

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

› [Runleader](#) /

› [Runleader RL-BI025 Multifunction Battery Indicator and Hour Meter \(12V-48V\) User Manual](#)

Runleader RL-BI022-BI025

Runleader RL-BI025 Multifunction Battery Indicator and Hour Meter (12V-48V) User Manual

Model: RL-BI025

1. INTRODUCTION

This document provides comprehensive instructions for the installation, operation, and maintenance of your Runleader RL-BI025 Multifunction Battery Indicator and Hour Meter. Please read this manual thoroughly before use to ensure proper functionality and to prevent damage.

2. KEY FEATURES

- **Battery Charge Status:** Accurate battery charge reading (10-bar LED, percentage), programmable voltage (12V, 24V, 36V, 48V), and discharge curve selection for various battery types.
- **Hour Meter (TOT):** Tracks total engine operating hours from 0 to 99,999.9 hours with 0.1-hour accuracy. This value is non-resettable.
- **Service Timer (SVC):** Countdown tracking for maintenance reminders, such as air filter replacement. Programmable from 0 to 2000 hours with an OFF function. Allows setting a previous time for replacement.
- **Voltmeter:** Monitors constant battery voltage and provides alerts for low and high voltage conditions. Measurement range: 12V to 48V.
- **Installation:** Easy panel mounting with a $\phi 61$ mm cutout. A U-shaped metal bracket ensures stable installation. An 8-hole connector facilitates wiring.
- **Additional Features:** Backlit display with three modes (automatic, always on, off), user-controlled shutdown, IP65 waterproof rating, and 2-year warranty with technical support.

3. SETUP AND INSTALLATION

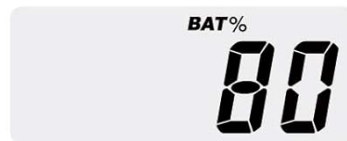
The Runleader RL-BI025 is designed for easy panel mounting. Follow these steps for installation:

1. Prepare a circular cutout in your panel with a diameter of approximately 61mm (2.4 inches).
2. Insert the meter into the cutout from the front.
3. Secure the meter from the rear using the provided U-shaped metal bracket and M4 flange nuts.
4. Connect the wiring harness to the 8-hole connector on the back of the meter. Ensure all connections are secure and correctly polarized according to the wiring diagram (refer to product packaging or specific wiring instructions if provided separately).

TIMING FUNCTION---TOT



BATTERY INDICATOR FUNCTION



VOLTAGE MEASUREMENT FUNCTION



Figure 3.1: Overview of the Runleader RL-BI025 unit, showing its compact design for panel mounting.

4. OPERATING INSTRUCTIONS

4.1 Battery Charge Status Display

The device displays battery charge status using a 10-segment LED bar graph and a percentage value. The LED indicator changes based on the remaining battery capacity. To select the appropriate voltage and discharge curve for your battery type (lead-acid, GEL, LiFePO4, Trojan, AGM, 18650 lithium), refer to the programming instructions in the product packaging. The device supports 12V, 24V, 36V, and 48V systems.

BATTERY INDICATOR---APPLICABLE BATTERY VOLTAGE

Also suitable for 12V,24V,36V,48V battery,battery voltage can be selected by users.



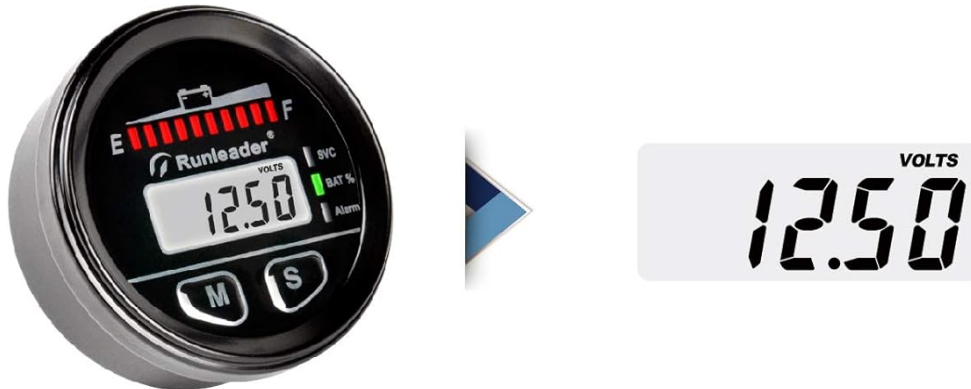
BATTERY INDICATOR---APPLICABLE BATTERY TYPES

Suitable for many types of batteries, such as lead --acid batteries, lithium batteries etc,battery type can be selected by users.



Figure 4.1.1: Battery indicator showing remaining percentage.

VOLTAGE MEASUREMENT----- BATTERY REAL-TIME VOLTAGE MEASUREMENT



VOLTAGE MEASUREMENT----- BATTERY REAL-TIME VOLTAGE ALARM



Above voltage value
alert setting



Below voltage value
alert setting

Figure 4.1.2: Display showing selection for applicable battery voltage and types.

4.2 Total Hour Meter (TOT)

The TOT function tracks the total operating hours of your equipment. The display shows hours from 0 to 99,999.9. This value is permanent and cannot be reset.

TIMING FUNCTION---SVC

Countdown tracking time, Maintenance reminder (e.g. Air filter replacement).



TIMING FUNCTION---INITIAL TIME SETTING

The initial time can be set to replace an old hour meter.



Figure 4.2.1: Display showing the Total Hour Meter (TOT) function.

4.3 Service Timer (SVC)

The SVC timer provides maintenance reminders. You can program a countdown time (e.g., for air filter replacement). When the countdown reaches zero, a service alert will activate. To set an initial time for a new meter replacing an old one, use the 'Initial Time Setting' function as described in the detailed programming guide.

BATTERY INDICATOR--- PERCENTAGE OF REMAINING BATTERY

The initial time can be set to replace an hour meter.



The LED indicator will be changed by remained battery capacity.

Figure 4.3.1: Display showing Service Timer (SVC) and Initial Time Setting functions.

4.4 Voltmeter Function

The voltmeter continuously monitors the battery's real-time voltage. You can set high and low voltage alarm thresholds. If the battery voltage exceeds or falls below these thresholds, an alert will be triggered.

BACKLIGHT MODES

3 MODES : AUTOMATICALLY / ALWAYS ON / TURN OFF

(L-Off)



Turn off the backlight display.

(L-Aut)

b - Aut

The backlight will be automatically turned off.

(L-On)

b - 00

The backlights always on.

Figure 4.4.1: Display showing real-time voltage measurement and voltage alarm settings.

4.5 Backlight Modes

The display backlight has three modes: Automatic (L-Aut), Always On (L-On), and Off (L-Off). Cycle through these modes using the appropriate button (refer to the device's button functions).

WATERPROOF

IP65
Waterproof



LCD DISPLAY CAN BE SHUT DOWN



Figure 4.5.1: Display showing the three backlight modes: Off, Automatic, and Always On.

4.6 User Shutdown

The LCD display can be manually shut down to conserve power. Refer to the device's specific button combination (e.g., pressing M and S buttons simultaneously for 'P-OFF') for this function.

PRODUCT ACCESSORIES LIST



Runleader color box*1



User manual*1



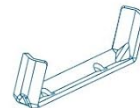
Connector plug*1



Connector spring*8



M4 Flange nut*2



Mounting bracket*1

SNAP-IN INSTALLATION

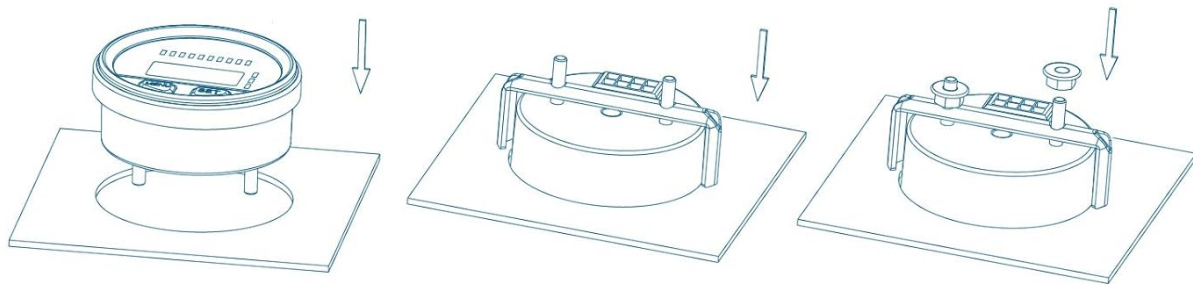


Figure 4.6.1: Illustration of the LCD display shutdown function.

5. MAINTENANCE

Regular maintenance is crucial for the longevity and accuracy of your equipment. Utilize the Service Timer (SVC) function to schedule and track routine maintenance tasks, such as oil changes or filter replacements. Ensure the device's connections remain clean and secure. The device has an IP65 waterproof rating, protecting it from dust and low-pressure water jets, but it should not be submerged.

6. TROUBLESHOOTING

If the Runleader RL-BI025 is not functioning as expected, consider the following:

- **No Display/Incorrect Readings:** Verify all wiring connections are secure and correctly polarized. Ensure the battery voltage is within the operating range (12V-48V). Check that the correct battery type and voltage settings are programmed into the device.
- **Time Resetting:** If the total hour meter (TOT) or service timer (SVC) resets unexpectedly, re-check the power

connection to ensure a constant power supply to the device, especially if it's connected to an ignition switch.

- **Inaccurate Battery Percentage:** Confirm that the correct battery discharge curve and voltage are selected for your specific battery type in the device settings.

For further assistance, please contact Runleader customer support.

7. SPECIFICATIONS

The following are the technical specifications for the Runleader RL-BI022-BI025 Multifunction Battery Indicator and Hour Meter:

Specification	Value
Manufacturer	Ningbo Jiangbei Run Leader Electronics Co., Ltd
Model Number	RL-BI022-BI025
Item Weight	52 g
Power Source Type	Battery Powered
Voltage Range	12V to 48V
Waterproof Rating	IP65
Hour Meter Range (TOT)	0 - 99,999.9 hours
Service Timer Range (SVC)	0 - 2000 hours
Panel Cutout Diameter	Approx. 61mm
Certifications	CE, ROHS
Batteries Included	No
Batteries Required	No
Material	Gel
Style	Multifunction
Color	Multicolored
First Available Date	January 4, 2020

8. WARRANTY AND SUPPORT

The Runleader RL-BI025 comes with a **2-year warranty**. For technical assistance, troubleshooting, or warranty claims, please contact Runleader customer support. We are committed to providing excellent technical and after-sales support.

For the most up-to-date support information and contact details, please visit the official Runleader website or refer to the contact information provided with your product packaging.