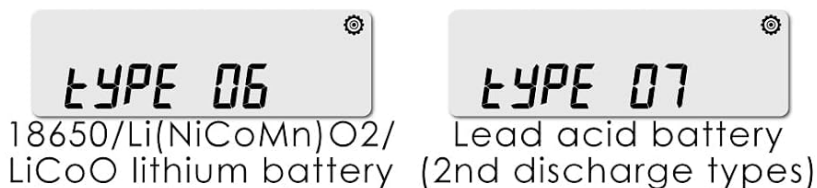


Image 4.1: Display showing selectable battery types (TYPE 01-08, USER) and corresponding selectable battery voltages (DC12V, 24V, 36V, 48V).

4.2 Reading the Display

The display simultaneously shows three key metrics:

- **Battery Power:** Indicated by a percentage and a graphical progress bar.
- **Battery Voltage:** Displays the current voltage of the connected battery.

- **Total Hours:** Shows the accumulated operating hours of the equipment.

5. PROGRAMMABLE PARAMETERS

Advanced working parameters can be customized using the Runleader PG600 programmer (sold separately). This allows for fine-tuning the meter's behavior to specific application needs.

- **Battery Power Display Mode:** Configure single or multiple display modes.
- **Charge & Discharge Display Mode:** Adjust how charging and discharging states are indicated.
- **Low Battery Reminder:** Set thresholds for low battery alerts.
- **Over/Under Voltage Alert:** Define voltage limits for alerts.
- **Firmware Updates:** The inner firmware can be updated regularly through the preset module and address to improve and revise product functions and features.

PROGRAMMABLE WORKING PARAMETERS



- To connect the Runleader's programmer PG600 (need to order separately), User can program the key working parameters such as low battery reminder, voltage alert, backlight modes, also update the inner firmware.

6. MAINTENANCE

The Runleader RL-BI050B is designed for durability and minimal maintenance.

- **Water Resistance:** With an IP65 waterproof rating, the device is protected against dust and low-pressure water jets. Avoid submerging the device.
- **Cleaning:** Use a soft, dry cloth to clean the display and housing. Do not use abrasive cleaners or solvents.
- **Material:** The housing is constructed from PC545 material, and the display window features a PC transparent protection board for enhanced durability.

FAVORABLE WATERPROOF DESIGN



Waterproof Rate
IP65



Durable housing by PC545 material



PC transparent protection board

7. SPECIFICATIONS

Parameter	Value
Model Number	RL-BI050B
Voltage Measurement Range	DC8V to 48V
Supported Battery Types	Lead Acid (3 types), GEL, LiFePO4, "Trojan", AGM, 18650Li(NiCoMn)O2/LiCoO Lithium
Total Hours Range	0 to 99,999 hours
Panel Cut-out Size	58.50mm x 28.50mm (2.30 inches x 1.12 inches)
Waterproof Rate	IP65
Housing Material	PC545
Display	White backlight LCD
Package Dimensions	2.87 x 2.83 x 1.14 inches
Item Weight	1.41 ounces
Manufacturer	Ningbo Jiangbei Run Leader Electronics Co., Ltd
UPC	767400190174

PRODUCT DIMENSIONS



Image 7.1: Detailed diagram showing the physical dimensions of the Runleader RL-BI050B battery indicator in millimeters and inches.

8. PRODUCT APPLICATIONS

The Runleader RL-BI050B is suitable for a wide range of equipment powered by DC 12V, 24V, 36V, or 48V lead acid, GEL, LiFePO4, "Trojan", AGM, and 18650 lithium batteries. Common applications include:

- Golf Carts
- Forklifts
- Motorhomes
- Lawn Mowers
- Leaf Trimmers
- Scrubber Machines

- Other battery-powered vehicles and industrial equipment

PRODUCT APPLICATIONS

It can be worked on equipments with DC 12V/ 24V,36V,48V Lead acid, GEL,LiFePO4,"Trojan",AGM, 18650 lithium batteries, such as:

- Golf cart
- Forklift
- Motorhome
- Lawn mower
- Leaf trimmer
- Scrubber machine etc



Image 8.1: Visual examples of equipment where the battery indicator can be used, including golf carts, forklifts, motorhomes, lawn mowers, and scrubber machines.

9. PACKAGE CONTENTS

Upon opening the package, verify that all the following items are included:

- Runleader RL-BI050B Battery Indicator (x1)
- Operating Instructions User Manual (x1)
- 5-core Connector Assembly (x1)

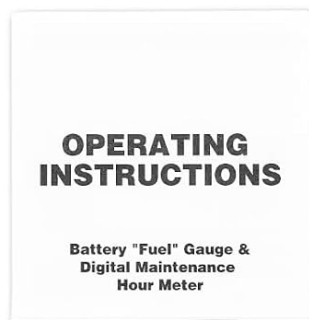
PRODUCT ACCESSORIES



Product*1



Box*1



User manual*1



5-core connector
assembly*1

Image 9.1: Contents of the product package, including the battery indicator, user manual, and 5-core connector assembly.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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