

PV Grid-tied Inverter User Manual

IG1000-1/IG2000-1/IG3000-1/IG4000-1/IG5000-1



Copyright Declaration

The copyright of this manual belongs to **Inverter Go**(Here after to be referred as **Inverter Go**). Any corporation or individual should not plagiarize, partially copy or fully copy it (including software, etc.), and no reproduction or distribution of it in any form or by any means. All rights reserved. Inverter Go reserves the rights of final interpretation. This information is subject to modify without notice. “Inverter Go” are used for PV products.

Table of Contents

1 Notes	1
1.1 Validity	1
1.2 Target Group	1
1.3 Safety	1
2 Introduction	6
2.1 Overview	6
2.2 Electrical Block Diagram	6
2.3 Terminals of PV Inverter	7
2.4 Dimension and Weight	7
3 Packaging List	9
4 Technical Data	10
4.1 Input (DC)	10
4.2 Output (AC)	10
4.3 Efficiency Safety and Protection	11
4.4 General Data	11
5 Function	13
6 Installation	14
6.1 Safety Instructions	14
6.2 Selecting the Installation location	14
6.3 Preparation	15
6.4 Mounting the Bracket	15
6.5 Mounting the Inverter	17
6.6 Check Inverter Installation Status	18
6.7 Connector Guide	18
7 Operation	21
7.1 LED Display	21
7.2 LCD Display	22
8 Setting up Communication	28
8.1 Communication Interface Type	28
8.2 Communication	28
9 Troubleshooting	31
10 Decommissioning	33
10.1 Dismantling	33
10.2 Packaging	33
10.3 Storage	33
10.4 Disposal	33
11 Warranty	34
12 Contact Inverter Go	35

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:

IG1000-1	IG2000-1	IG3000-1
IG4000-1	IG5000-1	

1.2 Target Group

This manual is for qualified personnel who 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 IG Series are the PV inverters which convert the DC current of a PV generator into AC current and feed it into the public grid.

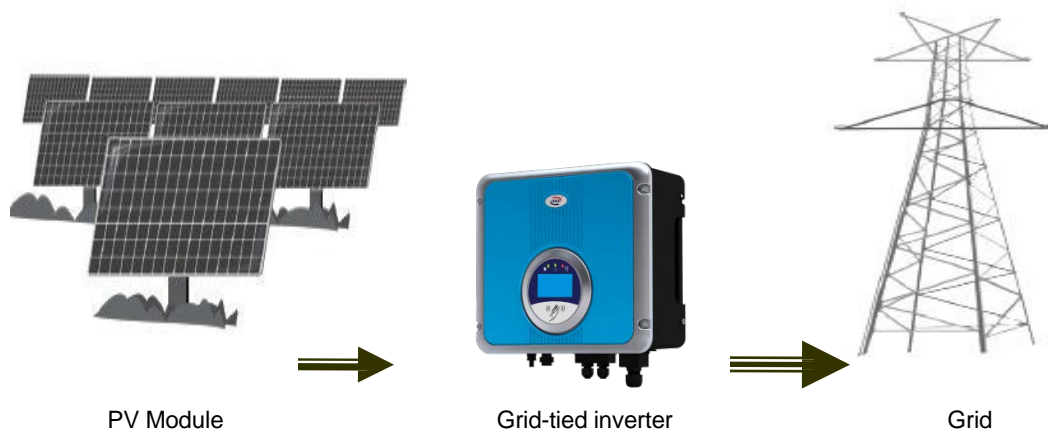






Figure 1 PV Grid-tied System











1.3.2 Important Safety Instructions

	<p>Danger!</p> <p>Danger to life due to high voltages in the inverter!</p> <ul style="list-style-type: none"> · All work on the inverter must be carried out by qualified personnel only. · The inverter is forbidden to be operated by children or persons with limited physical or mental capabilities, persons who lack of experience and knowledge can only operate the inverter under the condition of being given supervision or instruction. · Children should be supervised to ensure that they do not play with the inverter.
	<p>Caution!</p> <p>Danger of burn injuries due to hot enclosure parts!</p> <ul style="list-style-type: none"> · 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.
	<p>Caution!</p> <p>Possible damage to health as a result of the effects of radiation!</p> <ul style="list-style-type: none"> · Do not stay closer to the inverter (beyond 20cm is available) for a long time.
	<p>Note!</p> <p>Grounding the PV generator.</p> <ul style="list-style-type: none"> · INVERTER GO Power recommends PV modules have an IEC 61730 Class A rating. Please don't connect the PV modules to

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
	<p>Danger to life due to high voltages in the inverter!</p> <ul style="list-style-type: none"> • 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.
	<p>Beware of hot surface.</p> <ul style="list-style-type: none"> • The inverter may become hot during operation. Avoid any contact to the surface during operation.
	<p>Danger of high voltages</p> <ul style="list-style-type: none"> • Danger to life due to high voltages in the inverter!
	<p>Risk of electric shock!</p> <ul style="list-style-type: none"> • Only authorized personnel is 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
	<p>You can operate the interface by tapping on it</p> <ul style="list-style-type: none"> • Tapping once: The background illumination switches on. • Tapping again: l
	Recovery and recycling.

● **Safety precaution**

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 IG series inverter before attempting any maintenance or cleaning or working on any circuits connected to the IG series inverter.



Warning!

- The photovoltaic array is exposed to sunlight, it supplies DC voltage to the inverter.

2 Introduction

2.1 Overview



Figure 2 Stereogram

2.2 Electrical Block Diagram

- Electrical block diagram

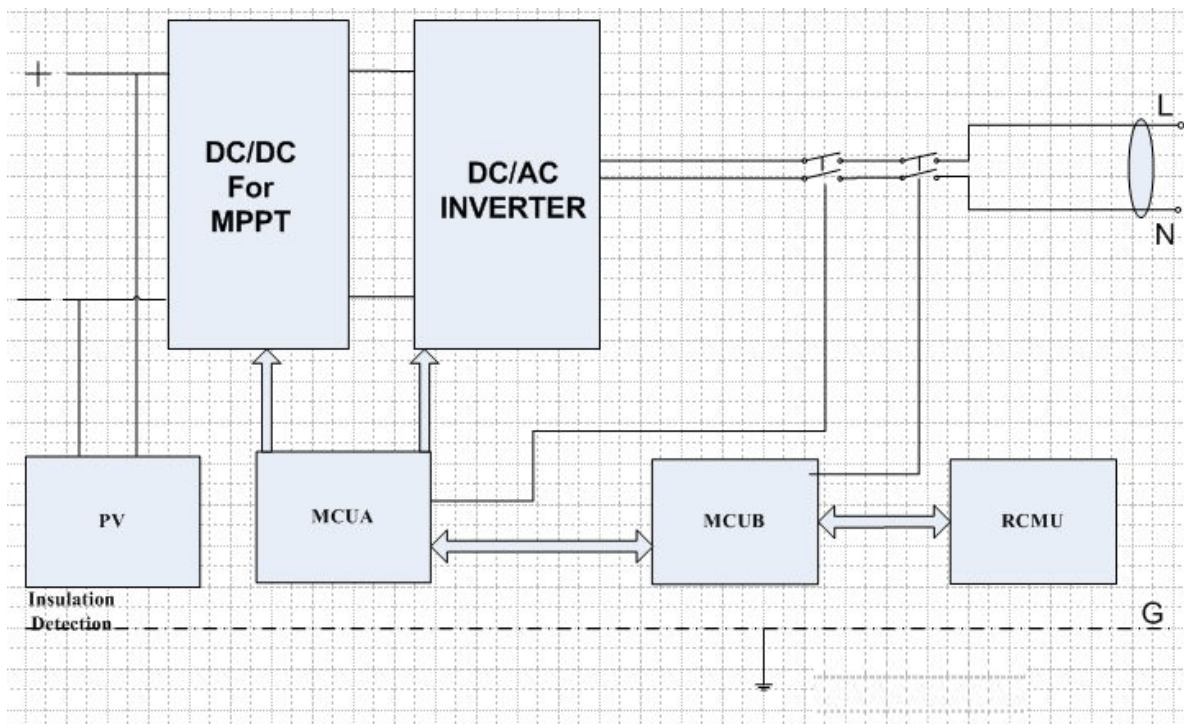


Figure 3 Electrical block diagram

2.3 Terminals of PV Inverter



Figure 4 Terminals of PV Inverter (IG1000-1/IG2000-1/IG3000-1)



Figure 5 Terminals of PV Inverter (IG4000-1/IG5000-1)

2.4 Dimension and Weight

- Dimension



IG1000-1/IG2000-1/IG3000-1 386mm/159mm/340mm

IG4000-1/IG5000-1 386mm/159mm/420mm

- Weight

Table 1

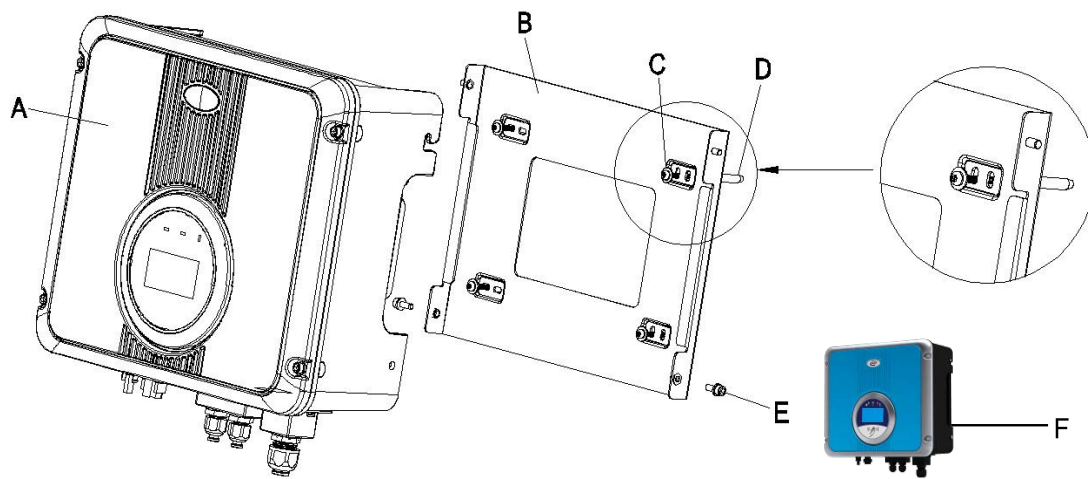
Model	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Weight [kg]	13.6	13.9	13.9	17.5	17.5

3 Packaging List

Table 2

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

This series is shipped with the following items:

**Figure 8**

4 Technical Data

4.1 Input (DC)

Table 3

Model	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Max. DC Power[W]	1700	2350	3150	4400	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]	13	15		15/15	
Number of MPP Trackers / Strings per MPP Tracker	1/1			2/1	
MPPT Voltage Range [V]	120-500	170-500	210-500	155-500	175-500
Nominal PV Voltage	360			360	
Start Voltage/On-Grid Voltage	100/120			100/120	
Overvoltage category	II			II	

4.2 Output (AC)

Table 4

Model	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Max. AC Power[W]	1600	2200	3000	4200	5000
Max. AC Current [A]	7.8	11	14.5	21	24
Nominal AC Voltage [V]	220/230/240			220/230/240	
AC Voltage Range [V]	176-276			176-276	
AC Grid Frequency [Hz]	50/60			50/60	

Power Factor (cosφ)	0.8lagging-0.8leading	0.8lagging-0.8leading
THD (at nominal power)	<3%	<3%
Overvoltage Category	III	III

*Maximum Output power limited to 16amps up to a maximum power of 3.6KW, for G83.

Maximum Output power limited to 18amps up to a maximum power of 3.6KW, for G59.

4.3 Efficiency Safety and Protection

Table 5

Model	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Max. Efficiency	97.7%	97.8%	97.8%	98.1%	98.1%
Euro-Efficiency	97.0%	97.1%	97.2%	97.4%	97.6%
MPPT Efficiency	99.9%			99.9%	
Overvoltage / Under- Voltage Protection	Yes			Yes	
Shutdown Voltage / Start Voltage	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

Table 6

Model	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Dimension(W/H/ D) [mm]	386/340/159			386/420/159	
Weight [kg]	13.6	13.9	13.9	17.2	17.5

Cooling Concept	Natural Convection	Natural Convection
Noise (typical) [dB]	<30	<30
Operating Temperature Range [°C]	-25°C ~ +60°C/derating at 45°C	-25°C ~ +60°C/derating at 45°C
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(ni ght) [W]	<0.5W	<0.5W
LCD display	Yes	Yes
Communication Interfaces	RS485/ WiFi optional	RS485/ WiFi optional
Standard Warranty	6/10/15 years Free/opt./opt.	6/10/15 years Free/opt./opt.

5 Function

Operation Condition

【Waiting Mode】

When DC voltage is over 100V but doesn't reach to 120V, the inverter enters a "Waiting mode". Under this mode, it will continue checking if PV array has enough power to feedback into grid.

【Self Testing Mode】

After initialization is finished in "Waiting mode", if the PV voltage is over 120V and the grid voltage & frequency meet the standard, the inverter will work in the "Self-Testing mode".

【On-grid Mode】

Under this mode, Inverter GO IG series inverters convert PV array's DC into AC and feedback into grid.

CAUTION!

The inverter output power decrease is usual under 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 generating power until the fault/error is cleared. Some fault/error will recover itself, and some may need to restart manually to resolve.

6 Installation

6.1 Safety Instructions

Do not remove the enclosure upper lid. Inverter contains non-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 sunlight, it generates DC voltage. When connected to this equipment, a photovoltaic panel will charge the DC capacitors.

Energy stored in this equipment's DC 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. (-25°C to +60°C, -13°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.

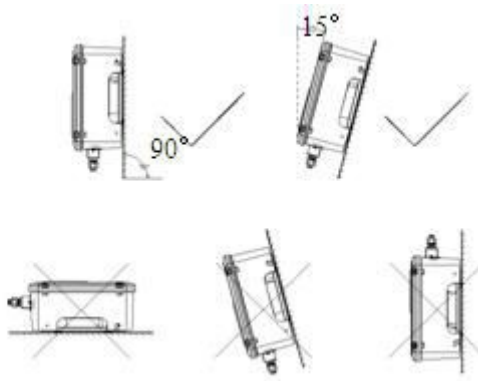


Figure 9

6.3 Preparation

Below tools are needed before installation.



Figure 10 Installation Tools

6.4 Mounting the bracket

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

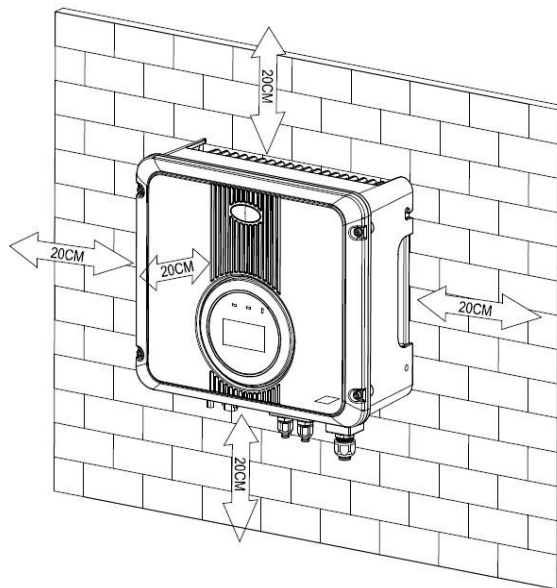


Figure 11

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

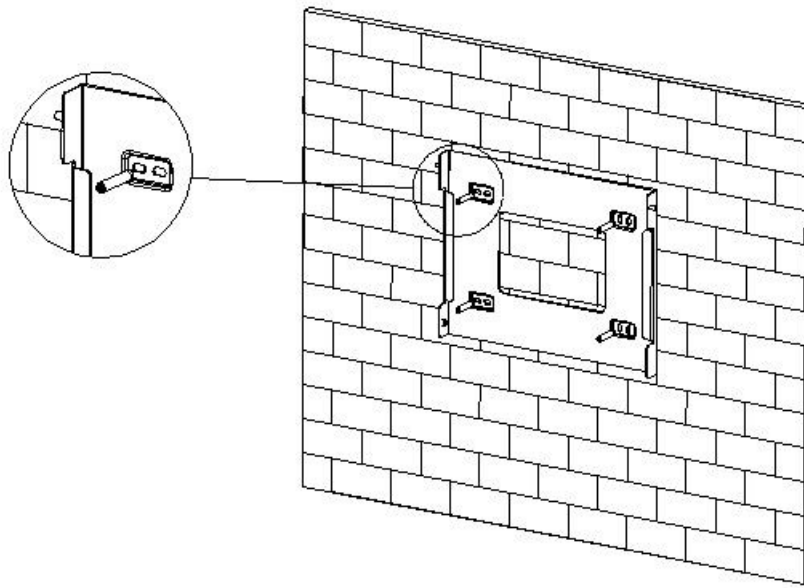


Figure 12

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

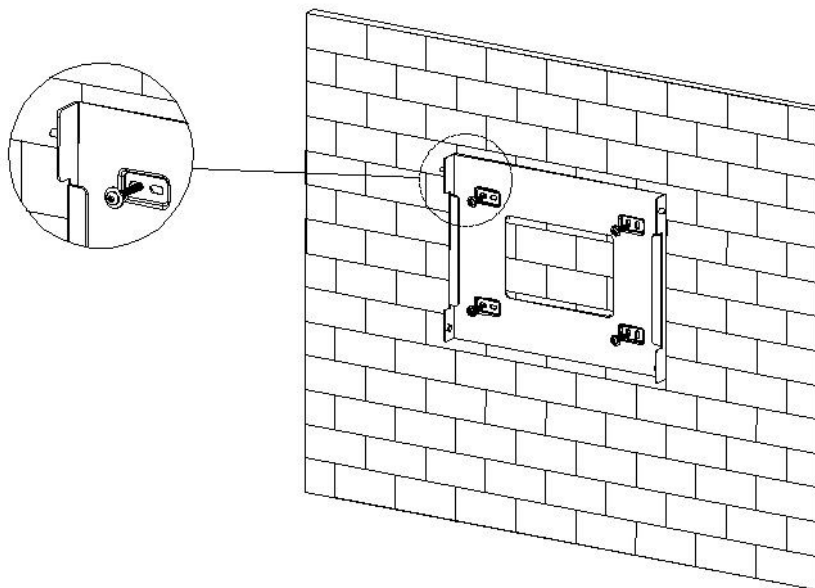


Figure 13

6.5 Mounting the Inverter

Hang the inverter onto the mounting frame.

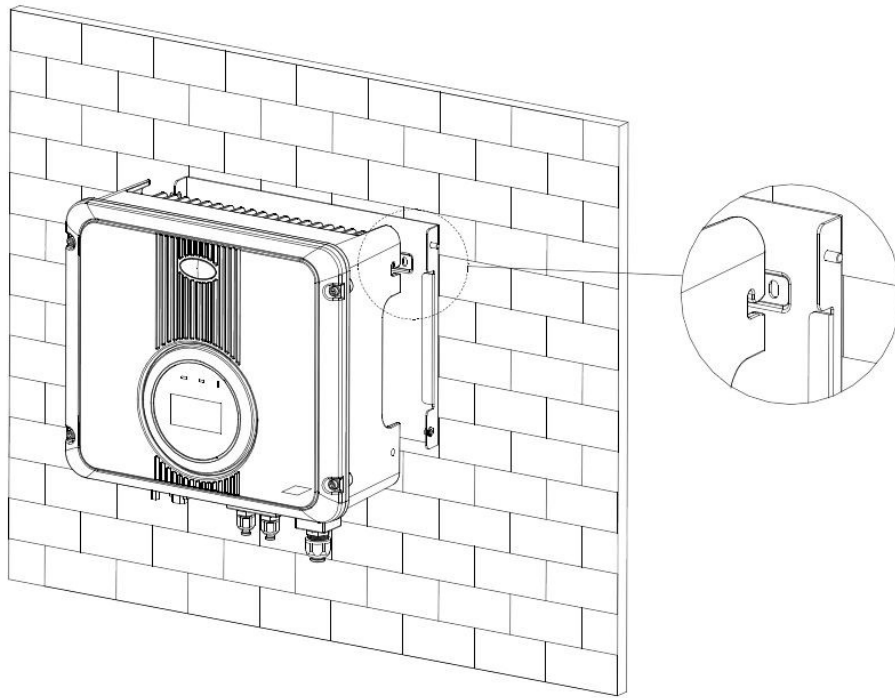


Figure 14

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

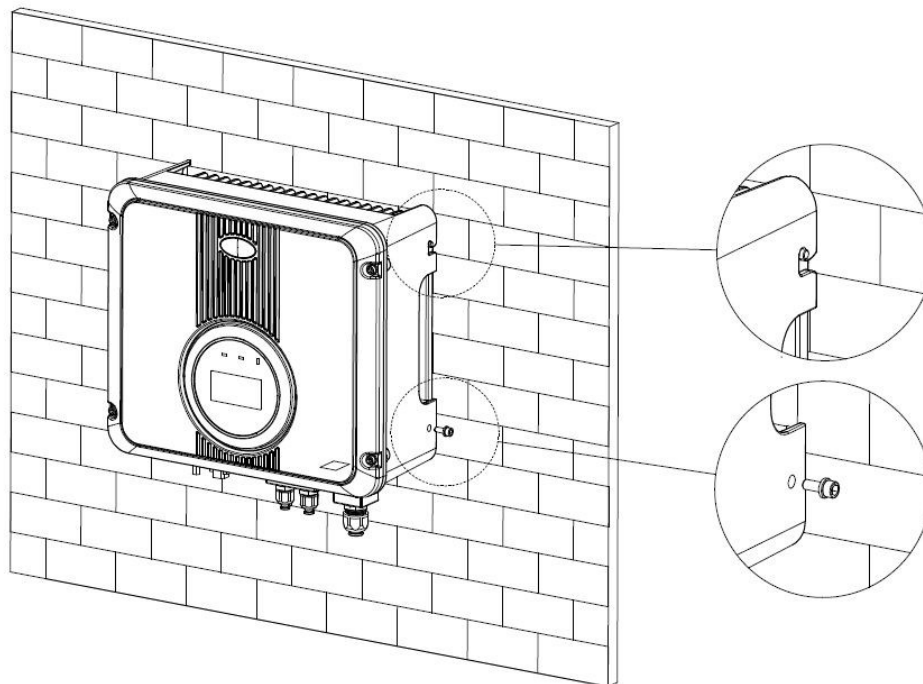


Figure 15

6.6 Check Inverter Installation Status

Check the upper straps of Inverter to ensure it is 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 16** and **Figure 17** 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):

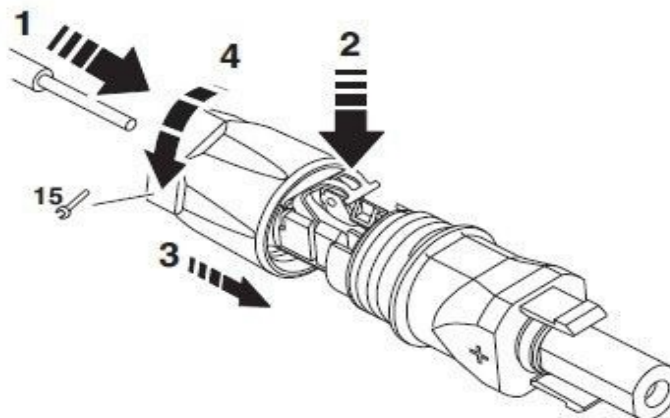


Figure 16

1. Insert the stripped conductor.

Cross-sections: 2.5 to 6 mm²

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 **Figure 16.**)

3. Push connectors together. (see **Figure 17.**)

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:

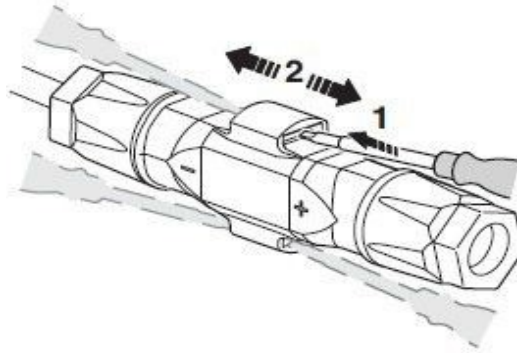


Figure 17

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:

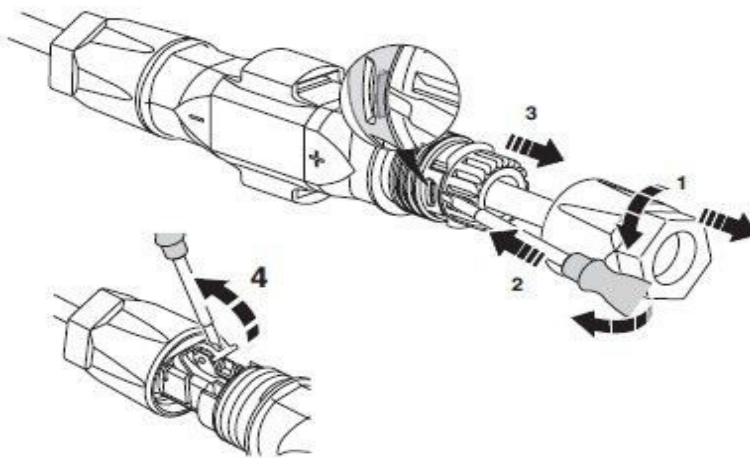


Figure 18

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 to see whether they are normal.
2. Open the breaker or fuse between inverter and utility grid.
3. Connect AC wires of inverter 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	IG1000-1	IG2000-1	IG3000-1	IG4000-1	IG5000-1
Cable (Cu)	2.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²
Micro-Breaker	16A	20A	20A	25A	25A

7 Operation

7.1 LED Display

The panel has three LED indicators as follows:

Figure 21

7.1.1 DC/DC status LED (Green)

Table 8

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)

Table 9

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)

Table 10

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.

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.

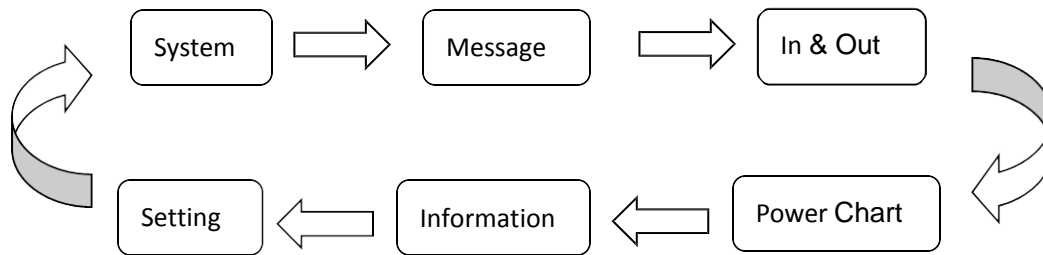


Figure 23 LCD summary diagram of IG1000-1 IG2000-1 IG3000-1

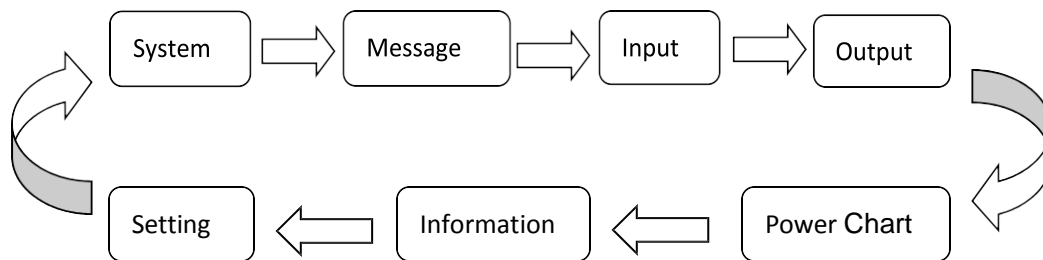


Figure 24 LCD summary diagram of IG 3000-1 IG4000-1

7.2.1 System Page

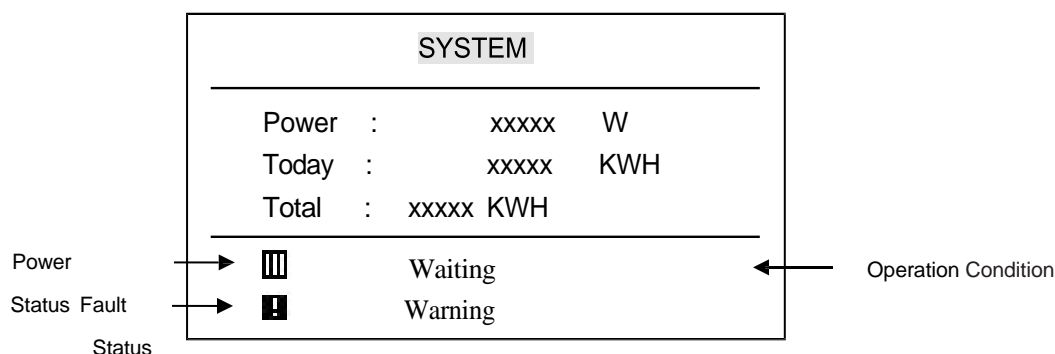


Figure 25

Power: the present power fed into the grid;

Today: Energy output to the grid during the present day, and updated once every 10 minutes;

Total: Sum of the total energy output to the grid, and updated once every 10 minutes.

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.

Power accuracy disclaimer:

The display values may deviate from the actual values and must not be used as a basis for invoicing. The inverter's measured values are required for the system management and to control the current to be fed to the grid. The inverter does not have a calibrated meter.

: 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

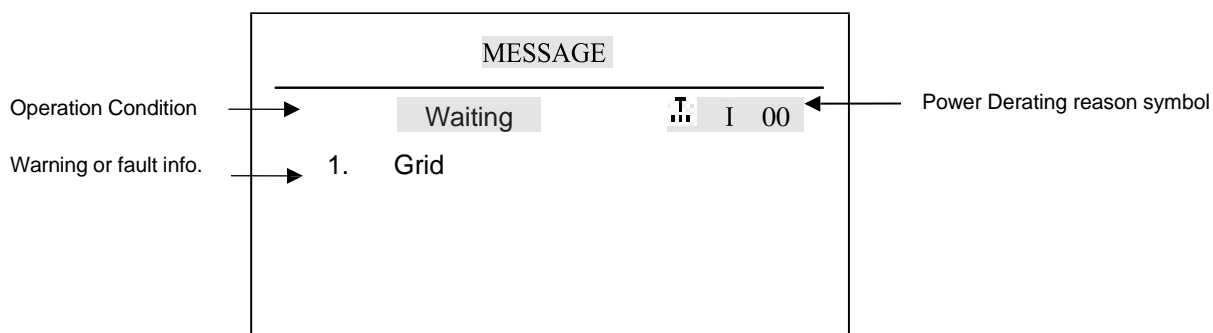





Figure 26

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 derates.

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

 : Indicate the ambient temperature is particularly high;

 : Indicate frequency derating.

 : Indicate power no derating.

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

N PV Mppt (IG1000-1 IG2000-1 IG3000-1);

I PV1 and PV2 Mppt independent (IG 3000-1 IG4000-1);

P PV1 and PV2 Mppt parallel (IG 3000-1 IG4000-1);

The following symbol is Real-time grid standard.

00 DIN VDE V 0126-1-1:2006+A1:2011; AS

01 4777—2005;

02 G83 Issue 2 August 2012;

03 G59 Issue 2 August 2010;

04 VDE-AR-N 4105: 2011-08 VDE 0124-100: 2012-07.

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

Fault Information is listed as the following table

Table 11

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
INV Ov Curr	Inverter(DC/AC) Power Stage over current
PV Power Low	PV Power too low

7.2.3 In & Out page

The inverter parameters will be displayed in this page.

IN & OUT			
Vpv	:	xxxxx	V
Ipv	:	xxxxx	A
Vgrid	:	xxxxx	V
Fgrid	:	xxxxx	Hz
Iout	:	xxxxx	A
Vbus	:	xxxxx	V

Figure 27 IG1000-1 IG2000-1 IG3000-1

INPUT			
Vpv1	:	xxxxx	V
Ipv1	:	xxxxx	A
Vpv2	:	xxxxx	V
Ipv2	:	xxxxx	A

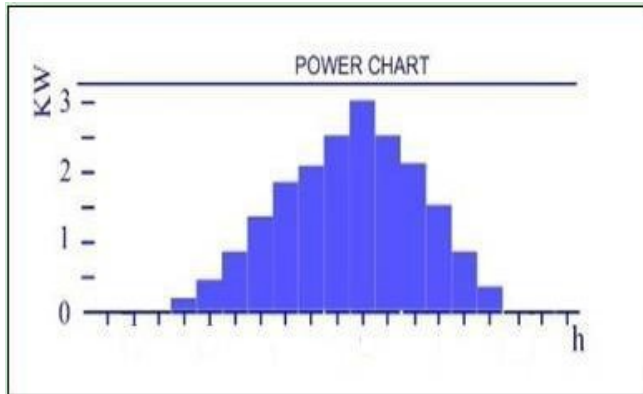
Figure 28 IG4000-1 IG5000-1

OUTPUT			
Vgrid	:	xxxxx	V
Fgrid	:	xxxxx	Hz
Iout	:	xxxxx	A
Vbus	:	xxxxx	V

Figure 29 IG4000-1 IG5000-1

Vpv : Voltage for Panel array;
 Ipv : Current from Panel array;
 Vpv1 : Voltage for Panel array 1;
 Ipv1 : Current from Panel array 1;
 Vpv2 : Voltage for Panel array 2;
 Ipv2 : Current from Panel 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**

Daily generating capacity will be displayed in this page.

7.2.5 Information Page

INFORMATION	
SN :	SFXXXXXXXXXXXX
SwVer :	V100V100
Inverter Go	
www.invertergo.com	

Figure 31

SN : provides the production No. of the inverter.

SwVer : provides the production Firmware version of the inverter;

7.2.6 Setting Page

SETTING	
Country :	XXX-XX
Lang :	English
Addr :	1
Mode :	PV Mppt
Date :	yy-MM-dd
Time :	hh:mm:ss

Figure 32

Country: The Grid Standard of the Inverter can work.

GER-11 : DIN VDE V 0126-1-1:2006+A1:2011;

AUS-11 : AS 4777—2005;

GBR-12: G83 Issue 2 August 2012;

GBR-22: G59 Issue 2 August 2010;

GER-21: VDE-AR-N 4105: 2011-08 VDE 0124-100: 2012-07.

Mode: Work mode of the Inverter. It includes: PV Mppt (IG1000/2000/3000-1),

IN1 & IN2 I (IG1000-1 IG2000-1 IG3000-1, PV1 and PV2 Independent),

IN1 & IN2 P (IG4000-1 IG5000-1, PV1 and PV2 Parallel);

Date: the present date of the inverter;

Time: the present time of the inverter.

Setting communication address

When several inverters are connected to the same communication channel, each unit must have a different address. Set them form 1, such as 1, 2, 3 ...

When setting RS485 communication address on the setting page of the LCD, should make dial switch " 3 " connected (On) first, then double knock into the setting mode, then single knock to change the address value , wait for 5 seconds to quit automatically from setting page after setting , then disconnect the dial switch "3" (off) .

Notes: Make sure dial switch 3 is disconnected(Off) when the inverter is working , or else the inverter can't work properly then.

Setting working mode

If you want to change the working mode for the Inverter Go Solar Inverter (IG3000/5000-1) when it is first installed, it can be done at Inverter Go Data Explorer.

Inverter Time Setting

Inverter Go Solar Inverter can be running at 2 modes: "No Time" mode or "Time" mode. It can be done at Inverter Go Data Explorer.

"No Time" mode (default): it will re-calculate "today" power amount when the inverter is power off for more than 4 hours. The "today" power amount diagram shows in the middle, and there is no time display on the inverter LCD.

"Time" mode: it will change date amount diagram based on RTC time at 0 o'clock, show power amount chart at the Real Time, and display on the inverter LCD.

8 Setting up Communication

8.1 Communication Interface Type

This product has a communication interface RS485 and Serial Port (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.

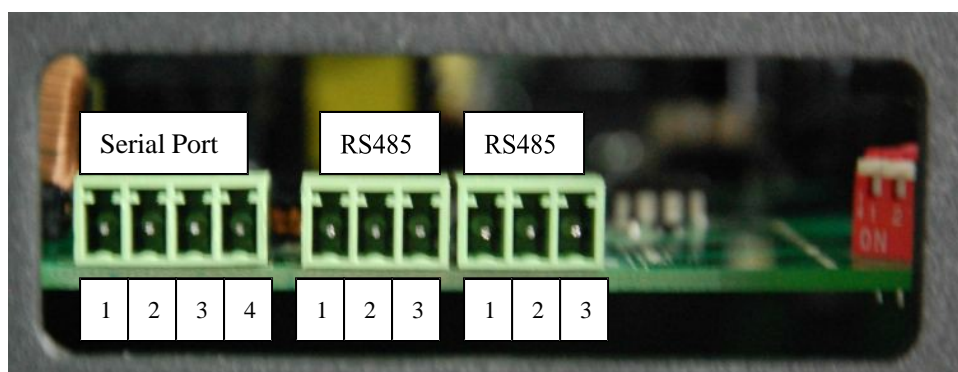


Figure 34 Communication Interface of Inverter GO Series Inverter

Table 12

3-line RS485 Wire No.	Function	Serial Port Wire No.	Function
1	A	1	VCC
2	B	2	RXD
3	GND	3	TXD
		4	GND

8.2.1 Connect the system by Serial Port/RS485 Adapter

User can use a Serial Port/RS485 to USB Adapter to connect the inverter and the PC, Please note that the inverter's serial port is TTL standard not RS232 standard. Using INVERTER GOData Explorer , the inverter's information can be checked on PC.

Take example of RS485 (**Figure 35**):

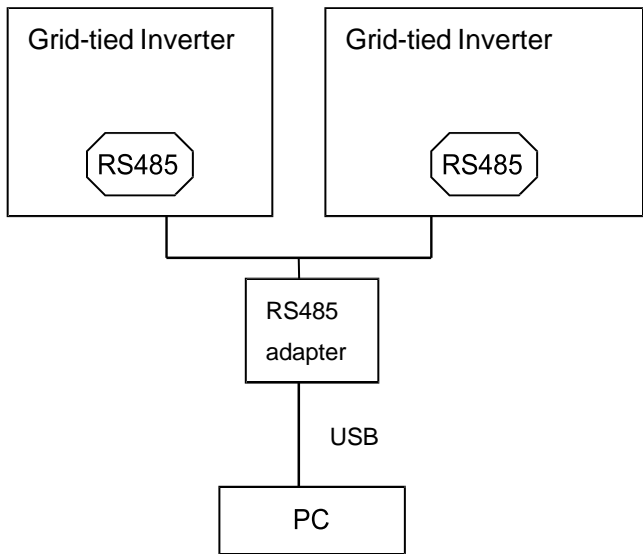


Figure 35

8.2.2 Webbox Communication (optional)

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

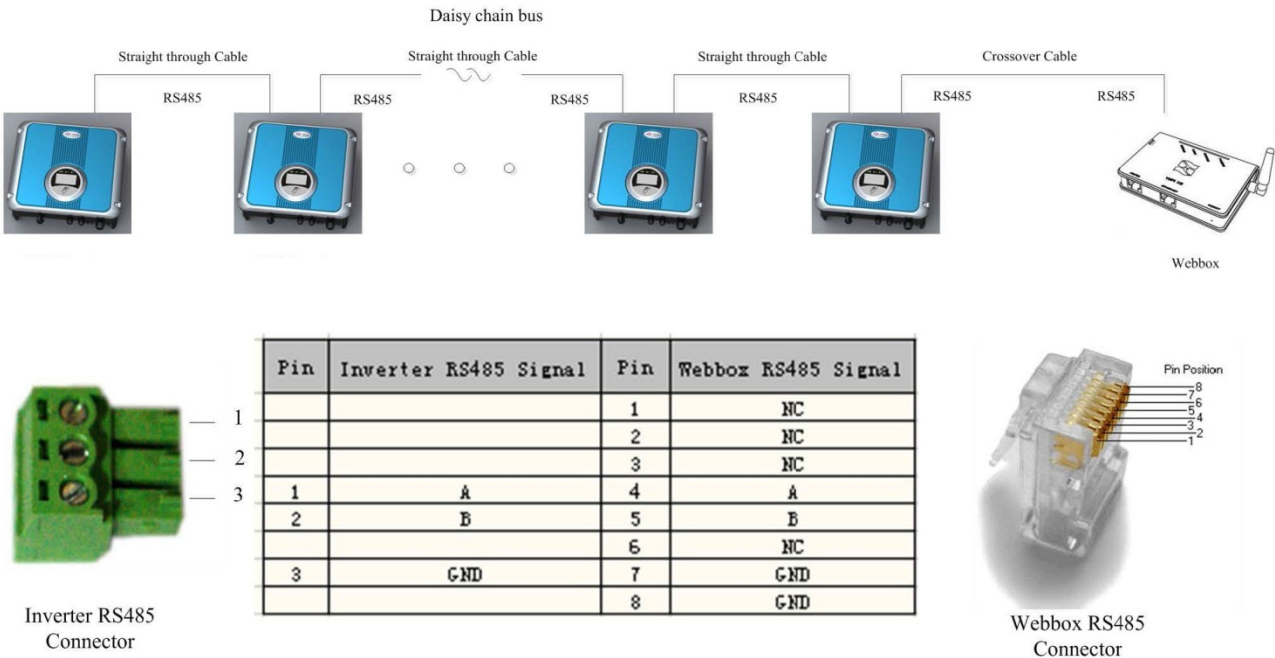
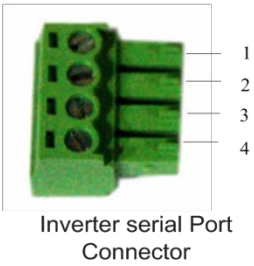


Figure 36 Inverter GO Web Box Monitoring Diagram

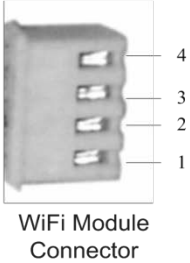
8.2.3 Embeded WiFi Communication (optional)

Embeded WiFi module is a hardware device can be inserted to inverter's serial port. Please refer to Inverter GO WiFi module Manual for more information.

Table 13



Pin ^①	Inverter serial Port Signal ^②	WiFi Module Signal ^③
1 ^④	VCC ^⑤	VCC ^⑥
2 ^④	RXD ^⑤	TXD ^⑥
3 ^④	TXD ^⑤	RXD ^⑥
4 ^④	GND ^⑤	GND ^⑥



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 close to or already >Max.DC voltage. -Please seek help from us when voltage \leq 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't go back to normal state.
*Self Testing Fault (IG3000-1 IG5000-1)	-Please check whether working in IN1 & IN2 P mode. - Check PV1,PV2 if there is no connection - Or please seek for help from us.

- 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 Inverter Go 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 -25 °C and +60 °C.
-13°F to +140°F.

10.4 Disposal

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

11 Warranty

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

Warranted Products

This warranty is applicable solely to the following products:

IG1000-1 IG2000-1 IG3000-1 IG4000-1 IG5000-1

Limited Product Warranty

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

Inverter Go warrants the above listed products to be free from defects and/or failure specified for a period not exceeding 6 years from the date of sale as shown in the roof of Purchase to the original purchaser.

12 Contact Inverter Go

If you have any questions about Inverter GO series inverter, please call service support hotline:
+1 (718) 577 1198

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.

Inverter Go
