User Manual

BEC2415 Lithium Battery Equalizer

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※Before operating or maintaining this unit, please read this manual carefully paying extra attention to the safety warnings and precautions.

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Catalogue

1 GENERAL INTRODUCTION

The BEC2415 Lithium Battery Equalizer is with full intellectual property, based on the actual state of the battery, adaptive select equalization mode, also has multiple protection functions and lithium battery internal resistance test function, High-precision voltage acquisition module for voltage to make the operation safer and more precise. Equipped with ARM Cortex-M3 CPU, HD display screen.

Equalizer Description

Front View

1. Display screen 2. Emergency Stop button 3. USB Port 4. DB9 Port

Back View

1. DC port 2. Cathode input 3. Anode input 4. B1~B8 Circuit input

5. B9~B16 Circuit input 6. B17~B24 Circuit input

7. Battery Internal resistance detection line input

Specifications

Voltage acquisition range（Each channel）:	0 ~ 5V (Maximum range : 5V)
Voltage acquisition precision:	± 1mV
Maximum discharging electric current:	20A
Maximum charging electric current:	15A
Operating voltage:	220V AC / 50Hz ； 110V AC / 50Hz
Measuring precision(Internal resistance):	0.5%
Dimension：	42.5cm X 30.6cm X 34.4cm
Weight:	15.5Kg (Net weight)
Working temperature：	-10 ~ 40℃
Relative working humidity：	20 ~ 70%

Caution：

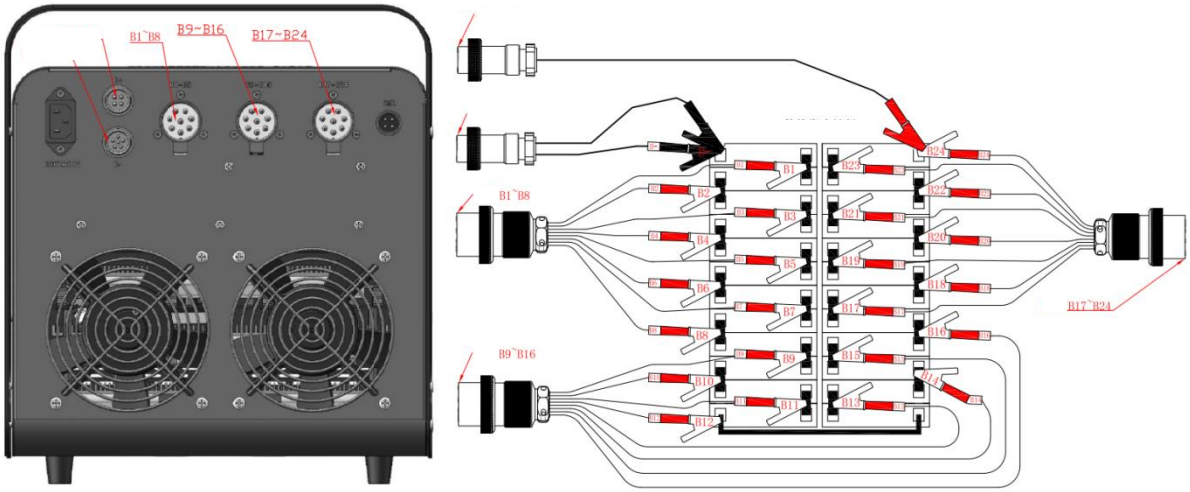
1. Keep the device away from corrosive and explosive condition, conductive dust and corrosive gas which may destroy metal and insulation.

2. Please connect the detection line in turn, avoid damaging the device.

3. Connect the Anode and Cathode carefully.

4. Keep the distance at least 30~50cm between the object and ventilation opening of the device.

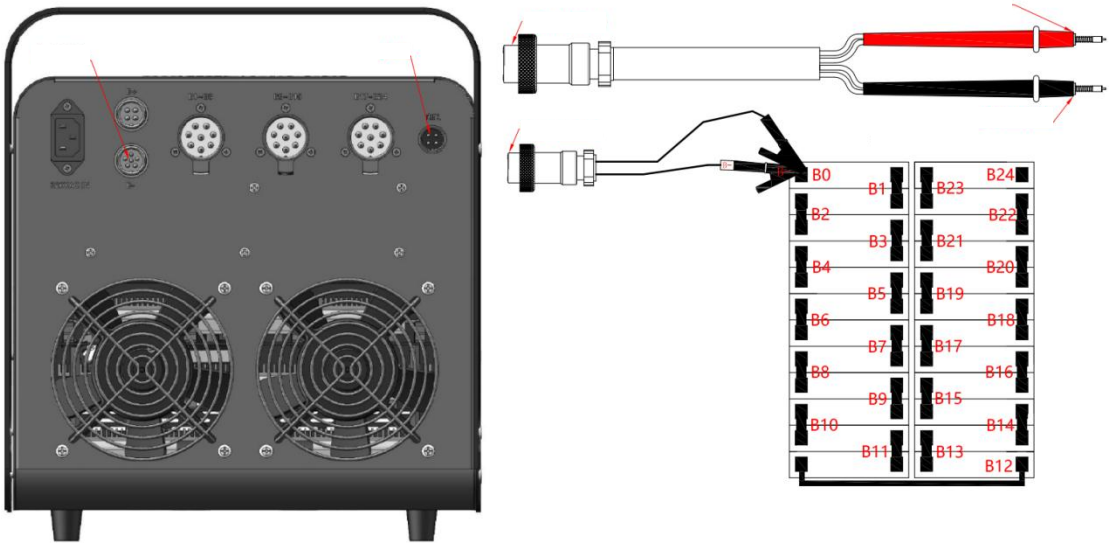
Battery cells connection



A-1

This is 24 battery cells, B- ~ B24 collecting wires are connected to the ports of the device, the clamp from the device anode wire need be connected to B-, the clamp from the device cathode wire need be connected to the cathode of the the final channel of cells.

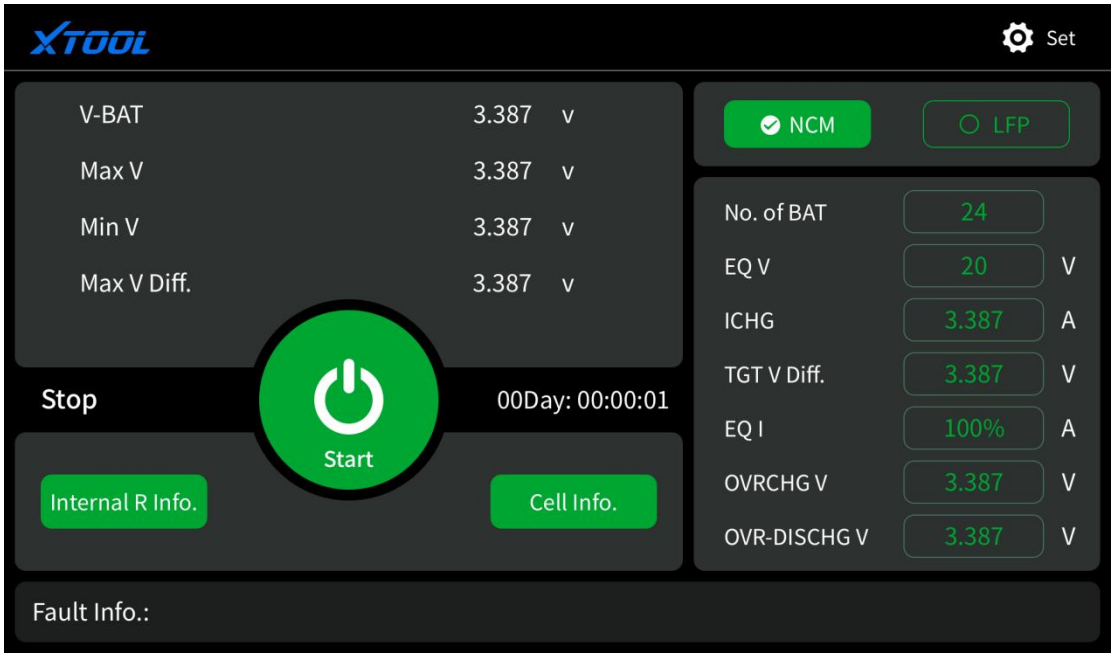
Battery internal resistance test connection



A-2

2 GETTING STARTED

Battery equalization （24 channels)



Settings

NCM / LFP: Select the battery type.

No. Of BAT: Input Channels number.

EQ V: Set the EQ V value.

ICHG: Set the ICHG Value (1~15A).

TGT V Diff. : Set the TGT V Diff. , default is 0.005V.

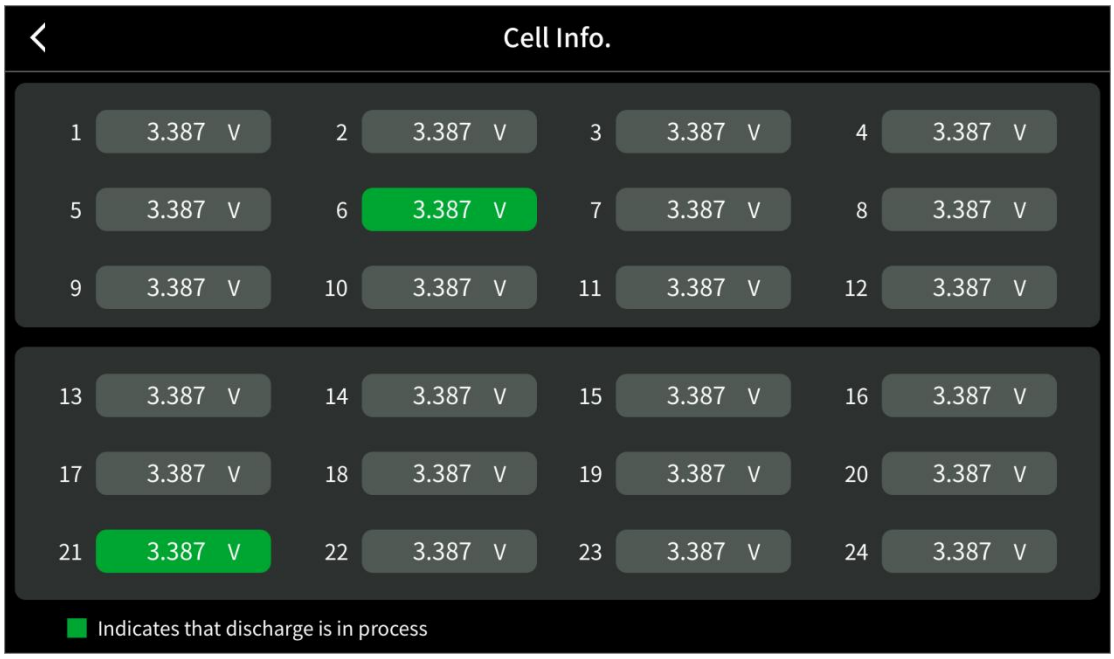
EQ I: Set the percent of EQ I (1% ~ 100% , 100% = 20A).

OVRCHG V: Set OVRCHG V value(If the channel voltage higher than it, the device will be stopped working and alarm going off.

OVR -DISCHG V: Set OVR -DISCHG V value(If the channel voltage lower than it, the device will be stopped working and alarm going off.

Cell Information

Each Channel voltage will be shown on this page.



Suggestive value of equalizing voltage item

Battery type	Lithium iron phosphate battery	Lithium-ion Ternary Battery
Voltage range	2.9 ~ 3.45 V	3.0 ~ 4.1 V

Battery internal resistance information

1. Connect the battery cathode and cathode port of device via cathode cable(Connect battery with two clamps) [Refer to A-2];

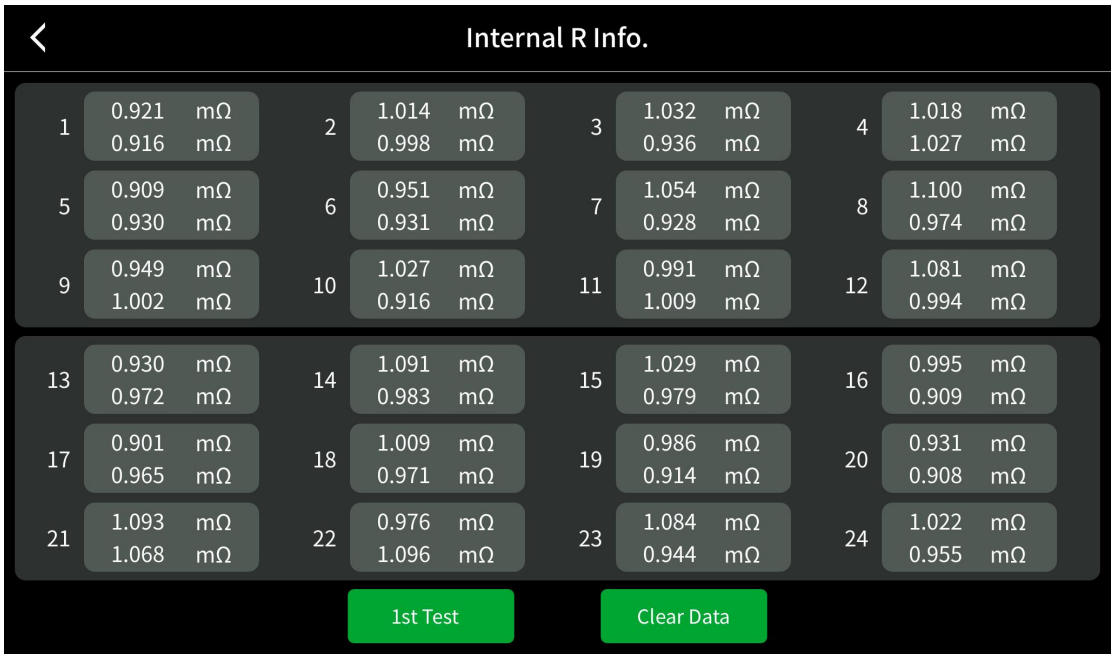
2. Click “Internal R info.” to enter the page;

3. Connect the black probe to battery cathode, connect the red probe to B1(First battery anode);

4. When the beeper working, internal resistance of the channel finished testing, internal resistance value will be recorded on the first test chart.

5. Remove both probes, then connect the black probe to B1, connect the red probe to B2, when the beeper working, internal resistance of the channel finished testing, internal resistance value will be recorded on the second test chart, repeat this operation for other channels.

6. Finished test, if you want to do it again, click “1st Test” button and do the above (2 ~ 5） steps to test.



3 COMMON ERROR INFORMATION

S/N	Error code	Details	Solution
1	NG1	Over voltage(One channel)	Check the ordering of collecting wires
2	NG2	Under voltage(One channel)	Check the ordering of collecting wires, cells status
3	NG3	Ordering of collecting wires error	Check the ordering of collecting wires
4	NG4	Channel number error	Cell number is different from the number you set
5	NG5	Electrode reverse connection	Check the Anode & Cathode connection
6	NG6	Over temperature	Check the ventilation
7	NG7	Over-Discharge Voltage Protection	Cell voltage is lower than Over-Discharge Voltage value you set
8	NG8	Over-Charge Voltage Protection	Cell voltage is higher than Over-Charge Voltage value you set
9	NG9	Charge module fault	Change charge module

4 WARRANTY

Shenzhen Xtooltech Intelligent Co., Ltd.(the Company) warrants to the original retail purchaser of this XTOOL device that should this product or any part thereof during normal usage and under normal conditions be proven defective in material or workmanship that results in product failure within ONE YEAR from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with Proof of Purchase, at the Company's option, without charge for parts or labor directly related to the defect(s). Xtooltech will also provide paid repair service for lifetime.

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device.

This warranty does not apply to:

1) Products subjected to abnormal use or conditions, accident, mishandling, neglect, unauthorized alteration, misuse, improper installation/repair, or, improper storage;

2) Products whose mechanical serial number or electronic serial number has been removed, altered, or defaced;

3) Damage from exposure to excessive temperature or extreme environmental conditions;

4) Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;

5) Defects in appearance, cosmetic, decorative, or structural items such as framing and non-operating parts;

6) Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft, or improper usage of any electrical source.

5 TRANSPORT & STORAGE

1. The device is equipped with various precision components, prevent collision and fall during transportation.
2. Storage condition: Dust-free room, -20 ~ 50℃，≤80%RH（No moisture）.

6 ACCESSORIES

S/N	Item	Number
1	Lithium Battery Equalizer	1
2	AC cable	1
3	Collecting wires	24
4	Anode cable	1
5	Cathode cable	1
6	Internal resistance test cable	N/A

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