

OPERATING INSTRUCTIONS

Battery "Fuel" Gauge & Digital Maintenance Hour Meter

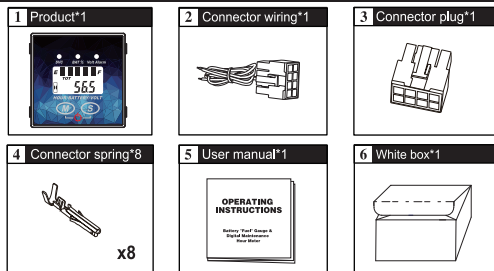


Please read and understand the following notices carefully, and correctly install and operate the product before using.



1. Please make sure to refer to the installation instructions in the operating instructions to avoid damage caused by installation errors.
2. Failure to install and operate the unit in accordance with these instructions may result in damage or injury.
3. Please install the product in a proper location to avoid the possibility of this product being hit and prevent damage to the product.
4. Installation and startup must be performed by skilled personnel.
5. If instrument failure or malfunction may cause personal injury or material damage, use additional safety measures such as limit switches, guards, etc.
6. This instrument was manufactured and tested according to the applicable technical standards. It complies with all the safety regulations as shipped from the factory.
7. Please use the product at the specified temperature, high temperature environment may cause damage to the product.

Product Accessories List

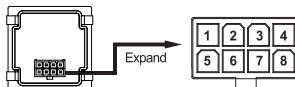


Please refer to the quick installation manual for installation method.
RLT-FIX9.

Way of wiring

1. Description of the connection port

The pin function of the 8-hole connector is as follows:



Pin NO.	Pin mark	Pin meaning	Description
1	B-	Input negative power supply	Connected to the negative pole of the battery
2	HRM+	High level timing terminal	With a high level trigger, the timer starts timing
3	N/A	Standby	ODM custom pin function, (factory implementation)
4	B+	Input positive power supply	Connected to the positive pole of the battery
5	OUT 5V	Output terminal	Output 5V voltage
6	N/A	Standby	ODM custom pin function, (factory implementation)
7	N/A	Standby	ODM custom pin function, (factory implementation)
8	HRM-	Low level timing terminal	With a low level trigger, the timer starts timing

2. Install connection port

Step1: B+ (pin 4) & B- (pin 1) installation

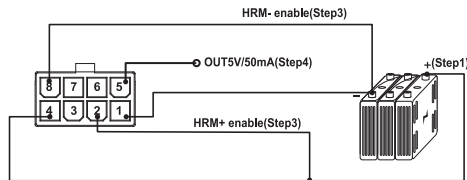
- The pin 4(B+) pin is connected to the positive pole of the battery, and the pin 1(B-) is connected to the negative pole of the battery.
- These two pins are connected the LCD display will light.
- Please make sure the battery voltage matches the voltage of the battery fuel gauge before connecting. Excessive voltage will damage the product.

Step3: HRM+ (pin 2) or HRM- (pin 8) installation

- HRM+: More than 7V voltage signal to enable the timing function.
- HRM-: Low level signal (ground) to enable the timing function.
- You can also connect HRM+ (pin 2) to B+ (pin 4) to enable the timing function, or connect HRM- (pin 8) to B- (pin 1) to turn on the timing function;

Step4: OUT 5V (pin 5) installation

- This function is used to control an external component in different states of battery power. When the battery power is more than 10%, it outputs 5V voltage; when the battery power is less than 10%, it outputs 0V voltage.
- When this function is not used, it will not affect other functions of the meter.



Product usage

- There are 3 display interfaces in the function indication area; press the "M" button to select. After selection, the interface will remain and will not jump to other interfaces.

Figure 1



Figure 2

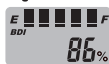


Figure 3



1. TOT— Total hours of operation

- Press the "M" button to select, so that the total time is always displayed on the screen.
- TOT time can not be reset.
- When the TOT time exceeds 99999 hours, the timing will restart from 0.

2. Hour meter initial time setting

- You can program the initial value (old hour meter data) to replace an old hour meter.
- Hour meter initial time setting and operation need to be performed under display interface 1, (figure 1)

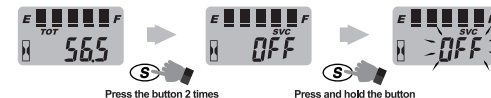
Note: The initial time setting will not be set again after 1 hour of engine operation.



- Press the "M" or "S" button to change the setting value.

3. SVC— Maintenance interval time. **Note: Timing is countdown.**

- SVC setting and operation need to be performed under display interface 1, (figure 1)



- Press the "M" or "S" button to change the setting value.
- Once maintenance time arrives, the screen will be flashed to remind the current maintenance status, and quit automatically after 2H. Or press any button to exit the reminder.

4. Setting Battery "Fuel" Gauge.

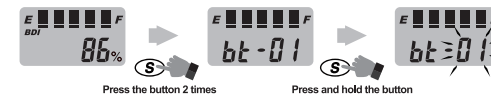
Step1: Choose the battery discharge type.

- This gauge provides 2 types discharge curves for you to choose from.

Type	bt-1	bt-2
Cell empty	1.73v	3.21v
Cell full	2.05v	4.01v

Choose the battery discharge type:

- Choose the battery discharge type need to be performed under display interface 2, (figure 2)



- Press the "M" or "S" button to change the setting value.
- When the Step2 setting is completed, the BAT% indicator light will be illuminated correctly. When the battery power is more than 30%, the BAT% indicator light will show green. When the battery power is less than 30%, the BAT% indicator light will show yellow and keep flashing. When the battery power is less than 10%, the BAT% indicator light will show red and keep flashing.

Step2: Set the warning voltage value

- This function is used to measure the real-time voltage value of the user's battery; and an alarm warning for the voltage is designed.
- After setting the warning voltage value, the Alarm indicator light will light up and display green; when the warning value is reached, the Alarm indicator light will turn red and flash to remind.
- High & Low voltage warning setting



Press the button once

Press and hold the button

- Press the "M" or "S" button to change the setting value.
- The setting method of low voltage alert are same as high voltage.

Note: Over voltage reminder range: 12-60V.
Under voltage reminder range: 8.5-59V.

Step4: Use of the battery status indicator

Battery power level indication area.

- 5 bar graphs on the LCD screen indicate the status of the battery level.
- As the battery power decreases, the bar graphs go out one by one.
- Recognition false battery charging signals Function: Only when battery charging higher than definite voltage and last more than 6 minutes can it be recognized to full battery.

To shut down the gauge

- Press the "M" or "S" button to turn on the gauge.
- When the gauge screen is turned off, the historical data will be retained and
- will not be cleared.



Press and hold the button

5. Backlight Choice

- Backlight setting and operation can be worked on any display interfaces, the operation of display interface 1 as following:



Press the button 3 times

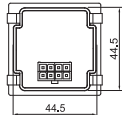
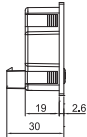
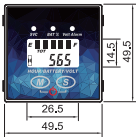
Press and hold the button

b-Aut	the backlight will be automatically turned off, when press the button, the backlight will be on.
b-ON	the backlight is always on.
b-OFF	turn off the backlight display.

Product Specifications & Parameters

ITEM NAME	PARAMETERS	ITEM NAME	PARAMETERS
Product model	RL-B022A-7164-A1	The battery apply	24V
TOT hours range	0.0-99999H	Working voltage	DC8-65V
Timing accuracy	0-9999.9H: 0.1H 10000H-99999H: 1H	Display window size	26.5x14.5mm
SVC hours range	OFF, 5-2000H	Product dimension	49.5x49.5x30mm
TOT initial time range	0-99999H (It is only can be reset 1 hour before engine working)	Waterproof rate	IP68
Number of battery curves	2	Product weight	About 60g
Housing material	PC		

Product Dimension



Unit: mm



版 本	日 期	变 更 单 号	变 更 内 容	制 图
V1.0	2022.10.26		首次发行	王 娅 茹

技术要求：

- 1.说明书要求：210X148mm,双面彩色印刷;（四折页）
- 2.印刷材质：70克双胶纸；
- 3.说明书内容要求清晰，并且能通过相应的检测。

Runleader[®] 宁波江北瑞利特电子有限公司 NINGBO JIANGBEI RUNLEADER ELECTRONICS CO.,LTD.				制 图	
名称	RL-BI022A-7164-A1 定制说明书			制图审核	
材料	70g 双胶纸			技术审核	
图纸编号	RLT - BI022A-7164-A1-Y- D401-1		版 次	V1.0	业务审核
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