

## PORTABLE SOLAR POWER SYSTEM

## **USER MANUAL**



LD150S-N1/N1R LD150S-N2/N2R LD150S-N3/N3S LD150S-N4/N4R

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## **Important Safety Instructions**

#### Please reserve this manual for future review.

This manual contains all the instructions about safety, installation, and operation for the EZPOWER series portable solar power system (hereinafter referred to as the solar system).

- > Read all the instructions and warnings carefully before installation.
- No user-serviceable component inside the solar system. DO NOT disassemble or attempt to repair the solar system.
- Do not place the device in humid, greasy, flammable, explosive, dust accumulative or other severe environments.
- Place the device at well-ventilated places, the devicemay become very hot during working.
- > Avoid fire or the high-temperature environment during use.
- Avoid direct sunlight, high temperature and do NOT install the device at locations where water can get in.
- > Do NOT use non-compliant parts or electronics.
- > Fully charge the Lithium battery for the first time operation,
- > Turn off the equipment while not using it on rainy days.
- > Fully charge the Lithium battery monthly while not using it for the long term.
- Avoid drop and collision while moving.
- Over-temperature protection rule: when the system detects the Lithium battery is overheated, it will stop charging or discharging until the temperature drops to normal. To avoid over-temperature protection, reduce the power output is recommended.

# 1. Product Overview

EZPower DC portable system is a functional off-grid power supply for home and business use, which includes LED light, USB port, cigarette lighter, FM radio in rich interface connection to fit the customer demands. It's also an efficient energy solution nowadays.

#### Features:

- Select the configuration according to your requirements.
- Support different PV panel power 20W-150W and the max. PV open circuit is less than 30V
- Smart dimension, but long life span. It supportsLiFePO4(10~20Ahavailable) and Li(NiCoMn)O<sub>2</sub>(10~38Ahavailable)battery type
- All models are DC output, especially used for LED light, fans, phone charging, and some other small DC appliance.
- USB 5V 2.1A output, charging mobilephones and other small USB-powered devices
- LED indicators display the system running status
- Low power consumption and industrial design to reduce loss.
- Multiple protection features to ensure system security and reliability.
- Utility charging function, more convenient for power storage.
- Packed with a solar FM radio with MP3 playback to stay up-to-date on important news or listen to music
- Embedded LED light 1W for emergency use
- Cigarette lighter for bigger current output usage
- Lightweight 3-8kgs, users can put anywhere they want

# 2.System composition



12V Lithium battery

No.	. Parts names		Specifications	Note		
1	PV array		Ma: 30V PV array N43 PV		Max. PV open circuit voltage:Voc< 30Vdc PV power:W<150Wp(except N4≤60Wp) PV array with stent	
		Solar charge controller	Input voltage range:12Vdc Charge current:10A except N4≤5A			
2	Portable solar	Utility charge module	Utility input voltage: 220/230Vac Utility input frequency: 50/60Hz Utility charging current: 3A±0.3A,	The utility charge		
	power system Lithium battery		Voltage class:12Vdc Li(NiCoMn)O <sub>2</sub> lithium batterycapacity: 10/16/38AH LiFePO4 lithium batterycapacity: 12/18AH	module is optional		
3	LEDlamp		1.2W/12V, connection cable with the switch $^{\textcircled{0}}$ (5m)	Cable length can be		
4	USB charge cable		All-in-one USB charge cable (1m)	customized		
5	DC output cable®		12V/5A output cable(2m length can be customized), Both ends are DC5525 plugs	Optional		

### ① Connection cable with the switch



## 3. Name definition

<u>L</u> .	<u>D</u> .	<u>150</u>	<u>S</u>	- <u>N1</u>	<u>S</u>	
						•S:Utility, R:Rodio
				····		• N1/N2/N3/N4 •••Standard
						Max. PV input power150W
	l					•DC input/output •12V Li-NiCoMn/LiFePO4 optional

## **4.**Classification

Model	Picture	Instruction
LD150S-N1		8-way DC12V3A, max. output is120W 1-wayUSB5V2.1A output 1pcs DC12V10A cigarette lighter
LD150S-N1R		8-wayDC12V3A, max. output is 120W 1-way USB5V2.1A output 1pcs DC12V10A cigarette lighter Silver radio

LD150S-N2	8-wayDC12V3A, max. output is 120W 2-wayUSB5V2.1A output
LD150S-N2R	8-wayDC12V3A, max. output is 120W 2-wayUSB5V2.1A output Silver radio
LD150S-N3	4-wayDC12V3A, max. output is 120W 2-wayUSB5V2.1Aoutput 1pcs DC12V1W LED lamp
LD150S-N3S	4-way DC12V3A, max. output is 120W 2-way USB5V2.1Aoutput 1pcs DC12V1W LED lamp 1-way utility input, AC220V,3A± 0.3A
LD150S-N4	4-way DC12V3A(total output current is3A) 2-way USB5V2.1Aoutput
LD150S- N4R	4-way DC12V3A(total output current is 3A) 2-way USB5V2.1Aoutput Silver radio

## 5. Portable solar power supply

## 5.1 LD150S-N1/N1R



LD150S-N1R



Back view

0	PV Charge indicator	6	Cigarette lighterport(DC12V10A)
2	Battery capacity indicator	0	8-way DC input(12VDC/3A)
8	Load status indicator	8	PV input charge port
4	System switch	9	Silver radio with remote control motor
6	USB charge interface(5VDC/2.1A)	9	Silver radio with remote control meter

## 5.2 LD150S-N2/N2R

Back view



Side view 6

Front view

#### 1) Characteristicsinstruction

0	PV Charge indicator	6	2-way USB charge port(5VDC/2.1A)
2	Battery capacity indicator	0	8-way DC input port(12VDC/3A)
3	Load status indicator	0	PV input charge port
4	System switch	8	Silver radio with remote control meter

### 2) Indicatorinstruction



Indicator	Color	Status	Instruction
Ô	Green	OFF	Not connect the PV or no sunlight
[ PV	Green	On Solid	Connect the PV
0000	L1~L4 yellow	All OFF	Not connect the battery
50% 25% BATTERY	L1~L4 yellow	On Solid	Battery capacity: from left to right ≤25%、 25%~50%、50%~75%、75%~100%
Ô	Red	OFF	Load overload Load short circuit
LOAD	Red	On Solid	DC output is normal

#### 5.3 LD150S-N3/N3S



#### 1) Characteristicsinstruction

1	LED lamp switch	0	PV Charge indicator
2	LED lamp(12VDC/1W)	Θ	System Status indicator
8	Nixie tube display battery capacity	9	2-way USB charge port (5VDC/2.1A)
4	DC output switch	9	System switch
6	4-way DC input port(12VDC/3A)	0	PV input port
6	Utility charge indicator	Ð	Utility input port

#### 2) Indicatorinstruction

Indicator	Color	Status	Instruction
System Status	Green	OFF	No DC output
indicator	Green	On Solid	DC output is normal
indicator	Red	On Solid	Fault
Utility charge	Green	OFF	No utility
indicator	Green	On Solid	utility is normal
PV Charge	Green	OFF	Not connect the PV or no sunlight
indicator	Green	On Solid	Connect the PV

#### 3) Nixie tube display

	Lithium battery capacity display	1-100 step size 1%	The buzzer sounds when the battery capacity is less than 5% battery capacity.
0.0.0.	Fault display	E01	Short circuit
		E02	Overload
		E03	Overtemperature
		E04	Overvoltage

## 5.4 LD150S-N4/N4R



#### 1) Characteristicsinstruction

0	Battery capacity indicator	6	PV input port
2	PV Charge indicator	0	4-way DC input port(12VDC/3A)
8	Load status indicator	8	2-way USB charge port (5VDC/2.1A)
4	System fuse(10A/32VDC))	9	DC output switch
6	System switch	9	Silver radio with remote control meter

#### 2) PV charge indicator and load indicatorinstruction

Indicator	Color	Status	Instruction
PV	Green	On Solid	Connect the PV
	Green	OFF	Not connect the PV or no sunlight
	Green	slowly flashing (1Hz)	In charging
	Green	fast flashing (4Hz)	PV overvoltage
Load	Green	On Solid	The load output
0	Green	OFF	The load no output

#### 3) Battery capacity levelindicatorinstruction



"O" indicatorOFF: "●" indicatorOn Solid; "☆" indicator slowly flashing; "★" indicator fast flashing.

Battery Capacity Level(BCL)

Indicator	Color	Status	Instruction
★000	Red	25% indicator fast flashing	Over discharged
☆000	Red	25% indicator slowly flashing	0< BCL<25%
●☆○○	Red	50% indicator slowly flashing; 25% indicatorOn Solid	25%≤BCL<50%
●●☆○	Red	75% indicator slowly flashing; 25%,50% indicatorOn Solid	50%≤BCL<75%
●●●☆	Red	100% indicator slowly flashing; 25%,50%,75% indicatorOn Solid	75%≤BCL<100%
••••	Red	25%,50%,75%,100% indicatorOn Solid	100%
****	Red	25%,50%,75%,100% indicatorfast flashing	Battery overvoltage
0000	OFF	25%,50%,75%,100% indicator OFF	Battery low voltage Battery connection error

#### 4) Button

Output Switch button can control USB and 12VDC port output, the USB and 12VDC port is default ON when the power on.

### 5.5Radio instruction



### 1) Radio function

0	Radio antenna
2	LCD(time and mode display),AUX external audio file playback, FM radio
3	USB/U disk broadcast,U disk support up to 32G
4	MODEmodel
6	► I/V+ Down/Volume+
6	►HIPause
0	I <b>≺∢/V-</b> Up/Volume-
8	OFF/ON power switch
9	SD big card slot, up to 32G

#### 2) Radio operation instruction

Step1: Pull-out the radio antenna;

Step2: Power on the radio;

Step3: Press the MODE button;

Step4: Pressl<<or>

#### NOTE:

 ${\rm \textcircled{1}}$  The radio varies by location and environment, and may not be picked up where the signal is weak.

② Firstly, press the I◄</V- button, secondly, press ► Ilbutton, the radio channel will be searched automatically.

Setting the time via the remote meter

#### Operation:



Press the status;

Long press the solution, the hour of the time is flashing;

Press the end or end button to change the **hour** of the time;

Press the solution to change the **minute** of the time;

Press the end or end button to change the **minute** of the time;

Press the button to save the change.

## 3) The remote meter

	UP(press the button) Fast reverse(long press the button)	
Mode(Radio/Music/Line)	Down(press the button) Fast forward(long press the button)	
Mute button	Volume-	
Play/Pause	Volume+	
POP/ROC/CLA/JA2/COU/NOR and so on		
● ● button		
When U disk or SDcard broadcast, the number can broadcast the music.		
CONE"song cycle; "ALL" all cycle; "LAN" order play, "FOND" random play.		
Explong press the button, the hour is flashing, press the or button to set. Press		
the button to change the minute setting, the way follow the above. The setting mode exit when waiting for 3s.		

## 6. PV array requirement

PV array type	Monocrystalline panel Polycrystalline panel
Max. PV Open Circuit Voltage	<30V
PV array power	≤150Wp(N4≤60Wp)

## 7. Lithium battery configuration

## 7.1 Attention of using the lithium battery

- Technician required for maintenance and repairing, do NOT disassemble and repair the equipment personally.
- The operation of overload may cause the battery to be damaged or safety accidents.
- Turn off the equipment after useto save battery life and avoid any problem or accident caused by heating during standby mode.
- Fully charge the battery monthly to ensure the life of the battery, if the equipmentis not used in the long term,
- The equipment should be stored in a cool, dry, and ventilated room, also away from direct sunlight, inflammable, and explosives.
- Keep the equipment away from water, which may cause device failure, short circuit, or safety accidents.
- Do NOT throw lithium batteries into water or fire, which may cause the battery damaged or safety accidents.
- Keep the lithium battery away from children.
- Do NOT disassemble the lithium battery or try to penetrate it with sharp metal objects, which may cause fire or explosion.
- Do NOT throw the wasted battery away randomly,and send it to the battery recycling department.

### 7.2 Lithium battery requirement

Lithium battery capacity:  $10 \sim 38AH/12V$ ; Lithium battery type:Li(NiCoMn)O<sub>2</sub>or LiFePO4 selectable; Inside lithium battery size:222mm×120×70mm(L\*W\*H).

#### 7.3Lithium battery parameters

Model	Battery type	Battery capacity
LD150S-N1/N1R	Li(NiCoMn)O <sub>2</sub>	16Ah/38Ah
LD150S-N2/N2R	Li(NiCoMn)O <sub>2</sub>	10Ah/16Ah
LD150S-N3/N3S	LiFePO4	18Ah

LD150S-N4/N4R	LiFePO4	12Ah

### 7.4 Lithium battery control voltage parameters

control voltage parameters	LiFePO4	Li(NiCoMn)O <sub>2</sub>
Over Voltage Disconnect Voltage	15.6V	12.9V
Over Voltage Reconnect Voltage	14.5V	12V
Equalize Charging Voltage	14.5V	12.3V
Boost Charging Voltage	14.5V	12.3V
Float Charging Voltage	13.8V	11.8V
Boost Voltage Reconnect Voltage	13.2V	12.1V
Low Voltage Reconnect Voltage	12.4V	10.5V
Under Voltage Warning Recover Voltage	12.2V	10.4V
Under Voltage Warning Voltage	12.0V	10V
Low Voltage Disconnect Voltage	11.1V	9.4V
Discharging Limit Voltage	10.8V	9.4V

NOTE: Above parameters are default value, the parameters can be set according to the user's requirement.

## 8. Utility charge function

OnlyLD150S-N3S has the utility function, follow the parameter:

Utility input voltage range	176~264VAC
Utility input frequency	50/60Hz
Utility charge current	3A±0.3A

# 9. Operation instruction

## 9.1LD150S-N1/N1R operation instruction









- Connect the PV array;
- 2 Connect the DC load;
- Turn on the system switch, battery capacity levelindicatorand PV indicator flash once time, after the battery capacity level, PVand load indicator enter the actual status.
- Opower on the radio, pull out the antenna to receive the programs; or insert the U disk or SD card to play music.

## 9.2LD150S-N2/N2R operation instruction

- 1 Connect the PV array;
- 2 Connect the DC load;
- 3 Turn on the system switch;

Power on the radio, pull out the antenna to receive the programs; or insert the U disk or SD card to play music.



#### 9.3LD150S-N3/N3S operation instruction



- 1 Connect the PV array;
- 2 Connect the utility;
- 3 Connect the DC load;
- Turn on the system switch;
- 5 Turn on the DC load switch;
- **6**Turn on the lamp switch(according to the requirement).

#### 9.4LD150S-N4/N4R operation instruction

- 1 Connect the PV array;
- 2 Connect the DC load;
- 3 Turn on the system switch;
- Turn on the DC load switch;

S Power on the radio, pull out the antenna to receive the programs; or insert the U disk or SD card to play music.



# **10. Protection**

## 10.1 LD150S-N1/N1R/N2/N2R/N4/N4R/N4Sprotection

PV Reverse Polarity	When the polarity of the PV array is reversed, the device may not be damaged and can continue to operate normally after the polarity is corrected.
LithiumBattery Reverse Polarity	Fully protected against battery reverse polarity; no damage will occur to the battery. Correct the miswire to resume normal operation.
Lithium Battery Over Voltage	When the battery voltage reaches the overvoltage disconnect voltage(OVD), it will automatically stop battery charging to prevent battery damagecaused by over-charging.
LithiumBattery Over Discharge	When the battery voltage reaches the low voltage disconnect voltage, it will automatically stop battery discharging to prevent battery damage caused by over-discharging.
Load Overload	When the overload current is ≥ 1.5 times the rated load current, the device will automatically cut off the output.
Load Short Circuit	When the load is short circuit the device will automatically cut off the output.
High Voltage Transients	The internal circuitry of the device is designed with Transient Voltage Suppressors (TVS) which can only protect against high-voltage surge pulses with less energy. If the controller is to be used in an area with frequent lightning strikes, it is recommended to install an external surge arrester.

## 10.2LD150S-N3/N3S protection

Lithium Battery Over Voltage	When the battery voltage reaches the overvoltage disconnect voltage(OVD), it will automatically stop battery charging to prevent battery damagecaused by over-charging.
Lithium Battery Over Discharge	When the battery voltage reaches the low voltage disconnect voltage, it will automatically stop battery discharging to prevent battery damage caused by over-discharging.
Lithium Battery Overheating	If the battery temperature is higher than $45^{\circ}$ , the device will stop charging, the restore temperature is $38^{\circ}$ ; the temperature is higher than $60^{\circ}$ , the device will stop discharging, the restore temperature is $48^{\circ}$ .
Load Overload	When the overload current is $\geq$ 1.2 times( $\geq$ 9.6A) the rated load current, the device will automatically cut off the output.
Load Short Circuit	When the load is short circuit (≥ 4 times the rated load current,)thedevice will automatically cut off the output.
High Voltage Transients	The internal circuitry of the device is designed with Transient Voltage Suppressors (TVS) which can only protect against high-voltage surge pulses with less energy. If the controller is to be used in an area with frequent lightning strikes, it is recommended to install an external surge arrester.

# 11. Troubleshooting

## 11.1LD150S-N1/N1R/N2/N2Rtroubleshooting

Faults	Faults phenomenon	Troubleshooting
System no power	OFF/ON power switch is ON,PV,BATTERY,LOAD indicator OFF	Battery or PV is abnormal. Firstly, check the connection and status of the battery; second, check the connection and status of the PV.Finally, check the ON/OFF switch.
PV no charging	PV indicator OFF, another indicator is normal	The PV isn't connected or PV charge voltage is low. Check the connection of PV, if the PV is changed, make sure "+" and "-"of the PV.
System low voltage warning	BATTERY 25% indicatorslowly flashing, BATTERY 75%,50% indicator OFF,LOAD indicator on solid	If Battery capacity is low, the load will be OFF, please PV charge the battery in time.
Load no output	LOAD indicator OFF, PV and BATTERY indicator on solid, 5V USB,LED LAMP and 12V DC no power	Load overload or short circuit, restart the device after troubleshooting.
	Only 5V USB no power, other indicatorand 12V DC output	USB overload or short circuit, it will recover output after troubleshooting.
	BATTERY 25% indicator slowly flashing (1HZ), BATTERY 75%,50%,LOAD indicator OFF	The load is OFF when the battery low voltage, please charge the battery in time.
Battery overvoltage warning	BATTERY 100% indicator flashing, other indictors is normal	
PV overvoltage warning	PV indicator slowly flashing, BATTERY 100% indicatorfast flashing	Please disconnect the PV
System overvoltage	PV indicatorand BATTERY 100% indicator flashing, LOAD indicator OFF	
Battery is abnormal	PV slowly flashing, BATTERY fast flashing, LOAD indicator on solid thenOFF	The battery is abnormal or the battery not be connected. Please check the connection of the battery.

## 11.2 LD150S-N3/N3S troubleshooting

Faults	Faults phenomenon	Troubleshooting
	Turn on the system switch and	
System no power	DC load switch, the system	Charge the battery
	isn't working.	
	The buzzer rang, Nixie tube	
System low	display	The utility or PV charge the
voltage	5/4/3/2/1,POWER/FAULT red	battery
	on solid	
PV no charging	SOLAR CHARGE indicator OFF	The PV isn't connected or PV charge voltage is low. Check the connection of PV, if the PV is changed, make sure "+" and "-"of the PV.
Utility no charging	AC CHARGE indicatorOFF	The utility doesn't connect or the PV is disconnecting, please check the connection.
	Buzzer rang,	If Battery capacity is low, the load
	Nixie tube display0	charge the battery in time.
	POWER/FAULT indicator	
	green change to red,	Load short circuit, restart the device after troubleshooting
	Nixie tube display"E01"	device and treasies lesting.
	POWER/FAULT red indicator	
	On Solid,	after decreasing the load.
Load no output	Nixie tube display"E02"	<b>3</b>
	POWER/FAULT red	Lithium battery overheating.
	indicatorOn Solid,	temperature of the battery is
	Nixie tube display"E03"	<b>48℃</b> ;
		The PV begins to charge when the temperature of the battery is 38℃
	POWER/FAULT red fast	Lithium battery overvoltage.
	flashing, Nixie tube display"E04"	voltage recovers.
PV overvoltage	PV indicator fast flashing	Please disconnect the PV
	Turn on the system switch and	
LED indicator OFF	LAMP ON/OFF switchLED	Charge the battery
	indicator.	
USB no power	Only USB 2.1A port no power	USB overload or short circuit, it

	will recover output after
	troubleshooting.

## 11.3 LD150S-N4/N4R troubleshooting

Faults Faults phenomenon Troubleshooting		Troubleshooting
System no power	BATTERY 25~100% indicator OFF	Battery voltage is low, please charge the battery.
PV no charging	PV indicator OFF	PV is not connected or the voltage is low, check connection.
	LOAD indicator OFF,PV and BATTERY indicator on solid, 5V USB,LED LAMP and 12VDC no power	Troubleshoot the load short circuit or overload, then restart the device.
	Only 5V USB no power, other indicatorand 12V DC output	USB overload or short circuit, it will recover output after troubleshooting.
	BATTERY 25% indicator fast flashing, PV on solid or slowly flashing (1HZ),BATTERY 75%,50%,LOAD indicator OFF BATTERY 25% indicator fast flashing, PV, BATTERY 75%,50%,LOAD indicator OFF	Battery overdischarge. The PV charges the battery.
System low voltage warning	BATTERY 25% indicator slowly flashing, BATTERY 75%,50% indicator OFF,LOAD indicator on solid	Battery low voltage. The PV charges the battery.
System over voltage	BATTERY 25%,50%,75%,100% indicator fast flashing	Battery over voltage. Please disconnect the PV
PV overvoltage warning	PV indicator fast flashing(4HZ)	PV overvoltage. Please disconnect the PV
System fuse burn-out PV is normal, BATTERY 25% indicator fast flashing, PV, load indicator on solid Change the fuse, powered on the device.		
NOTE: LD150S-N4/N4R have the auto-recovery function for five times(the first time delays 5s, the second time delays 10s, the third time delays 15s, the fourth time delays 20s, the fifth time delays 25s)when the load is overload or short circuit. If the fault still exists, the output is OFF. Users can restart the device.		

# **12. Technical Specifications**

## **Electrical Parameters**

Model	LD150S-N1	LD150S- N1R
System rated voltage	12VDC	
Max. PV Open Circuit Voltage	<3	80V
PV array power	≤15	0Wp
Lithium battery type	Li(NiCo	oMn)O <sub>2</sub>
Lithium battery capacity	16/3	8AH
Charge way	PV	M
Max. charge current	10A	
	8-way DC12V3A	
DC output	1-way cigarette lighterDC12V10A	
	Total output power 120W	
USB output port	DC5V/2.1A	
Self-consumption	16mA	
Radio		Silver
Weight	About 2.3kg(Inside the 16AH lithium battery)	
Weight	About 5.8kg(Inside the 38AH lithium battery)	

Model	LD150S-N2	LD150S- N2R
System rated voltage	12VDC	
Max. PV Open Circuit Voltage	<	80V
PV array power	≪15	0Wp
Lithium battery type	Li(NiCo	oMn)O <sub>2</sub>
Lithium battery capacity	10/1	6AH
Charge way	PWM	
Max. charge current	10A	
	8-way 12VDC/3A	
DC oulput	(Total output power 120W)	
USB output port	2-way 5VDC/2.1A	
Self-consumption	16mA	
Radio		Silver
Weight	About 2.0kg(Inside the 10AH lithium battery)	
weight	About 2.2kg(Inside the 16AH lithium battery)	

Model	LD150S-N3	LD150S- N3S
System rated voltage	12VDC	
Max. PV Open Circuit Voltage	<30V	
PV array power	≤15	0Wp
Lithium battery type	LiFePO <sub>4</sub>	
Lithium battery capacity	18AH	
Charge way	PWM	
Max. charge current	10A	
DC output	4-way 12VDC/3A (Total output power 120W)	

USB output port	2-way 5VDC/2.1A	
Emergency lamp	LED lamp DC12V/1W	
Self-consumption	24.8mA	
Utility output voltage range		176VAC~264VAC
Utility charge current		3A±0.3A
Weight	About 3.4kg	About 3.5kg

Model	LD150S-N4	LD150S- N4R
System rated voltage	12VDC	
Max. PV Open Circuit Voltage	<3	80V
PV array power	≪60	ЭWp
Lithium battery type	LiFe	PO <sub>4</sub>
Lithium battery capacity	12AH	
Charge way	MPPT	
Max. charge current	5A	
DC output	4-way 12VDC/3A((total output current is 3A))	
USB output port	2-way 5VDC/2.1A	
Self-consumption	10mA	
Radio		Silver
Weight	About 2.1kg	About 2.2kg

## **Environmental Parameters**

Working environment temperature	<b>-10</b> ℃~ <b>+35</b> ℃
Storage temperature range	0℃~+35℃
Relative humidity	≤95%(N.C.)
Enclosure	IP30

## **Mechanical Parameters**

Inside lithium battery dimension	222×120×70mm(H x W x L)
Device dimension	360.3×141.4×167mm(H x W x L)

# 13. Disclaimer

The warranty does not apply under the following conditions:

- Damage caused by improper use or use ofan inappropriate environment.
- Battery voltage/current/power exceeds the input voltage limit of the device.
- Damage caused by the working environment temperature exceeds the rated range.
- Unauthorized dismantling or attempted repair.
- Damage occurred during transportation or handling.
- Damage caused by force majeure.

# **Annex IMechanical Dimension Diagram**





(Unit: mm)

Any changes without prior notice!

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