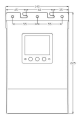
BL500 Instructions for the use of the grid-connected inverter

Product interface description

1. Communication antenna
2. Parameter display window
3. Work tracking instructions
4. Press the keyboard to adjust the display parameters
5. AC output
6. Solar panel DC input
7. Mobile phone management APP interface


Main engine


APP interface


Machine installation size

Product function description

●Solar panel input, AC electricity output to the power grid, to achieve the power generation function.

●**Solar panel input range 17~50V, it is recommended to connect 36V panels, 220V grid voltage 180~260VAC, frequency range 47~52.5Hz; 110V grid voltage 80~160VAC,Frequency range is 57~62.5Hz. When buying, look for the model AC220V or AC110V and the voltage used in the region.**

●The output of pure sine wave, and the power grid is fully matched, to achieve high efficiency and low consumption conversion mode, low heat generation.

●The company invented the patent of high efficiency automatic power point tracking MPPT technology, reverse power transmission. Input and output are completely isolated to ensure the safety of electricity use.

●High reliability of multiple parallel stack power generation, convenient installation and maintenance, efficient and flexible solar panels and service area matching.

●Panel parameters display function, display panel and radiator separate and can perfectly match, the appearance is unique and beautiful.

●The machine with antenna realizes remote management of mobile APP, supports GPRS (China), WIFI Bluetooth global operation, power generation parameter recording and equipment management.

Model parameter table

Model	BL500A	BL500B	BL500C	BL500D
Product power	400W	600W	800W	1000W
Voltage/maximum input current	36V/10A	36V/15A	36V/20A	36V/25A
Out parameter	AC120V		AC220V	
Range of nominal tension	80~160VAC		180~260VAC	
Rated frequency range	57~62. 5Hz		47~52. 5Hz	
Number of connections per circuit	8 (Single phase)		10 (Single phase)	
Output peak power	400—1000W (By model)		400—1000W (By model)	
Maximum output efficiency	94%		94%	
The machine static loses power	<60mW		<80mW	
Ambient temperature range	-30℃ to +70℃			
Communication mode	WIFI Bluetooth or GPRS, mobile phone APP remote management.(With an antenna)			
Power transmission mode	Reverse transmission, load priority to use			
Classification of waterproof	Ip60			
Size (L×W×H)	370mm×305mm×38mm			
Weight	1.7kg			
10PCS installed weights	17kg			

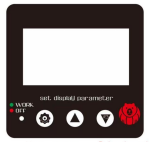
Matters need attention

★Model AC220V or AC110V can be used consistent with the voltage used in the region.
★Only professional personnel can install and maintain this equipment.
★Strictly according to the inverter installation guide operation, installed in a well-ventilated, avoid rain, exposure, high temperature, damp place, and remove flammable and explosive items around.
★Only the solar panels can be connected, with a DC input of 17-50V, and select the solar panels below this power according to the power of the product purchased.
★Do not soak in water, do not wash with water.

Operation declaration

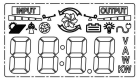
Menu key : For cycle switching menus 1 to 4, or to 1 at the 5 interface. Automatic interface main interface without operation within 10 seconds.
Menu 1-4: main interface, fixed display data selection interface, power limit selection interface, rotating display switch interface.
Menu 5 is: interval power accumulation interface (last detailed description).

UP key : Switch the options up.
DOWN key : Switch down option, interval power cumulative switch (detailed later).

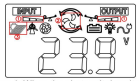


Menu On the option UP Below the option is DOWN / Interval power

2. Display screen elements



3. Menu interface description

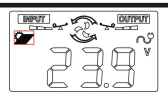


3.1.1 explicit declaration
Example Figure 1: When the photovoltaic voltage is displayed on the main interface

Red box in the picture①~③For dynamic flicker effect:
①Display the corresponding level (level 1-5) according to the real-time power.
②Operation when the "fan" rotation effect, according to the real-time power has different speed.(The accumulative power quantity in the stop interval will stop the dynamic effect, and finally explained in detail)
③According to the current meaning of the data (the 23.9V shown below is the photovoltaic voltage), the corresponding icon (photovoltaic icon) is displayed, and the other ICONS are always displayed.
There are four display data: photovoltaic voltage V, photovoltaic current A, real-time power W, and cumulative power generation KW. By default, the four data are displayed in turn.
The interface 2 may be set to the fixed display, and the rotation display switch of the interface 4 switches to the rotation display or fixed display.

3.1.2 Key description
Menu key : Effective, the function is to switch to the next interface;
UP key : of no avail
DOWN key : Effective, the function is to open the interval power accumulation, and enter the interface 5 (the interval power accumulation interface, the only entry mode, finally detailed description).

3.2 Fixed display data selection interface

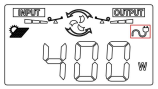


Example Figure 2: When the photovoltaic voltage is selected by the fixed display data selection interface

3.2.1 Display instructions
Close the dynamic effect and flash only with the corresponding icon of the current data (red box in the example figure).

3.2.2 Key description
Menu key : Effective, the function is to switch to the next interface;
UP key : Effective, the function is to switch the options up;
DOWN key : Valid, the function is downdown option.
There are four options: PV voltage V, PV current A, real-time power W, and cumulative power generation KW (arranged from top to bottom), which will be automatically determined after selecting the interface.

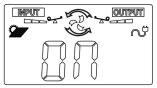
3.3 Power limit selection interface



3.3.1 Display instructions
Example Figure 3: Power limit selection interface default value
Close the dynamic effect and flash only with the corresponding icon of the current data (red box in the example figure); the default value is the corresponding rated power of the current device model.

3.3.2 Key description
Menu key : Effective, the function is to switch to the next interface;
UP key : Effective, the function is to switch the options up;
DOWN key : Valid, the function is downdown option.
There are 14 options: OFF, 100W, 200W, 300W, 400W, 600W, 800W, 1000W, 1200W, 1400W, 1800W, 2200W, 3000W, 5000W (arranged from bottom to top), and automatically determined. When the machine frequently enters the overheating protection, please reduce the power a little bit.

3.4 Display the switch interface in turn

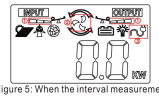


Example Figure 4: The default value of the switch interface is shown in turn

3.4.1 Display instructions
Turn off dynamic effect, ON / OFF indicates turn on / off.

3.4.2 Key description
Menu key : Effective, the function is to switch to the next interface;
UP key : Effective, functional is ON;
DOWN key : Valid and functional as OFF.
It is automatically determined when you exit the interface after selection.

3.5 Interval power accumulative interface



Example Figure 5: When the interval measurement interface

Example 6: When the interval power accumulative stop interval measurement

3.5.1 Display instructions
After the interval measurement begins, the red box ① ~ ③ is the dynamic effect, the same as the main interface.
After the interval measurement is stopped, the dynamic effect of ② in Fig is off, and the values below flicker.

3.5.2 Key description
Menu key : Effective, the function is to switch to the main interface;
UP key : of no avail;
DOWN key : Effective, stop the interval measurement.

Only on the main interface"DOWN key " In order to open the interval power accumulation function and enter the interval power accumulation interface (if the function has been enabled, only enter the interval power accumulation interface). After entering the interface, the key function is as described above. If you want to exit the interface, then press the "menu key" or wait for 10s to automatically restore the main interface.
If according to "DOWN key " After stopping the interval measurement, the generating power value calculated by the cumulative interval is displayed by flashing on the interface, prompting the customer to remember the calculated power value,
Press the " menu button " : Effective, the function is to switch to the main interface.

Device number binding instructions (APP function is available only with antenna)

The GPRS machine APP can only be used globally with the Bluetooth WIFI machine APP in China

1. Click the device number cloud allocation option in the software my page:
Install Lanrui RuiBlue cloud control APP, support Android and Apple mobile phone mobile data module version and WIFI version foreign version. One mobile phone manages multiple modules or multiple mobile phones manage one module, which is authorized by the main administrator. The example is the safety desk mobile phone installation instructions.


Solar power cloud control computer management system for factory use only

2. In the allocation interface, click ⊕ scan the equipment and equipment number, shoot the QR code or manually enter the equipment number or module number:
3. After the input is completed, click the binding button, and you can determine it:

example 13800000000
password:123456

Ruiblue PowerAPP installation process

1. Android phones scan the QR code to enter, or search the app store for "Ruiblue Power" to download and install
http://fir.sdhzwl.cn/rbfq
Download and install the software, enter the mobile phone number to register, and install the password at 12345
2. The mobile phone scans the QR code of the machine, adds the device, and enters the name of the device to facilitate the operation of multiple devices and multiple items.
3. Apple mobile phone installation
A、http://hzwl.sdhzwl.cn/index_lanrui.html
B. Search for "RUIBLUE POWER" in appstore to download and install it

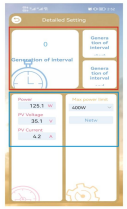
4. Network setting instructions

A. China version of GPRS need not set up networking, automatically open the connection of China Mobile signal.
B. Bluetooth WIFI connection description: ① When the current mobile phone is connected to the used WIFI, open the mobile phone Bluetooth ② in the Lanrui grid-connected APP "device distribution network" connection RuiBlue-xx machine Bluetooth ③ Bluetooth automatically copy the WIFI of the current mobile phone, enter the password to "confirm" the connection successfully ④ scan the QR code of the machine to add the device. Based to the machine data, the machine and the mobile phone APP synchronize the data with each other in about 5 minutes.
C. Connection instructions
① Bridge map GPRS model, only support the Chinese market
② Scissor map Bluetooth mode, short distance control
③ Amplifier diagram WIFI mode, can support traffic and WIFI connection global control

Control instructions of Ruiblue PowerAPP

Only machines with antennas have APP function, GPRS supports China, and WIFI Bluetooth is used globally.

1. Red-box section
Click "Edit / Edit" in the upper right corner to replace the picture, modify the machine name, and position the device position.
2. Green-box section
Real-time power / Power: current power of the device, one decimal place, unit W;
Total power generation / Generate: power generation of the whole life cycle of the equipment, total five, unit kwh;
PV voltage / PV Voltage: the voltage of the currently connected PV panel input equipment, one decimal place, unit V;
PV current / PV Current: the current of the currently connected PV panel input device, one decimal place, unit A;
Us frequency / Utility Freq: real-time frequency of the power grid connected to the equipment one decimal place, unit Hz;
Igs / Utility Voltage: real-time voltage of the power grid connected to the equipment, one decimal place, unit V.
3. Blue frame par
Warning information and protection status of the equipment during operation, green point indicates normal, red point indicates warning and protection.
Update description: All data and warning bar information are updated once a minute.

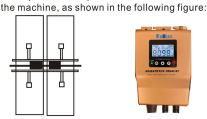


Click "Settings / Set" to enter the Settings page, as described below.

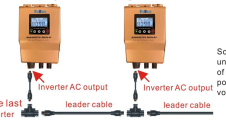
1. Red-box section
Interval power measurement function: click "Start / Generation of interval start" to start interval measurement function (if enabled, click is invalid), and click "End / Generation of interval end" to end interval measurement function (if completed, click is invalid). The measurement results are shown in the "interval generation / Generation of interval" section on the left.
2. Green-box section
The display parameters on the left are consistent with the home page, added here for easy viewing.
Total power generation / Generate: power generation of the whole life cycle of the equipment, total five, unit kwh;
The drop-down list of Set Maximum power / Max power limit / OFF on the right can select the maximum operating power of the device. When the machine frequently enters the overheating protection, please reduce the power a little bit.

Inverter installation guide

The first step is to install the inverter on the bracket of the photovoltaic panel with the screw attached to the machine, as shown in the following figure:



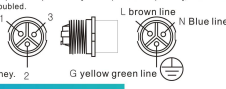
Step 3 Open the waterproof cover of the inverter AC output connector and connect the AC connecting cable to the AC waterproof plug. Connecting method, such as the plug connection diagram:

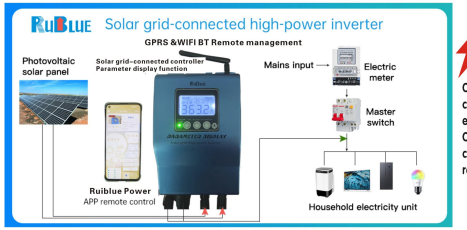


Step 4: Connect the AC output line to the AC main cable;
Step 5 repeat the first to third steps, install and connect all inverters;
Step 6 Connect the AC main cable to the mains grid to start your green energy journey.

The second step connects the DC on the photovoltaic panel to the positive and negative plug points to the DC input terminal of the inverter, as shown in the figure below:

Schematic diagram of connecting two photovoltaic panels in parallel, the no-load voltage is unchanged, is the current of two pieces of solar energy, For example, the no-load voltage (Voc) of each solar panel is 37V, the working voltage (Vmp):29.4V, working current (Imp):8.5A, the power conversion of two solar panels in parallel is [29.4V×(8.5A+8.5A) 500W], and the working voltage constant current is doubled.





WARNING AGAINST DANGER

Only professional personnel can install and maintain this equipment
Only solar panels can be connected, and a 36V input is recommended

Product specifications are subject to change without prior notice.