Solar Family PV Grid-tied Inverter

User Manual

B&B Power

Drive the Future

Copyright Declaration

Table of Contents

1 Notes

This manual is an integral part of the inverter. Please read the product manual carefully before installation, operation or maintenance. Keep this product manual for future reference.

1.1 Validity

This manual describes the assembly, installation, commissioning and maintenance of the following inverters:

SF1600TL SF2200TL SF3000TL
SF3600TL SF4200TL SF4600TL SF5000TL

1.2 Target Group

This manual is for qualified personnel. Qualified personnel have received training and demonstrated skills and knowledge in the construction and operation of this device. Qualified personnel are trained to deal with the dangers and hazards involved in installing electric devices.

1.3 Safety

1.3.1 Appropriate Usage

The Solar Family Series are the PV inverters which convert the DC current of a PV generator into AC current and feed it into the public grid.

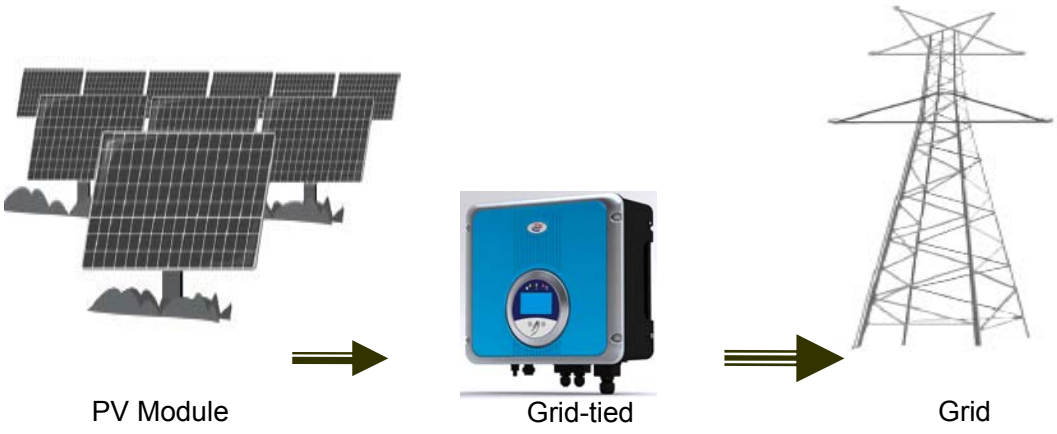


Figure 1 PV Grid-tied System

1.3.2 Important Safety Instructions

	**Danger!** **Danger to life due to high voltages in the inverter!** ·All work on the inverter must be carried out by qualified personnel only. ·The appliance is not to be used by children or persons with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. ·Children should be supervised to ensure that they do not play with the appliance.

	**Caution!** **Danger of burn injuries due to hot enclosure parts!** ·During operation, the upper lid of the enclosure and the enclosure body may become hot. ·Only touch on the lower enclosure lid is allowed during operation.

	**Caution!** **Possible damage to health as a result of the effects of radiation!** ·Do not stay closer to the inverter (beyond 20cm is available) for a long time.

	**Note!** Grounding the PV generator. ·B&B Power recommends PV modules have an ICE 61730 Class A rating. Please don’t connect the PV modules to GND.

1.3.3 Glossary of Symbols

This section gives a glossary of all the symbols shown on the inverter and the type label.

Symbols on the inverter

Symbol	Explanation
	Danger to life due to high voltages in the inverter! •There would be residual voltage in the inverter. The inverter requires 1 minute to discharging. • Wait for 5 minutes before you open the upper lid or the DC lid.
	Beware of hot surface. ·The inverter may become hot during operation. Avoid any contact to the surface during operation.
	Danger of high voltages ·Danger to life due to high voltages in the inverter!
	Risk of electric shock! ·Only authorized personnel can be allowed to set the DIP switch (SW1).
	Requests the user to consult the manual
	Indicates caution followed by important instructions
	Equipment grounding conductor
	AC voltage
	You can operate the interface by tapping on it ·Tapping once: The background illumination switches on. ·Tapping again: Updating information.
	Recovery and recycling.

● **Symbols on the type label**

Symbol	Explanation
CE	CE mark. ·The inverter complies with the requirements of the applicable CE guidelines.
TÜV SÜD	TUV mark. ·The inverter complies with the requirements of the applicable TUV guidelines.
SAA	SAA mark. ·The inverter complies with the requirements of the applicable SAA guidelines.

● **Important Safety Instructions**

When using the product, please do remember the below information to avoid the fire, lightning or other personal injury:

⚠	**Warning!** Ensure that input DC voltage is less than Max. DC voltage. ·Over voltage may cause permanent damage to inverter or other losses, which will not be included in warranty! ·This chapter contains important safety and operating instructions. ·Read and keep this operation Guide for future reference.

⚠	**Warning!** · Authorized service personnel must disconnect both AC and DC power from the B&B Power series inverter before attempting any maintenance or cleaning or working on any circuits connected to the B&B Power series inverter.

⚠	**Warning!** · the photovoltaic array is exposed to light, it supplies a d.c. voltage to the inverter.

2 Introduction

2.1 Overview

Figure 2 Stereogram

2.2 Electrical Block Diagram

● **Electrical block diagram**

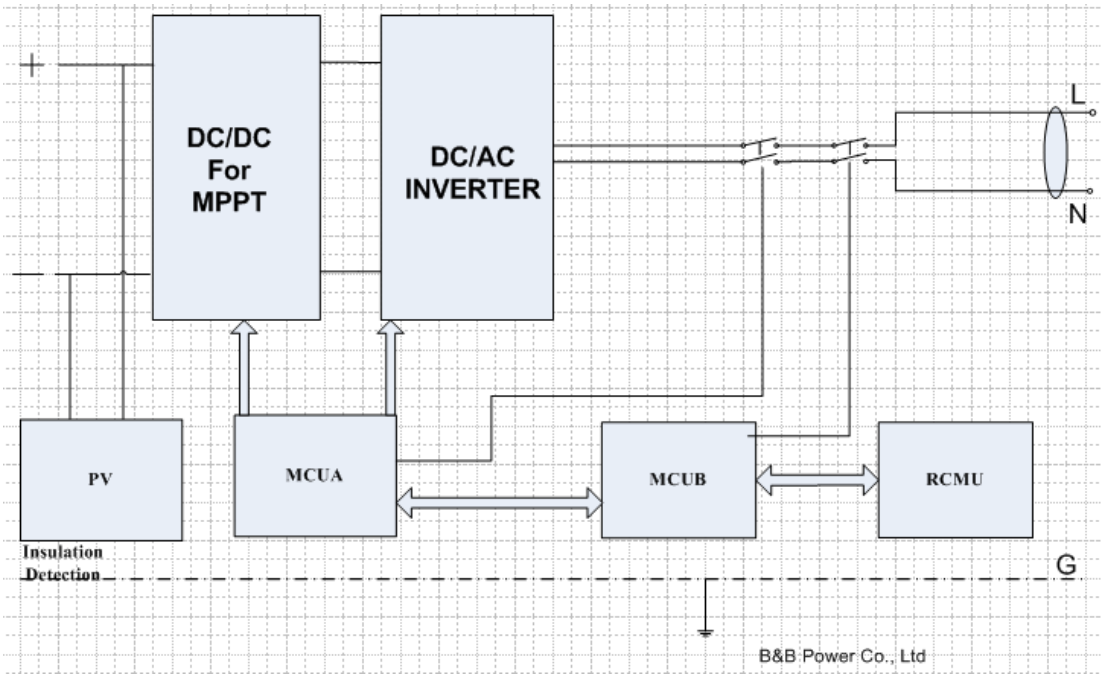


Figure 3 Electrical block diagram

2.3 Terminals of PV Inverter

Figure 4 Terminals of PV Inverter (SF1600TL/SF2200TL/SF3000TL)

Figure 5 Terminals of PV Inverter (SF3600TL/SF4200TL/SF4600TL/SF5000TL)

2.4 Dimension and Weight

● **Dimension**

Figure6 SF1600TL/ SF2200TL/ SF3000TL

Figure7 SF3600TL/ SF4200TL/ SF4600TL/SF5000TL

●**Weight**

Table1

Model	SF1600TL	SF2200TL	SF3000TL	SF3600TL	SF4200TL	SF4600TL	SF5000TL
Weight [kg]	13.6	13.9	13.9	17.2	17.5	17.5	17.5

3 Packaging List

Table2

Item	Name	Quantity
A	Solar Inverter	1
B	Mounting Frame	1
C	Mounting Screws	4
D	Mounting Frame Screws Sleeve	4
E	Mounting Screws	2
F	Manual	1

The Solar Family is shipped with the following items:

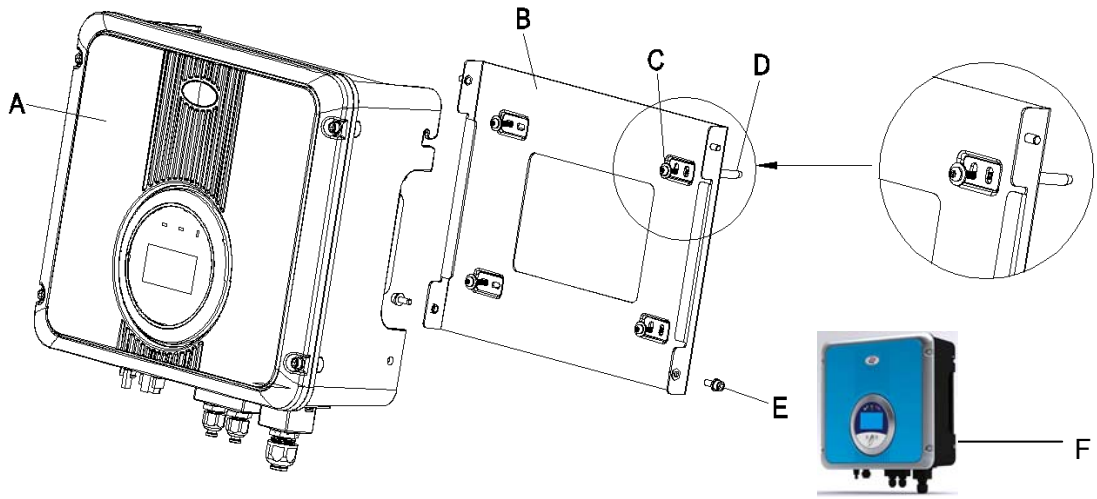


Figure 8

4 Technical Data

4.1 Input（DC）

Table3

Model	SF1600TL	SF2200TL	SF3000TL	SF3600TL	SF4200TL	SF4600TL	SF5000TL
Max. DC Power[W]	1700	2350	3150	3800	4400	4800	5200
Max. DC power each MPP tracker [W]	1700	2350	3150	3000			
Max. DC Voltage[V]	550			550			
Max.Input Current of MPP Tracker[A]	8	10	15	15/15			
Number of MPP Trackers / Strings per MPP Tracker	1/1			2/1			
MPPT Voltage Range (at full power) [V]	250-500			250-500			
Nominal PV Voltage [V]	370			370			
Shutdown Voltage / Start Voltage [V]	120/150			120/150			
Overvoltage category	II			II			

4.2 Output（AC）

Table4

Model	SF1600TL	SF2200TL	SF3000TL	SF3600TL	SF4200TL	SF4600TL	SF5000TL
Max. AC Power[W]	1600	2200	3000	3600	4200	4600	5000
Max. AC Current [A]	7.8	11	14.5	18	21	22	24
Nominal AC Voltage / Range [V]	230/207-253			230/207-253			
AC Grid Frequency [Hz]	50/60			50/60			

Power Factor (cosφ)	＞0.99	0.9lagging-0.9leading
THD (at nominal power)	<3%	<3%
Overvoltage Category	III	III

4.3 Efficiency Safety and Protection

Table5

Model	SF1600TL	SF2200TL	SF3000TL	SF3600TL	SF4200TL	SF4600TL	SF5000TL
Max. Efficiency	97.5%	97.6%	97.6%	98.0%	98.0%	98.0%	98.0%
Euro-Efficiency (Nominal PV Voltage 370V)	96.8%	96.9%	97.0%	97.3%	97.4%	97.4%	97.5%
MPPT Efficiency	99.9%			99.9%			
Overvoltage / Under-Voltage Protection	Yes			Yes			
Shutdown Voltage / Start	Yes			Yes			
DC Isolation Impedance Monitoring	Yes			Yes			
Ground Fault Protection	Yes			Yes			
Grid Monitoring	Yes			Yes			
Ground Fault Current Monitoring	Yes			Yes			
DC Injection Monitoring	Yes			Yes			

4.4 General Data

Table6

Model	SF3600TL	SF4200TL	SF4600TL	SF3600TL	SF4200TL	SF4600TL	SF5000TL
Dimension(W/H/D) [mm]	386/340/155			386/420/155			
Weight [kg]	13.6	13.9	13.9	17.2	17.5	17.5	17.5
Cooling Concept	Convection			Convection			

Noise (typical) [dB]	<30	<30
Operating Temperature Range [°C]	-20℃～+60℃/derating at 45℃	-20℃～+60℃/derating at 45℃
Relative humidity range	4% ~ 100% (condensing)	4%~ 100% (condensing)
Pollution Degree	External (III)　Internal (II)	External (III)　Internal (II)
Protective class	Class Ⅰ	Class Ⅰ
Degree of Protection	IP65	IP65
Topology	Transformerless	Transformerless
Internal Consumption(night) [W]	<0.5W	<0.5W
LCD display	Backlight,16*4 character	Backlight,16*4 character
Communication Interfaces	RS485/ Bluetooth optional	RS485/ Bluetooth optional
Standard Warranty	5/10/20 years Free/opt./opt.	5/10/20 years Free/opt./opt.

5 Function

Operation Condition

【Waiting Mode】

When the PV string DC voltage is over 120V but not reach to 150V, the inverter enters a "Waiting mode".

Under this mode, it will continue check if PV array has enough power to feedback into grid.

【Self Testing Mode】

After initialization is finished in "Waiting mode", if the PV string voltage is over 150V and the Grid voltage & frequency meets the standard, the inverter will operates in the "Checking mode".

【On-grid Mode】

Under this mode, B&B SF series inverters convert PV array's DC into AC and feedback into grid.

> **CAUTION!**
>
> The inverter output power decrease is usual in the condition of thermal protection, but if it occurs frequently, you need to check the heat sink or consider putting the inverter in the place where have better air flow, and if output power decreases caused by electrical problem, please ask for professional supports.

【Fault Mode】

If any fault/error occurs, inverter stops delivering power until the fault/error is clear. Some fault/error will auto recover, and some may need manual restart to resolve.

6 Installation

6.1 Safety Instructions

Do not remove the enclosure upper lid. Inverter contains no user practical parts. All wiring and electrical installation should be conducted by a qualified service personnel and must meet national requirements.

Both AC and DC voltage sources are terminated inside the PV Inverter. Please disconnect these circuits before servicing.

When a photovoltaic panel is exposed to light, it generates a DC voltage. When connected to this equipment, a photovoltaic panel will charge the DC link capacitors.

Energy stored in this equipment's DC link capacitors presents a risk of electric shock. Even after the unit is disconnected from the grid and photovoltaic panels, high voltages may still exist inside the PV-Inverter. Do not remove the upper lid until at least 5 minutes after disconnecting all power sources.

This unit is designed to feed power to the public power grid only. Do not connect this unit to an AC source or generator. Connecting inverter to external devices could result in serious damage to your equipment.

Carefully remove the unit from its packaging and inspect for external damage. If you find any imperfection, please contact with your local distributor or service center.

Although designed to meet all safety requirements, some parts and surfaces of Inverter are still hot during operation. To reduce the risk of injury, DO NOT touch the heat sink at the back of the PV-Inverter or nearby surfaces while Inverter is operating.

Check environment where system is installed.

Check whether the installation site fall into any of the following conditions:

● The ambient temperature is beyond the range of the optional temperature limitation. (-20°C to +60°C, -4°F to +140°F),(Power derating begins at 45°C).

● Installation altitude is higher than 2000m.

● Prone to be damaged by sea water

● Close to corrosive gas or liquid (for example, locations where chemicals are processed or the location where feed lots of poultry).

● Exposed to direct sunlight.

● Prone to be damaged in flooding or icing time

● Little air flow or high humidity.

● Exposed to steam, vapor, or water.

● Exposed to direct cool air.

● Close to the television antenna or antenna cable.

6.2 Selecting the Installation location

The installation method and mounting location must be suitable for the weight and dimensions of the inverter. Select a wall or solid vertical surface which is able to support the PV Inverter.

Mount on a solid surface, the mounting location must be accessible at all times.

Vertical installation or tilted backwards by max. 15°.

The connection area must point downwards.

Do not install horizontally

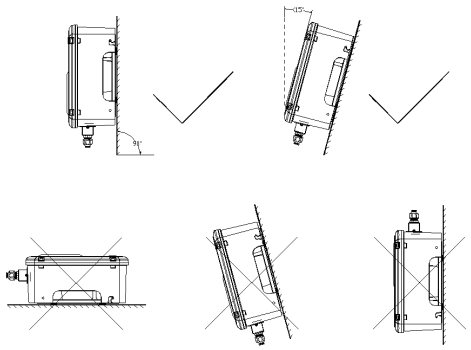


Figure 9

6.3 Preparation

Below tools are needed before installation.

Figure 10 installation Tools

6.4 Fixed the Mounting on the Wall

Inverter requires adequate cooling space. Allow at least 20cm space above and below the inverter.

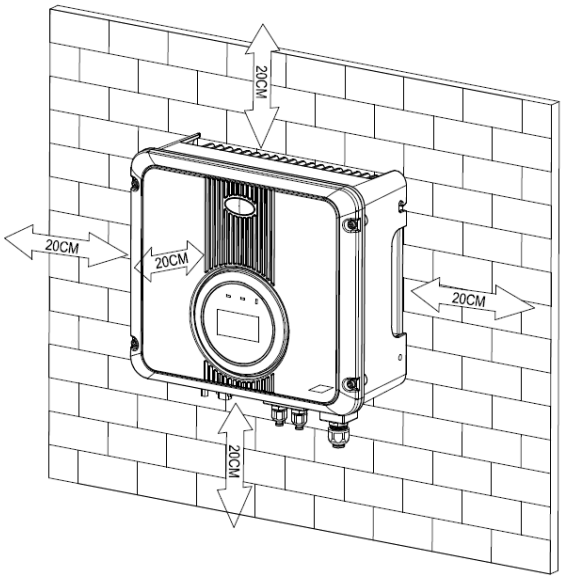


Figure 11

Using the mounting frame as a template, drill 3 holes as illustrated in image

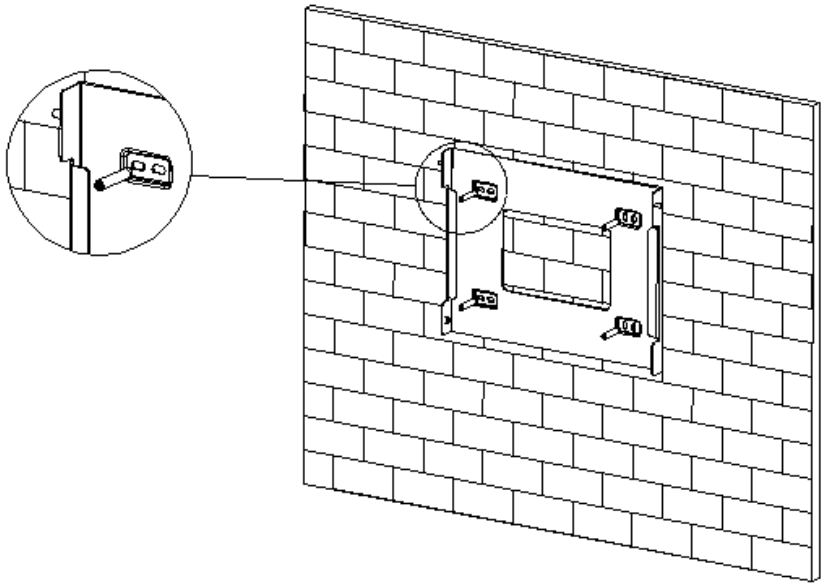


Figure 12

Fix the mounting frame as the figure shows. Do not make the screws too close to the wall, leaving 2-4mm exposed instead.

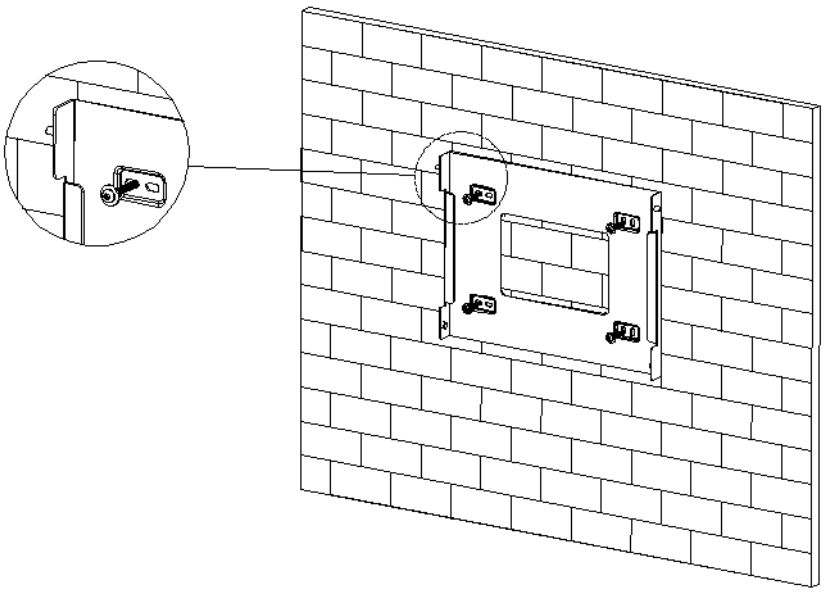


Figure 13

6.5 Fixed the Inverter on the Wall

Hang the inverter onto the mounting frame.

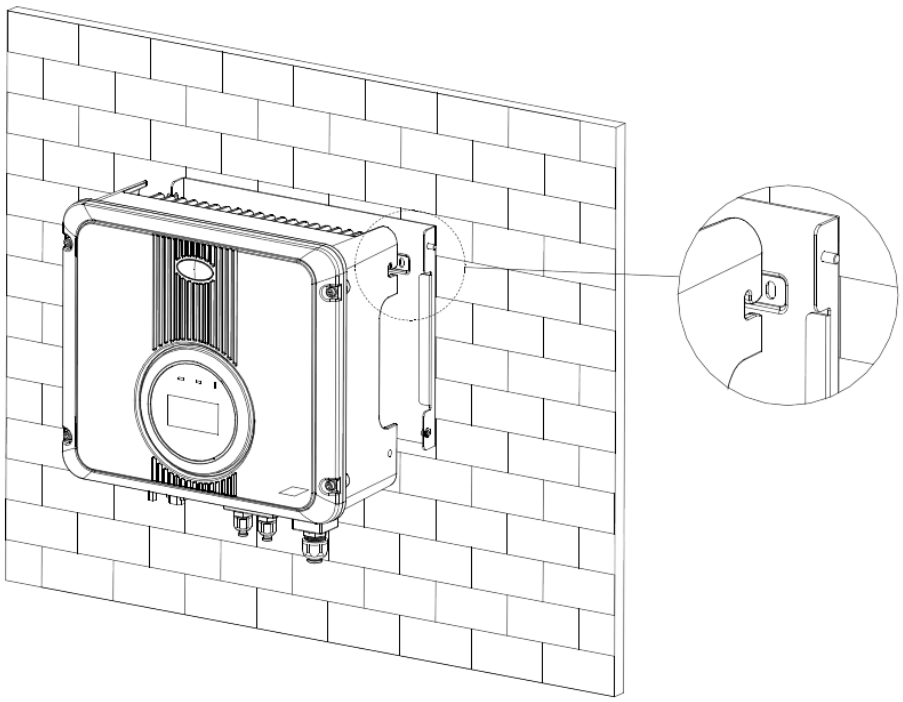


Figure 14

Insert safety- lock screws into the bottom leg to fasten the inverter.

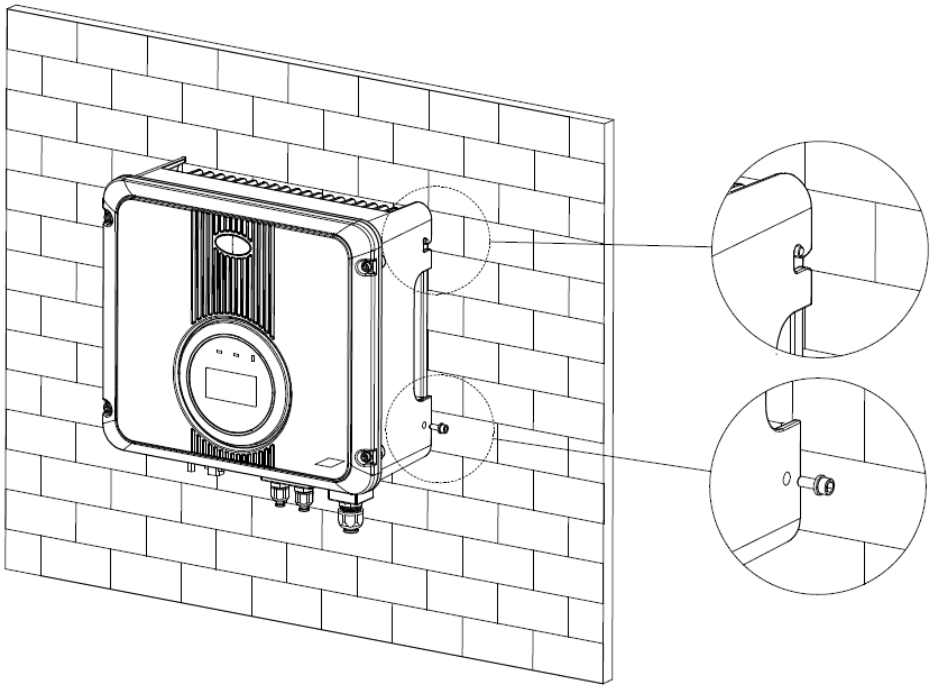


Figure 15

6.6 Check Inverter Installation Status

Check the upper straps of Inverter to ensure it fixed on to the bracket
Check the secure mounting of the PV-Inverter by trying to raise it from the bottom.
The PV-Inverter should remain firmly attached.
Select the installation location so that the status of display can be easily viewed.
Choose a strong mounting wall to prevent vibrations while inverter is operating.

6.7 Connector Guide

This product has a professional IP68 DC waterproof connector. You have to wire DC by yourself. Please see figure 14 and 15 for DC connector disassembling guide.
Connectors must only be connected by qualified personnel
Only PV1-F cables can be used. The TÜV approval only allows the use of PV1-F cables. Do not use type H07RN-F cables.

The connectors must be not disconnected while under load. For protection against electric shock, connectors must always be disconnected from the power supply during assembly.

Connectors that are not plugged must be protected against humidity and contamination by a protective cap. Any kind of contamination may have adverse effect on the system and great care must be taken during assembly to ensure that everything is clean.

Connectors provide IP68 protection but should not be continually exposed to water (e.g. immersed under water) and not placed directly on the top side.

Connecting to PV panel (DC input):

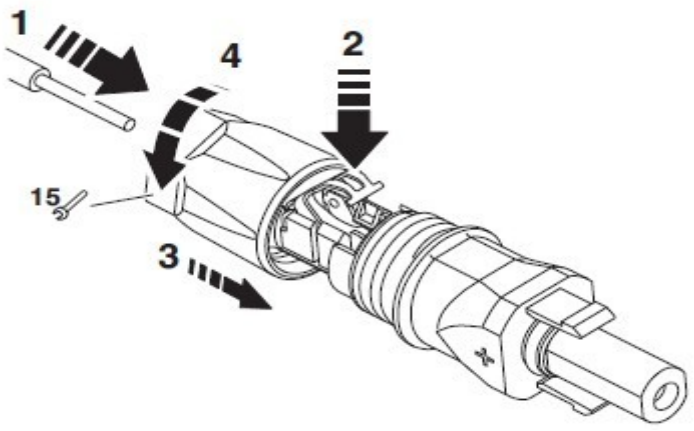


Figure 16

1. Insert the stripped conductor.
   Cross-sections: 2.5 to 6 mm^2
   Outside diameter: 5.0 to 8 mm
   Stripping length: 15 mm
2. Close spring with the thumb or using combination pliers.

Please ensure that the spring is closed. (see fig14.)

3. Push connectors together. (see fig15.)
   Screw cable gland tight. Screw in the nut until it reaches the O-ring and then tighten it with at least 2 Nm using a suitable tool. Finished!

Connector/socket unlocking process:

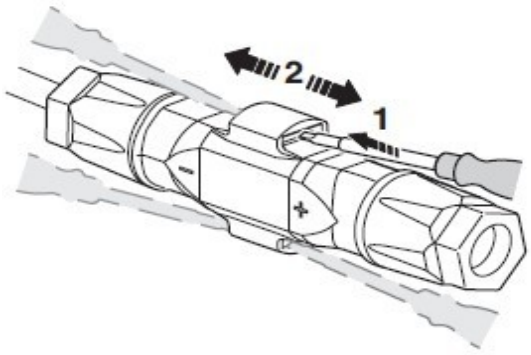


Figure 17

1. Insert screwdriver SZF 1 or phase tester in one of the illustrated positions.
2. Leave screwdriver inserted and remove connector from socket.

Conductor reconnection to the:

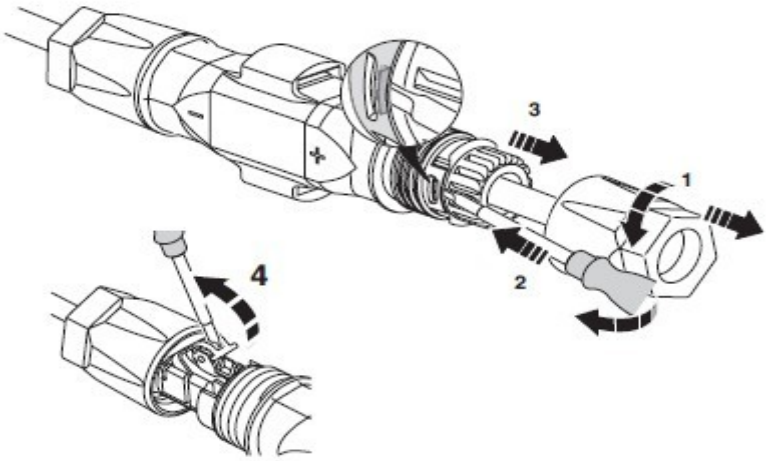


Figure 18

1. Screw on the cable gland.
2. Never open the interlock as shown in the figure by using the screwdriver.
3. Pull plug connectors apart.
4. Open spring with screwdriver and remove conductor.

Figure 19

Connecting to the grid:

1.Measure grid voltage and frequency. It should be 230VAC, 50HZ and single phase.

2.Open the breaker or fuse between inverter and utility.

3.For inverter, connect AC wires as follows:

Figure 20

Below is the AC cable specification table when select the cable for installation.

Table 7 Cable and Micro-breaker Requirement

Model	**SF1600TL**	**SF2200TL**	**SF3000TL**	**SF3600TL**	**SF4200TL**	**SF4600TL**	**SF5000TL**
Cable (Cu)	2.5mm^2	2.5mm^2	2.5mm^2	4mm^2	4mm^2	4mm^2	4mm^2
Micro-Breaker	16A	20A	20A	25A	25A	25A	32A

7 Operation

7.1 LED Display

The panel has three LED indicators as follows:

Figure 21

7.1.1 DC/DC status LED (Green)

Table8

Off	The DC/DC Circuit is off.
Blinking	The DC/DC Circuit is starting.
On	The DC/DC Circuit is working normally

7.1.2 DC/AC status LED (Green)

Table9

Off	The DC/AC Circuit is off.
Blinking	The DC/AC Circuit is starting.
On	The DC/AC Circuit is working normally.

7.1.3 Fault LED (Red)

Table10

Off	No Error occurs

On	The inverter is in fault status

Normally, after starting up, DC/DC LED and DC/AC LED will be lighted indicating that the Inverter's feeding power status to the grid.

7.2 LCD Display

The LCD display monitors the inverter status and collects statistical data for assessing system performance.

Once turn on , Logo “B&B Power” will show on the LCD display, after a few seconds the index display image will appear:

Figure 22

The display on the inverter can be controlled by tapping the front of LCD.

To save power, the LCD display’s backlight will turn off automatically after 30 seconds. When the LCD is dark, one tap will make it become bright again.

A summary diagram of the display functions is shown as the figure below, the LCD will show next page by tap.

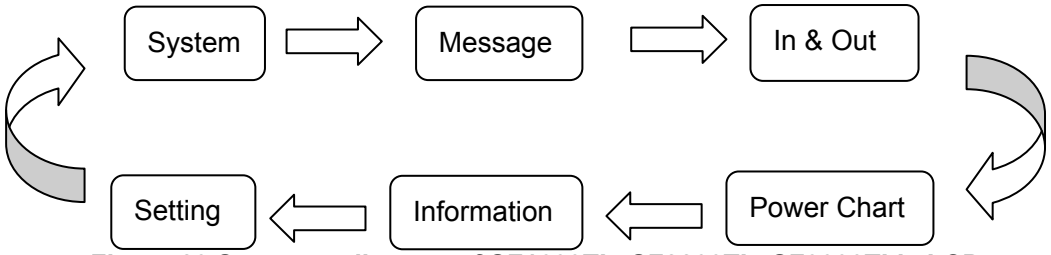


Figure 23 Summary diagram of SF1600TL, SF2200TL, SF3000TL’s LCD

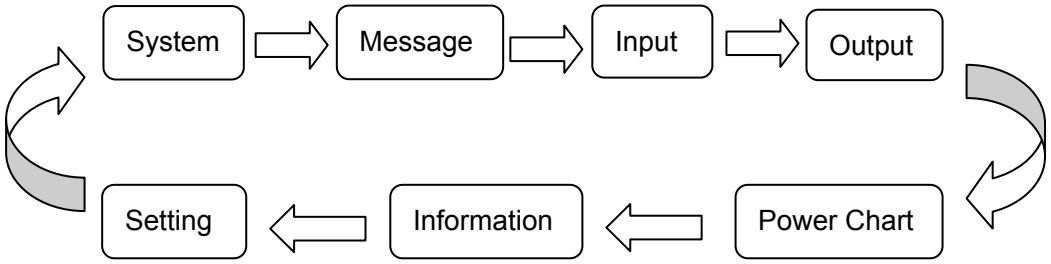


Figure 24 Summary diagram of SF3600TL, SF4200TL, SF4600TL, SF5000TL’s LCD

7.2.1 System Page

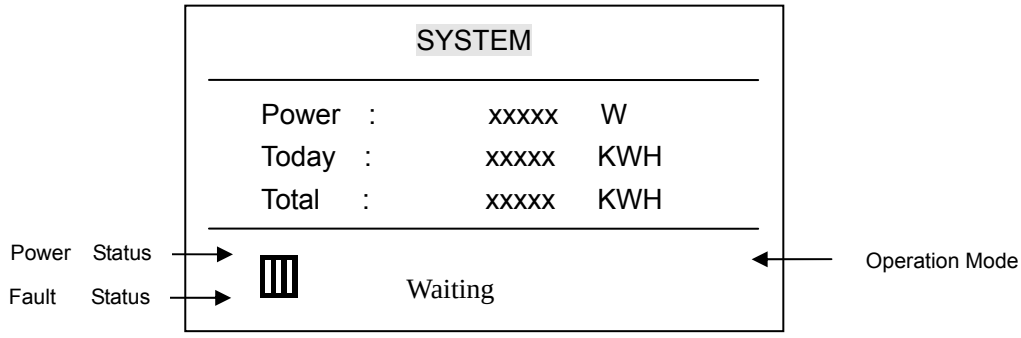


Figure 25

Power: the present power fed into the grid;

Today: Energy exported to the grid during the present day, and updated once per hour;

Total: Sum of the total energy exported to the grid, and updated once per day.

To ensure a safe operation of the inverter under any temperature and electrical condition, the unit will automatically derate the power to be supplied to the grid.

: Indicate Power No Derating;

: Indicate Power Derating.

If the Power derating occurs, the detailed reason will show in “MESSAGE” page.

Next to the Power status symbol, the LCD displays operation condition: Waiting Mode, Self Testing Mode, On-grid Mode, and Fault Mode.

: Indicate the inverter occur some faults, and the detailed information will show in “MESSAGE” page

If the inverter has no fault, the symbol will disappear.

7.2.2 Message Page

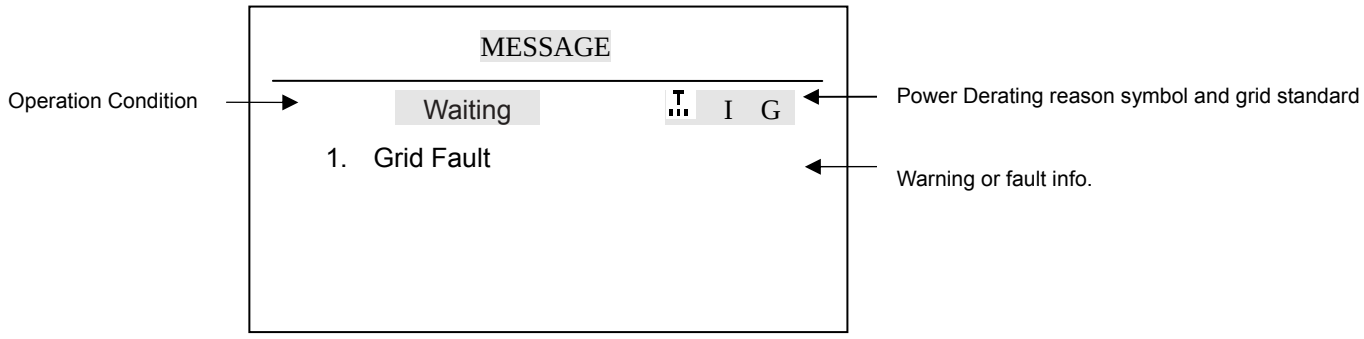


Figure 26

The system status is identified through the MESSAGE page; the first line displays inverter operation condition: Waiting Mode, Self Testing Mode, On-grid Mode, and Fault Mode. The following images are the symbol of power derating reason when inverter occurs power derating.

: Indicate input voltage values are too high or too low;

: Indicate the ambient temperature is particularly high;

: Indicate frequency derating.

After the symbol of power derating reason is Real-time working mode symbol.

N PV Mppt (SF1600TL, SF2200TL, SF3000TL);

I PV1 and PV2 Mppt independent (SF3600TL, SF4200TL, SF4600TL, SF5000TL);

P PV1 and PV2 Mppt parallel (SF3600TL, SF4200TL, SF4600TL, SF5000TL);

D DC Source In (Factory Test).

The following symbol is Real-time grid standard.

G Germany

A Australia

From the second line, the LCD displays inverter's warning or fault information:

Fault Information is listed as the following table

Table11

Display	Description
Leakage Fault	The internal hardware that measures ground fault has measured substantially high ground currents.
Grid Fault	Grid Voltage or Frequency out of range
Boost Fault	Boost(DC/DC) Power Stage fault
PV Over Voltage	PV panel Voltage too high
Relay Fault	The AC relay failed
DCINJ High	Output Current DC Offset too high
RCD Fault	The RCD measurement mechanism has failed during the wake-up test phase.
Ov Temp	Over temperature
DC Bus High	DC Bus Voltage Fault
Grid Lock Failed	Grid Phase Lock failed
CPU Commu Failed	CPU Communication Fault
Aux Power Fault	+12V Power fault
ISO Fault	Isolation Fault
Inv Fault	Inverter(DC/AC) Power Stage fault
Boost Ov Curr	Boost (DC/DC) Power Stage over current
INVOvCurr	Inverter(DC/AC) Power Stage over current
PVPowerLow	PV Power too low

7.2.3 In & Out page

The inverter parameters will be displayed in this page.

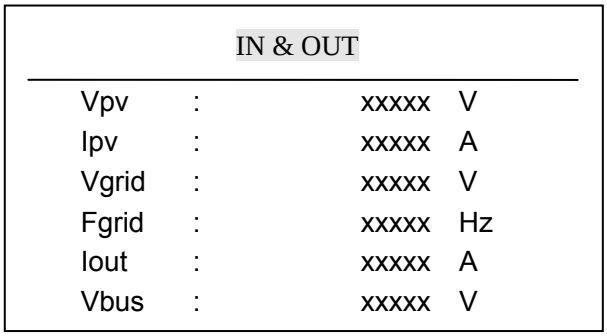


Figure 27 SF1600TL, SF2200TL, and SF3000TL

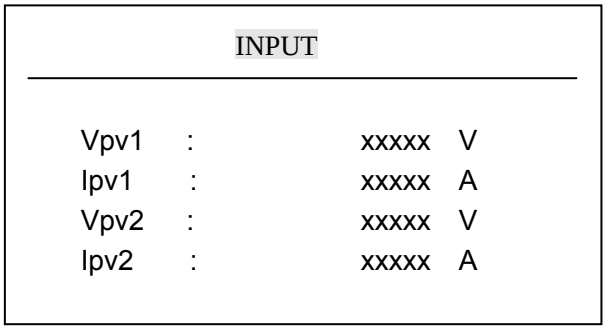


Figure 28 SF3600TL, SF4200TL, SF4600TL, and SF5000TL

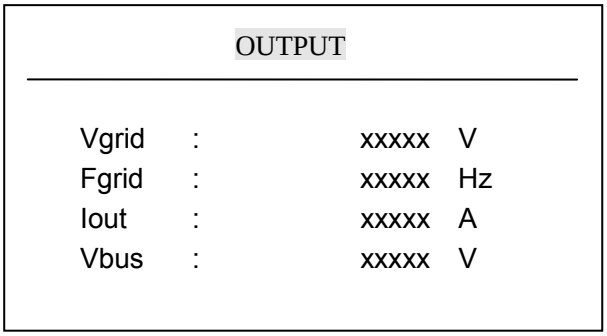


Figure 29 SF3600TL, SF4200TL, SF4600TL, and SF5000TL

Vpv : Voltage for battery array;
Ipv : Current from battery array;
Vpv1 : Voltage for battery array 1;
Ipv1 : Current from battery array 1;
Vpv2 : Voltage for battery array 2;
Ipv2 : Current from battery array 2;
Vgrid : Grid Voltage;
Fgrid : Grid frequency;
Iout : Current exported to the grid;
Vbus : DC bus voltage of the inverter;

7.2.4 Power Chart Page

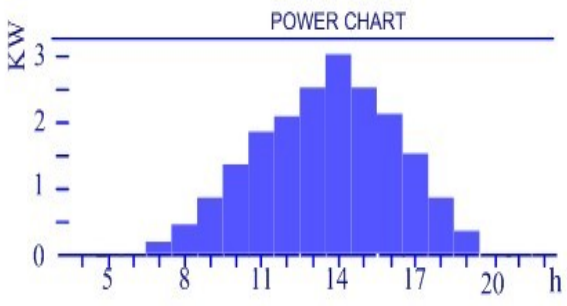


Figure 30

Graph of the power produced in the present day from 4 to 22 hours will be displayed in this

page.

7.2.5 Information Page

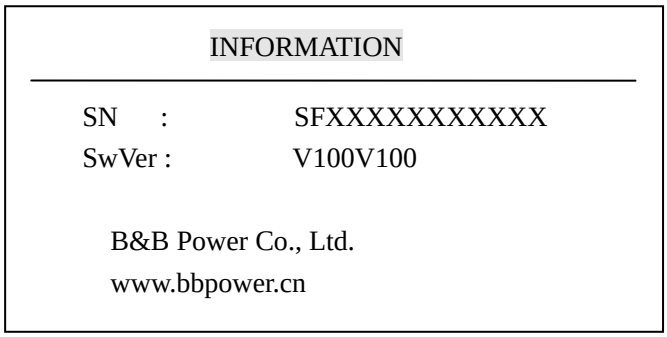


Figure 31

SN : provides the production No. of the inverter.

SwVer : provides the production Firmware version of the inverter;

7.2.6 Setting Page

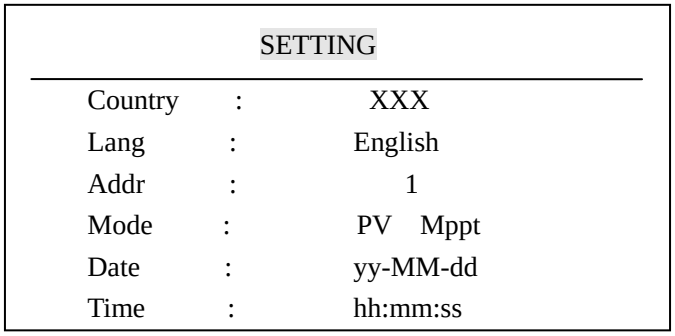


Figure 32

Country: The country of the Inverter can work.

Mode: Work mode of the Inverter. It includes: PV Mppt, Dc In (Factory Test), IN1 & IN2 I (PV1 and PV2 Independent), IN1 & IN2 P (PV1 and PV2 Parallel);

Date: the present date of the inverter;

Time: the present time of the inverter.

Setting language

In the “SETTING” page, double tap to activate the Setting function, Language item become bright: Lang, then double tap again, enter to change the language option, tap to select the language and wait until the display become dark. But only English is available at now.

Setting communication address

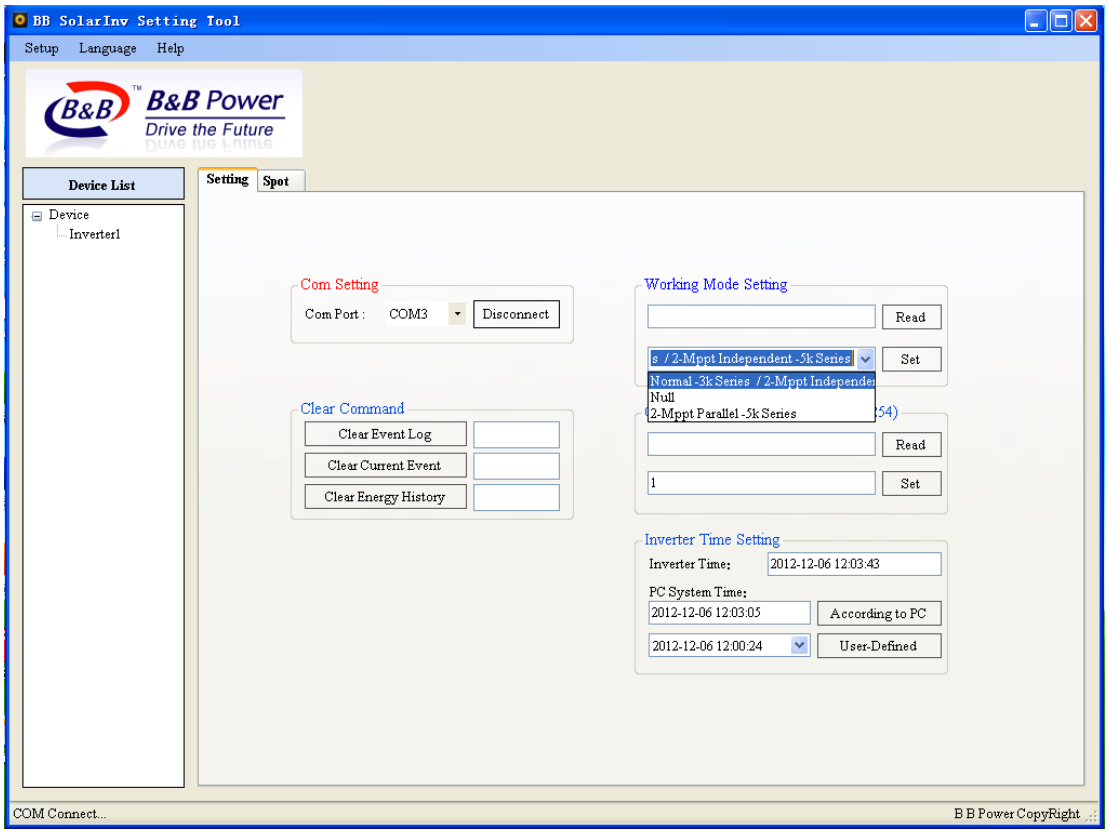
When several inverters are connected to the same communication channel, each unit must have a different address.

In the “SETTING” page, double tap to activate the Setting function, Language item become bright: Lang, then tap again, Com Address item become bright: Addr, then double tap, enter to change the Com Address option, tap to select the Com Address and wait until the display become dark.

Setting working mode

If B&B Solar Inverter need change working mode when it is first installed, it can be set by BB

SolarInv Setting Tool.



8 Setting up Communication

8.1 Communication Interface Type

This product has a communication interface RS232, RS485 and Bluetooth (optional). Operating information such as output voltage, current, frequency, fault information, etc., can be delivered to PC or other monitoring equipment via RS485.

8.2 Communication

When user want to know the information of the power station and manage the entire power system. We offer below three types of communications.

RS232 Communication (One inverter)

RS232 is one standard communication interface. For communication cable, one end is male connector, the other end is female connector.

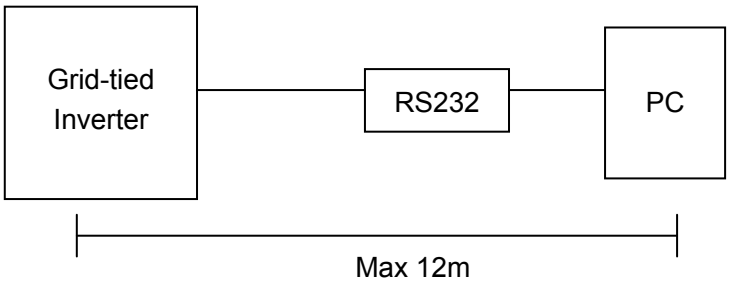


Figure 33 RS232 Communication Diagram

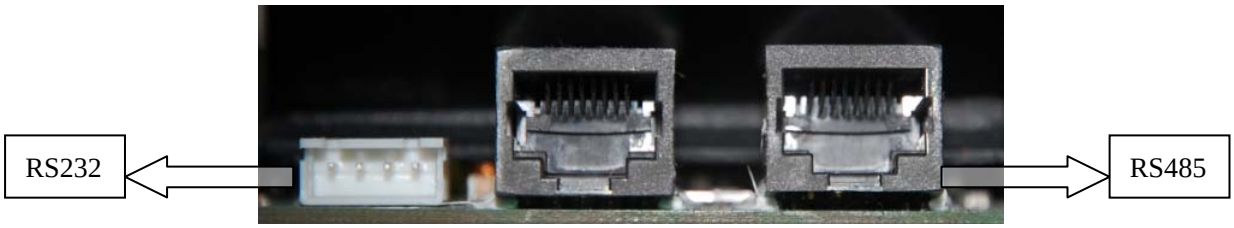


Figure 34 Communication Interface of B&B Series Inverter

RS232 Pin Definition

Table12

Pin	1	2	3	4
Function	RXD	TXD	SGND	VCC

RS485 Communication (One inverter or several inverters)

RS485 is generally for multi inverters' communication. Up to 32 inverters could communicate at the same time, but wire length should be ≤1200m.

Select high-quality network cable; peel the isolation surface, Select 8-wires (orange white, orange, green white, blue, blue white, green, brown white, brown), then follow the same order with the press pliers push into the 8-wire RJ45 crystal head.

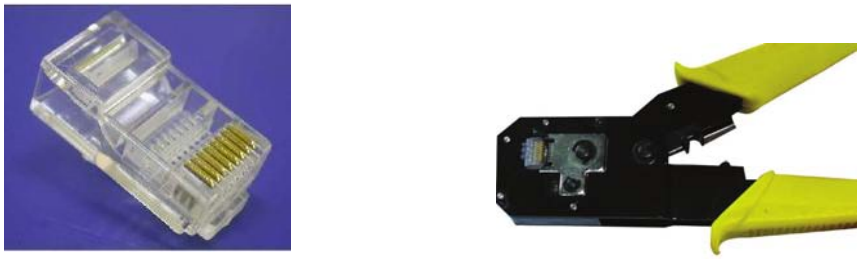


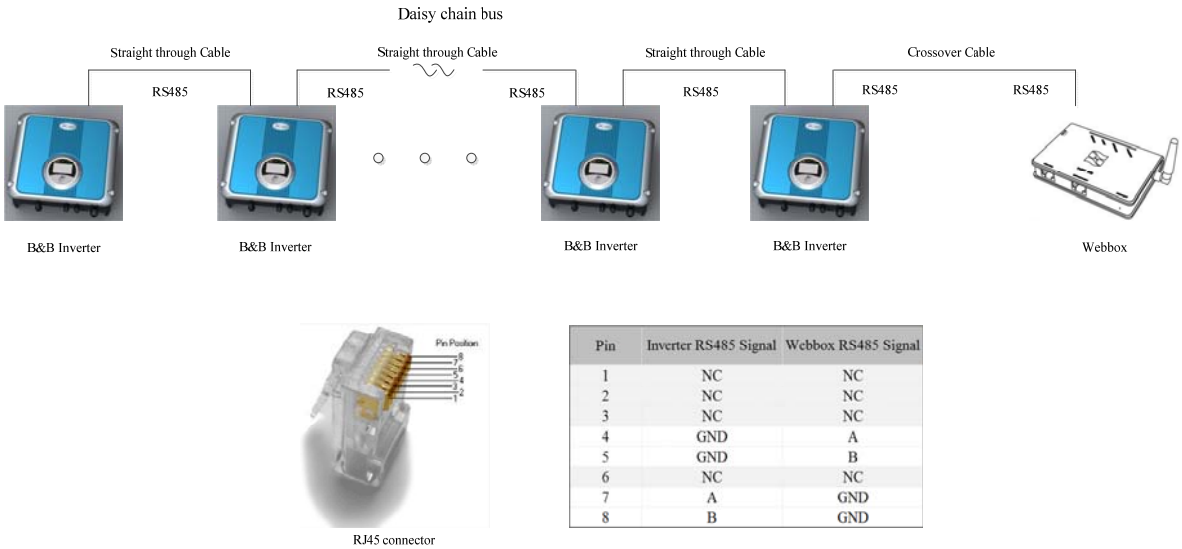
Figure 35 8-line RJ45

Table13 8-line RJ45

8-line RJ45 Wire No.	Function	Wire Color
1	NC	Orange white
2	NC	Orange
3	NC	Green white
4	GND	Blue
5	GND	Blue white
6	NC	Green
7	A	Brown white
8	B	Brown

■RS485 bus connection method

The connection between B&B Inverters uses a straight through cable. But the connection between B&B Inverter and Webbox uses a crossover cable. As shown in the following figure.



Pin	Inverter RS485 Signal	Webbox RS485 Signal
1	NC	NC
2	NC	NC
3	NC	NC
4	GND	A
5	GND	B
6	NC	NC
7	A	GND
8	B	GND

Figure 36 B&B Web Box Monitoring Diagram

■ **Connect the system by RS485 /RS232 Adapter**

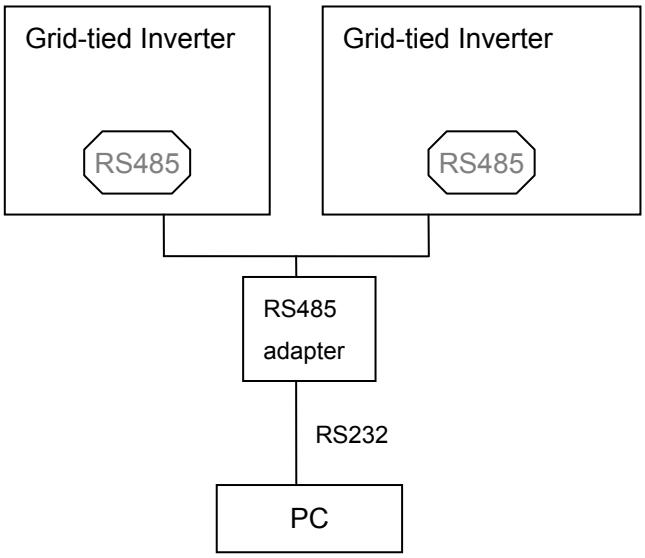


Figure 37

Bluetooth Communication (optional)

Bluetooth module is a hardware device can be inserted to inverter's RS232 port. Please refer to B&B Bluetooth module Manual for more information.

9 Troubleshooting

In most situations, the inverter requires very little maintenance. However, if Inverter fails to work perfectly, please refer to the following instructions before calling your local dealer. Should any problem arises, the LED on the front panel will be red and the LCD will display the relevant information. Please refer to the following table for a list of potential problems and solutions.

Table 14 Troubleshooting list

Faults	Diagnosis and Solutions
Grid Fault	-Waiting for one minute, grid will go back to normal working state. -Making sure that grid voltage and frequency complies with standards. -Or, please seek for help from us
	-Off to grid. -Please check grid-connection, like wire, interface, etc. -Checking grid usability. -Or seek for help from us.
PV Over Voltage	-Checking the panel's open-circuit voltage whether the value is similar or already >Max.DC voltage. -Please seek help from us when voltage ≤ Max.DC voltage.
DCINJ High	-Disconnect the PV (+), PV (-) with DC input, then reconnect them. -Check L line and N line to see whether it has connection faults. -Please seek for help from us when this fault happens.
Relay Fault	-Disconnect the PV (+), PV (-) with DC input, then reconnect them. -Please seek for help from us if it can not go back to normal state.

● Check the warning or fault messages on the information panel. Record the message if displayed for further action.

● Try the solution indicated in Table 14.

● If your inverter information panel didn't have a Fault light, check the following list to make sure that the present state of the installation allows proper operation of the unit.

— Is the inverter located in a clean, dry, ventilated place?

— Have the DC input breakers been opened?

— Is the size & length of cables suitable?

— Are the input and output connections and wiring in good condition?
— Are the configurations settings correct for your particular installation?
—Are the display panel and the communications cable properly connected without damage?
Contact B&B Power Customer Service for further assistance. Please provide your details of installation, model & serial number of the unit to us when inquiry.

10 Decommissioning

10.1 Dismantling

- Disconnect the inverter from DC input and AC output.
- Remove all connection cables from the inverter.
- Remove the inverter from the bracket.

10.2 Packaging

If possible, it's better to pack the inverter with the original packing.
If original packing is not available, please use similar packing which meets below requirements

- Load ability should be over 20kg.
- With handle.
- Able to fully closed.

10.3 Storage

Store the inverter in a dry place where ambient temperature is always between -20 ℃ and +60 ℃. -4°F to +140°F.

10.4 Disposal

Please put the wasted inverters & packing materials to a place which is convenient for relevant department to dispose and recycle.

11 Warranty

Warranty certificate represents a five year warranty service for mentioned products since the date of purchase.

Warranted Products

This warranty is applicable solely to the following products:

SF1600TL SF2200TL SF3000TL

SF3600TL SF4200TL SF4600TL SF5000TL

Limited Product Warranty

(Applicable under normal application, installation, use and service conditions.)

B&B warrants the above listed products to be free from defects and/or failure specified for a period not exceeding five years from the date of sale as shown in the roof of Purchase to the original purchaser.

12 Contact B&B

If you have any questions about B&B series inverter, please call service support hotline: +86 755 8656 7100**.** Please keep following information to better our service for you. (Please note and advise below information to us before inquiry for better service).

a. Inverter's Model.

b. Inverter's Serial No..

c. Communication Method.

d. PV Modules' Model.

B&B Power Co., Ltd.

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