Operating Manual

V2.0

Date	Version	Edited by	Audited by	Approved by
2012.08.21	V1.0	Sanjun Peng	Haihui Ou	Hengliu Chen
2013.05.20	V2.0	Sun Tang	Haihui Ou	Hengliu CHen

Directory

1. Introduction

Thank you for using JFY wireless monitor. It can monitor the working status of JFY grid-tied inverters. The monitor is composed of two major parts: the Receiver Unit and the Emitter Unit. The Emitter Unit is connected with the RS232 port of the inverter by fastening screws. The protection type of Emitter Unit is IP65. It can read the data of the inverter from RS232 port and then send the data via wireless. The Receiver Unit receives the data sent from Emitter Unit, saves and converts it, and displays the related information on LCD display. The Receiver Unit can connect with maximum 5 Emitter Units. You can get the information of different inverters by selecting different channels.

2. Device Layout

Figure 1

3. Installation

3.1 Connect the Emitter Unit to the RS232 port on the inverter by fastening screws. Please double check if the Emitter Unit is locked tightly or not as the sealability is important.

3.2 Remove battery cover of the Receiver Unit and fit up 3pcs **AAA (LR03) alkaline batteries**, it begins to work. Unfold the back holder and put it on your desk, or hang it on the wall by its hook.

Note:

- The battery should be alkaline. In general, solardog can work more than 1 year with 3pcs AAA (LR03) alkaline batteries. It is easy to buy the alkaline battery in supermarket, for example, the brand can be GP, Panasonic, DURACELL, VARTA etc.
- Please Note the Plus-n-Minus when fit up the batteries, please do it according to the marks.

4. Pre-connection

4.1.1 When the Emitter Unit is powered on, you must do the pre-connection within 10 minutes; you should remove the batteries of Receiver Unit, press and hold on the up button (▲), then, fit up the batteries. The LCD of Receiver Unit will show"- - -" icon (Figure 2), it means the pre-connection is processing. When the icon is displayed "- _ -" icon (figure 3), it shows that the pre-connection is completed.

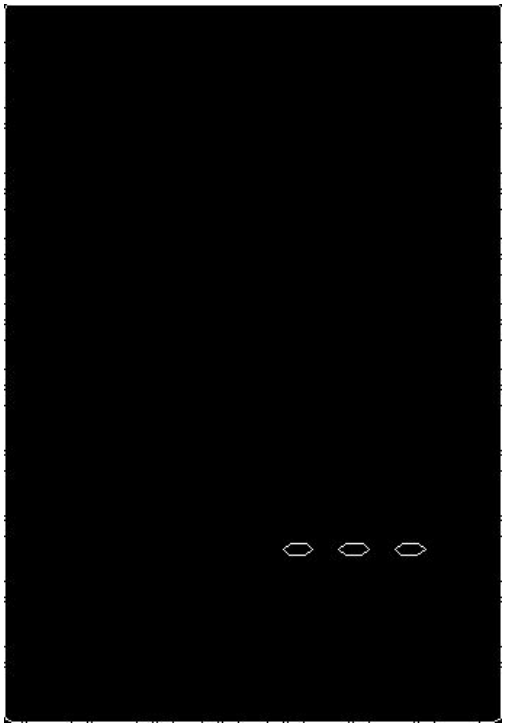

Figure 2

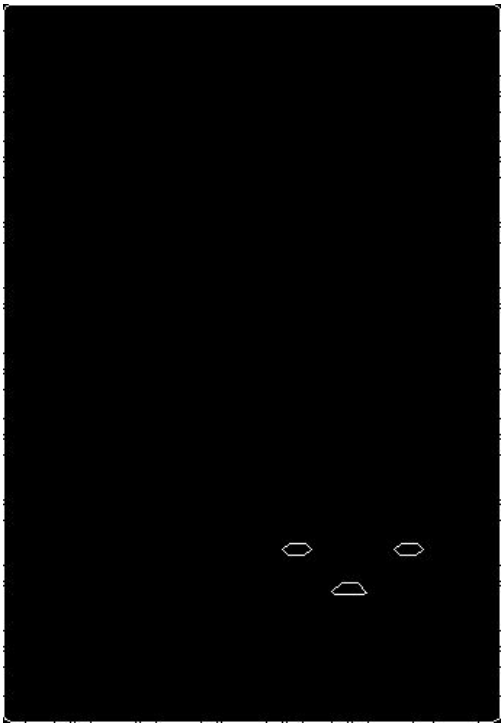

Figure 3

Note:

- Pre-connect the Receiver Unit to the Emitter Unit when use the monitor at the first time.
- When the Emitter Unit is powered on, you must do the pre-connection within 10 minutes. After this period, connection will NOT work.
- You can set the pre-connection between 1pcs Receiver Unit and up to 5pcs Emitter Units. Each Emitter Unit will be assigned to Channel 1, Channel 2….Channel 5 by turns.

5. Functions and Operating Instructions

5.1 The Receiver Unit

5.1.1 The display of Receiver Unit is shown in Figure 4

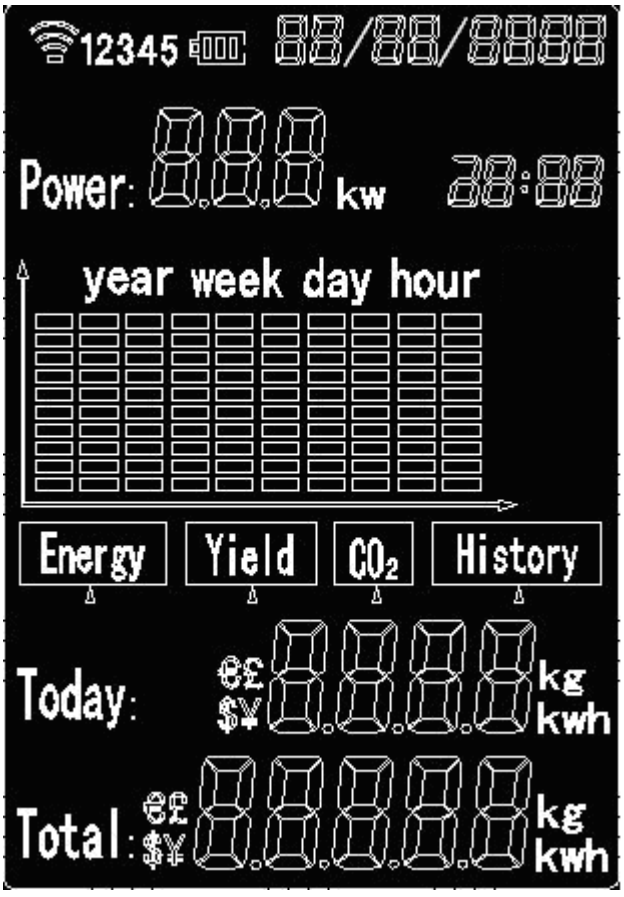

Figure 4

5.1.2 Time Setting: Press and hold the function button (■) for 5s, enter the time setting interface, and the position which can be set will flicker. Please set it by the up button (▲) or down button(▼), then, press the function button(■) to confirm it. The next position will start to flicker and need to be set in the same way.

5.1.3 Channel selecting function: Press the function (■) and up button (▲) at the same time, the interface for channels setting will show up. Choose the number of channels in 1, 2, 3, 4 or 5 or all the five channels “12345” then press the function button to

confirm and quit. You can monitor the operating informations of No.1 inverter, No.2 inverter….or all inverters by this way. If you only monitor 1pcs inverter, don't need the channels setting.

5.1.4 Rate setting function: Press the down button (▼) for 5s, then, press the up button (▲) or down button(▼) to switch between currency symbols(￥, $, £ and €) and function button(■) to confirm. Then set the rate. Press the function (■) and down button (▼), the interface for rate setting will show up as figure 4. Change the data by the up button (▲) or down button(▼), then, press the function button to confirm and quit. The rate means the price of each kwh that is produced by your PV system.

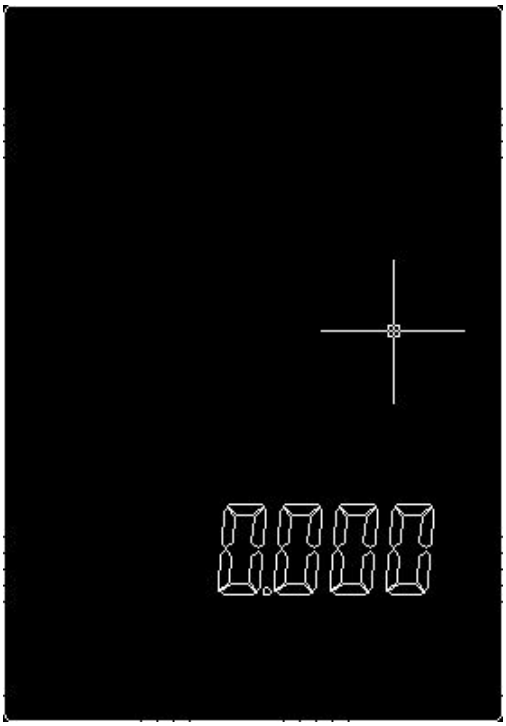

Figure 5

5.1.5 Auto-save function: The Receiver Unit respectively saves the data of last 48 hours, 30 days, 20 weeks and 10 years on hourly, daily, weekly and yearly intervals basis.

Press the function button (■) to switch between different display models (Energy, Yield, CO_2, History). You can switch to Energy to know how much energy is produced by the PV system (Figure 6), switch to Yield to know how much profit you get from PV system, switch to CO_2 to know the CO_2 mitigation information. By the way, a samll triangle ico will move and indicate the different display models when you press the function button (■).

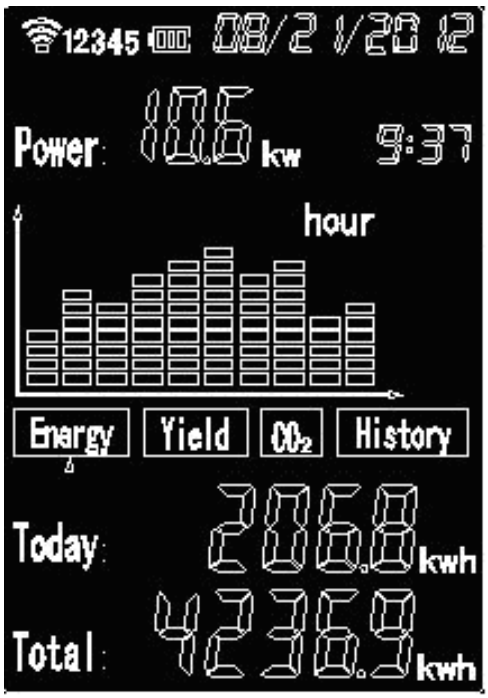

Figure 6

5.1.6 History Data Query function: Press the up button (▲) for 5s , press the up button (▲) or down button(▼) to choose the display way of data by hour, day, month and year, press function button(■) to confirm.

1) You can query the data in last 48 hours, please choose the display way of data by hour firstly. Then move the triangle icon to History by function button(■), then you press the up button (▲) or down button(▼) to query the hourly data in last 48 hours, Today: Ico will indicate the hourly output energy. Total: Ico will indicate the total energy during last 48 hours.

2) You can query the data in last 30 days, please choose the display way of data by day firstly. Then move the triangle icon to History by function button(■), then you press the up button (▲) or down button(▼) to query the daily data in last 30 days, Today: Ico will indicate the daily output energy. Total: Ico will indicate the total energy during last 30 days.

3) You can query the data in last 20 weeks, please choose the display way of data by week firstly. Then move the triangle icon to History by function button(■), then you press the up button (▲) or down button(▼) to query the weekly data in last 20 weeks. Today: Ico will indicate the weekly output energy. Total: Ico will indicate the total energy during 20 weeks.

4) You can query the data in last 10 years, please choose the display way of data by year firstly. Then move the triangle icon to History by function button(■), then you press the up button (▲) or down button(▼) to query the yearly data in last 10 years. Today: Ico will indicate the yearly output energy. Total: Ico will indicate the total energy during 10 years.

Figure 7 shows the query result of the data in last 48 hours according to “Hour” interval:

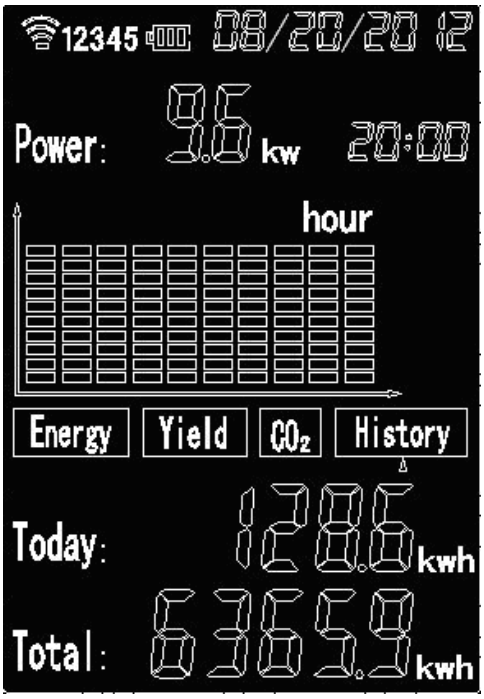

Figure 7

5.1.7 Backlight function: Press the up button (▲) and down button(▼) at the same time, turn on the backlight. It will automatically turns off in 1 minute.

5.1.8 Error alarm function: If the PV system has any problem, the error code will be shown on the display, the Error code and the related error information are shown in the Error information table. As to the isolation problem(also named earth faulty error), the warning buzzer will buzz every 10 minutes. The Receiver Unit will display the “ERR 01” like Figure 8.

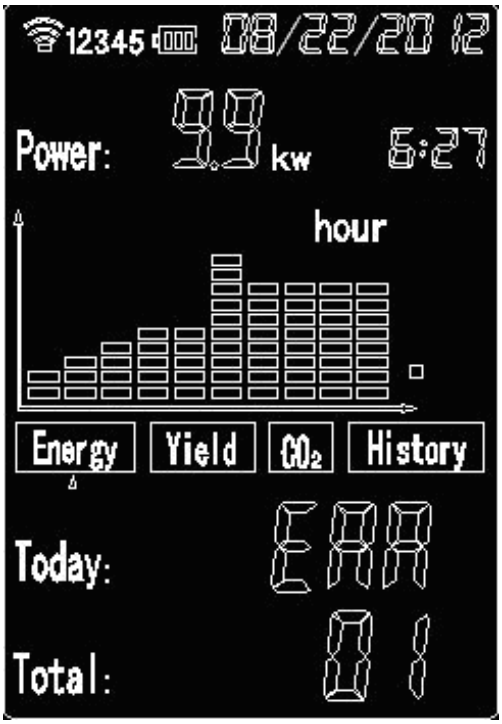

Figure 8

Error Information Table

Error Code	Error Information	Fault Analysis
E01	Isolation error (also named earth faulty)	Insulation Problem of PV panel
E02	lleak error	GFCI Fault,leakage current is too high
E03	Grid fault	Grid voltage is out of range
E04	Coherence error	Consistent Fault
E05	Over temperature	Internal temperature abnormal
E06	Relay failure	Output relay Fault
E07	Dcinj failure	Output Current DC Offset too high
E08	EEPROM failure	EEPROM Fault
E09	Com failure	Communication Fault
E10	DC bus OV	DC Bus over-voltage
E11	DC bus UV	DC Bus under-voltage
E12	Vref error	2.5V Reference Voltage Fault
E13	DC sensor fault	DC current sensor fault
E14	GFCI failure	GFCI Device is damaged

5.1.9 ID clear function. Remove the batteries, press and hold on the down button(▼) button and fit up the batteries, and then enter into the clear interface. When the display shown as Figure 9, it means clear ID completed. This fuction will be used if you want to cancel the pre-connection between the Receiver Unit and the Emitter Unit.

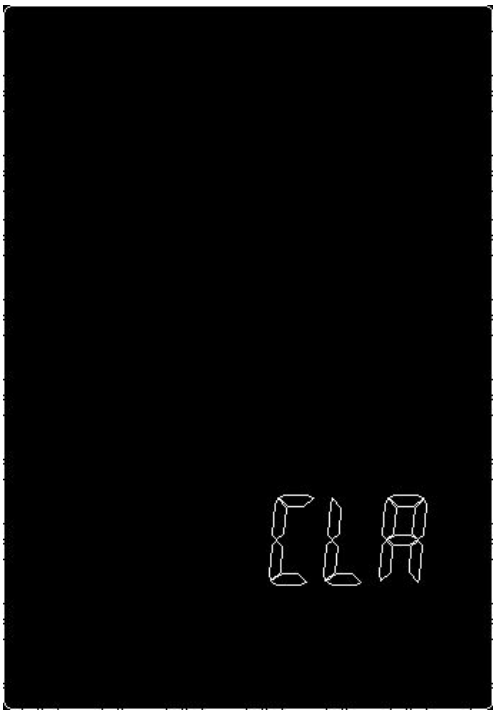

Figure 9

5.1.10 Data Clear Function.

Remove the batteries, press and hold on the function button(■), fit up the batteries, and then it begins to clear the data. When the interface turns to the main interface, it means the data clearing is completed. It needs to wait for about 5 minutes. Generally ,we **do NOT recommend** users to use this function.

5.1.11 Low Battery Alarm Function.

If the battery's capacity is not enough, LCD will flash besides low battery's symbol will display.

6. Datasheet

6.1 Parameter of Receiver Unit

Item	Specification
Power Supply	4.5V (3 pcs batteries)
Communication Distance	120 M
Memory Space	128K
Wireless Carrier Frequency	433M
Maximum monitored inverter	5pcs
Error Alarms	LCD Display & Warning buzzer
Currency	￥、£、$、€
IP protection type	IP20
Operating Temperature Range	0℃to 50℃
Operating Humidity Range	<85%

6.2 Parameter of Emitter Unit

Item	Specification
Power Supply	RS232 port on Inverter
Communication Distance	120M
Memory Space	2K
Wireless Carrier Frequency	433M
IP protection typ	IP65
Operating Temperature Range	-20℃ to 50℃
Operating Humidity Range	<98%

7. Company Information

Company: Shenzhen JingFuYuan Tech.Co., LTD.
Website: http://www.jfy-tech.com
Tel: 0086 755 266 32536
Address: 12th Block, Nangang Second Industrial Park, SongBai Road, XiliTown, Nanshan District, Shenzhen, P.R.,China