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SOFAR SOLAR

SOFAR COMMUNICATION
(GPS Sector)

SOFAR PROPERTY
(Industry Park)

SOFAR TRADING
(Electronics Trading)

Group
Business
Structure

SOFAR HOTEL

SOFAR SOLAR
(Inverter)

NEW ENERGY AUTOMOBILE
(Supercharger)
PURE ELECTRIC CAR RANGE EXTENDER

SOFARSOLAR

Headquarters
Shenzhen, China

One sales center
Wuxi, China

Two factories
Dongguan-Shenzhen China
Xinyang · China

>10 branch offices

>400 employees
100 R&D engineers

5,00,000+ inverters, 5GW

10 GW/year

United Kingdom
Germany
Italy
Netherlands

India

China
Headquarters
Sales center
Factory

Australia

SOFARSOLAR Worldwide

SOFARSOLAR in India

Head Quarter & Warehouse
[Ahmedabad]

Service Team available
[New Delhi]
[Mumbai]
[Bangalore]

CONTENTS

SOFAR
SOLAR

— **SOFARSOLAR** Inverters —

Single Phase
Inverters

Three Phase
Inverters

Hybrid
Inverters

Storage
Battery

1.1KTL-G3
~
3.3KTL-G3

3KTLM-G2
~
6KTLM-G2

4.4KTL-X
~
12KTL-X

10KW G2-
15KW G2

20000TL-G2
~
33000TL-G2

30000TL
~
40000TL

50000TL
~
70000TL

HYD-3000-ES
~
HYD-6000-ES

AMASS
Storage
Battery

Item	Model	Application
1	1kW~3kW_G3	Single phases for residential building
3	3kW~6kW_G2	
4	4kW~12kW	Three phase for industrial/commercial building
5	10kW~15kW_G2	
6	20kW-33kW G2	
7	30kW~40kW	Three phase for commercial projects
8	50kW~70kW	
9	HYD 3000-6000ES	Single phase for home hybrid

Five intelligent power management

– Both reactive power and power factor are adjustable for different grids
– Using LVRT (low voltage ride through)
– Management of power de-rating when the unit has an over-frequency situation
– Real time MPPT algorithm
– Over temperature derating

Built-In six protection functions

– Over voltage, Under-voltage protection
– Over frequency, Under-frequency
– Over current, Over load
– Anti-islanding, Current leakage
– Over Temperature Protection
– SPD Type III, Type II (optional)

Seven humanized functions

– Audible & visible alarming function
– Remote system connection or disconnection
– Remote firmware upgrade
– Remote monitoring
– Remote self fault-checking
– Separated design for up & above casing
– Diversified monitoring model and communication

Features for Three Phase Product

CONTENTS

Datasheet	SOFAR 1100TL-G3	SOFAR 1600TL-G3	SOFAR 2200TL-G3	SOFAR 2700TL-G3	SOFAR 3000TL-G3	SOFAR 3300TL-G3
Input (DC)						
Recommended Max. PV input power	1500Wp	2200Wp	3000Wp	3700Wp	4100Wp	4500Wp
Max. Input voltage	500V	500V	500V	550V	550V	550V
Start-up voltage	70V					
Rated input voltage	360V					
MPPT operating voltage range	50-500V	50-500V	50-500V	50-550V	50-550V	50-550V
Full power MPPT voltage range	110-450V	150-450V	200-450V	250-500V	275-500V	300-500V
Max. Input current MPPT	12A					
Maxnimun DC input short circuit current per MPPT	15A					
Number of MPPT/ String per MPPT	1/1					
Input terminal type	MC4/H4					
Output (AC)						
Rated power	1100W	1600W	2200W	2700W	3000W	3300W
Max. AC power	1100VA	1600VA	2200VA	2700VA	3000VA	3300VA
Rated Output current	4.8A	7A	9.6A	11.8A	13A	14.3A
Max. Output current	5.3A	7.7A	10.6A	13A	14.5A	16A
Nominal grid voltage	L/N/PE, 220Vac, 230Vac, 240Vac					
Grid voltage range	180Vac-276Vac (According to local standard)					
Nominal frequency	50Hz/60Hz					
Grid frequency range	45~55Hz/54~66Hz (According to local standard)					
THDi	<3%					
Power factor	1default (adjustable+/-0. 8)					

3 rd Generation Inverter for Rooftop application

❖ Now in order to meet the demand of the market and give the customer a better experience, SOFARSOLAR launched the third generation of single phase inverter to the global market.

❖ **SOFARSOLAR G3** is an ultra-small residential solar inverter which is specifically designed to bring comfort and quiet operation as well as high efficiency to households.

❖ Its capacity ranges from 1.1kW to 3.3kW and its most outstanding characteristic is its light weight, which is only 5.5kg that can help installer to reduce the install time and improve work efficiency.

❖ Finally, the G3 inverter with rich communication ports, such as WIFI/GPRS/Ethernet/RS485/USB can be selected flexibly to realize Intelligent control, which help user keeping track of the operation of the power station at any time by download the **SOLARMAN APP.**

Datasheet	SOFAR 3KTLM-G2	SOFAR 3.6KTLM-G2	SOFAR 4KTLM-G2	SOFAR 4.6KTLM-G2	SOFAR 5KTLM-G2	SOFAR 6KTLM-G2	SOFAR 7.5KTLM
Input (DC)							
Recommended Max. PV input power	3990Wp	4790Wp	5320Wp	6120Wp	6650Wp	7980Wp	9980Wp
Max DC power for single MPPT	3500W	3500W	3500W	3500W	3500W	3500W	2*2750W/ 2750W
Number of MPP trackers				2			
Number of DC inputs				1/1			2/1
Max. Input voltage				600V			
Start-up voltage				120V			
Rated input voltage				360V			
MPPT operating voltage range				90-580V			
Full power MPPT voltage range	160V-520V	180V-520V	200V-520V	230V-520V	250V-520V	300V-520V	250V-520V
Max. Input current per MPPT				11A/11A			22A/11A
Maxnimun DC input short circuit current per MPPT				13.2A			26.4/13.2A
Output (AC)							
Rated power	3000W	3680W	4000W	4600W	5000W	6000W	7500W
Max. AC power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA	7500VA
Max. Output current	13.7A	16.8A	18.2A	21A	22.8A	27.3A	32.6A
Nominal grid voltage			L/N/PE, 220Vac, 230Vac, 240Vac				
Grid voltage range			180Vac-276Vac (According to local standard)				
Nominal frequency			50Hz/60Hz				
Grid frequency range			45Hz-55Hz/54Hz-66Hz (According to local standard)				
Active power adjustable range			0~100%				
THDi			<3%				
Power factor			1default (adjustable+/-0. 8)				
Power limit export			Zero export or adjustable power limit export				

Operation and Display Panel

• Buttons and Indicator lights

Button:

Long press the button to enter the next menu or confirm the selection
Short press the button to achieve the next page turning function
Turn down the loop once to exit

Indicator Lights:
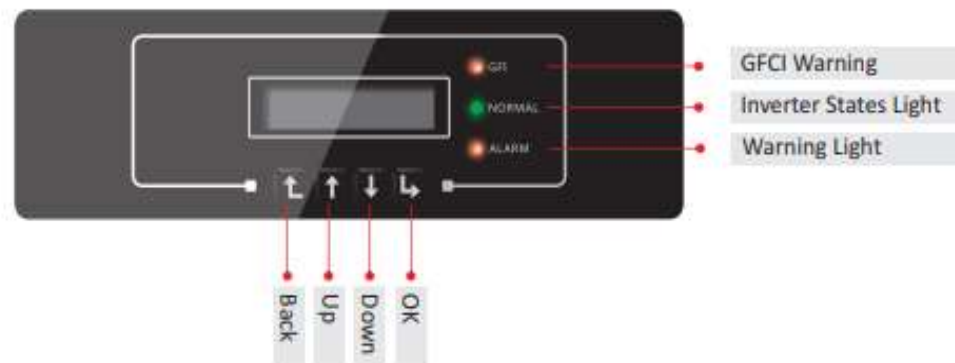
RUN (Green)
ON: " Normal " state
Flash: " Wait " or " Check "state

FAULT (Red)
ON: " Fault " or " Permanent "state

Operation and Display Panel

• Buttons and Indicator lights

GFCI Warning
Inverter States Light
Warning Light

Back Up Down OK

Key-button:

• Back ⤺: to return to previous menu or enter into main menu from the standard interface.

• Up ⇧ : to move up or increase value

• Down ⬇ : to move down or decrease value

• OK ⤶: to confirm selection

Indicator Lights:

• Inverter States Light(GREEN)
　Flashing: 'Wait' or 'Check' state
　ON: 'Normal' state
　OFF: 'Fault' or 'Permanent' state

• Warning Light (RED)
　ON: 'Fault' or 'Permanent' state
　OFF: 'Normal' state

• GFCI Warning Light (RED)
　ON: 'ID12: GFCIFault' or 'ID20: GFCIDeviceFault'

GFI — GFCI Warning

NORMAL — Inverter States Light

ALARM — Warning Light

Back | Up | Down | OK
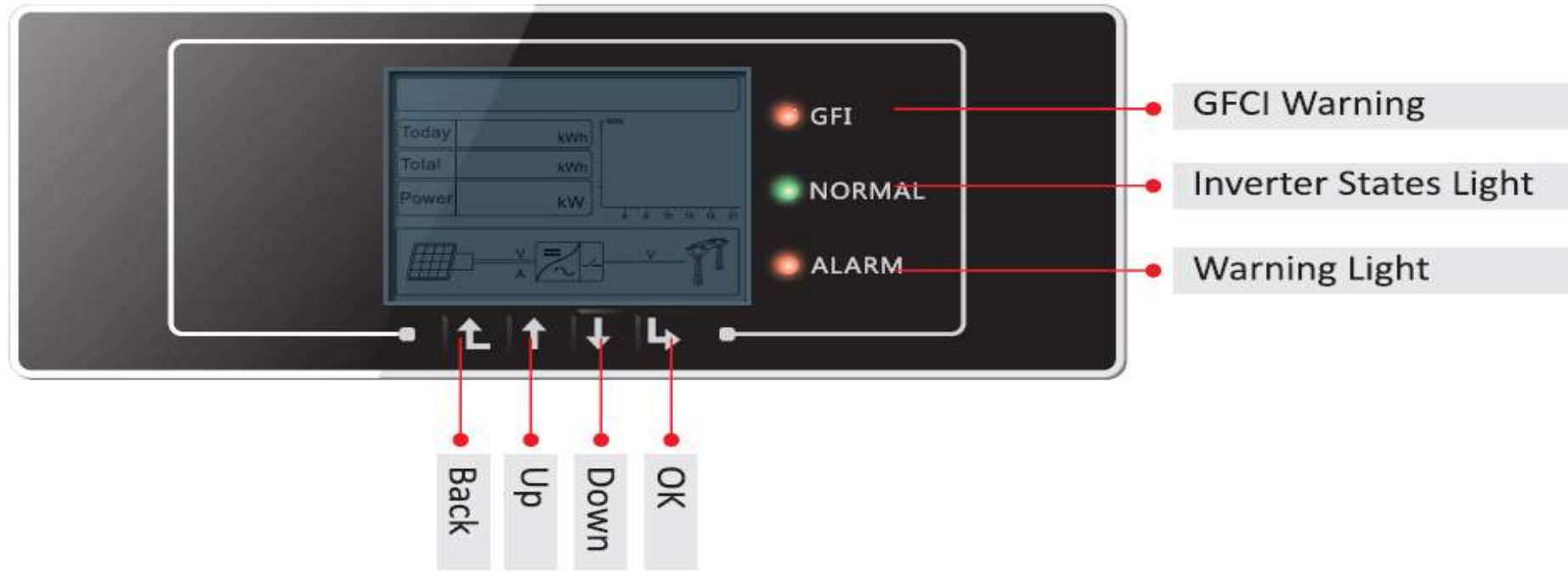
Key-button:

- Back ⬑ : to return or enter into main interface at standard interface states

- Up ⇧ : to move up or increase value

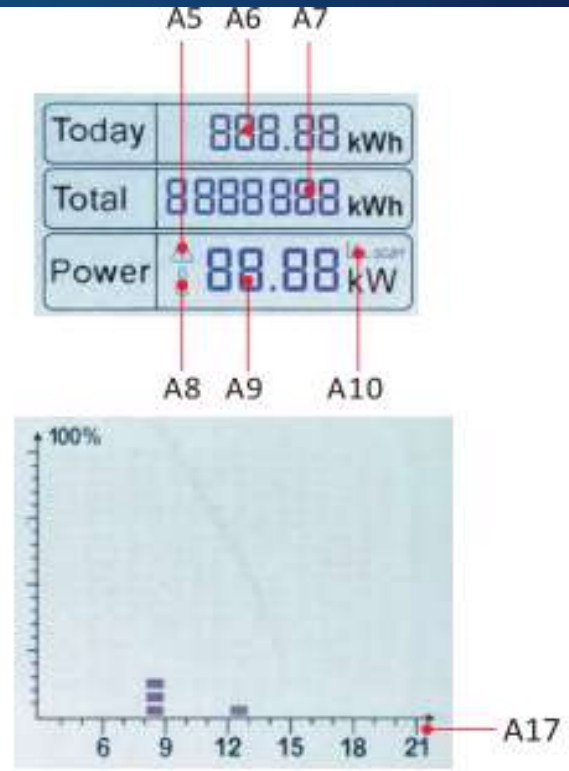- Down ⇩ : to move down or decrease value

- OK ⬐ : to confirm selection

A11 - Light ON when input voltage over 160V

A12 - Indicates real time input voltage and current channel

A13 - Indicates the input voltage and current of phase 1&2 and displays in turns in every three seconds

A14 - Light ON when the state is normal

A15 - Indicates R/T/S phase voltage and displays in turns in every three seconds

A16 - Indicates R/T/S phase current or frequency and displays in turns in every three seconds

A17 - Indicates the energy from 3:00am-21:00pm in the day
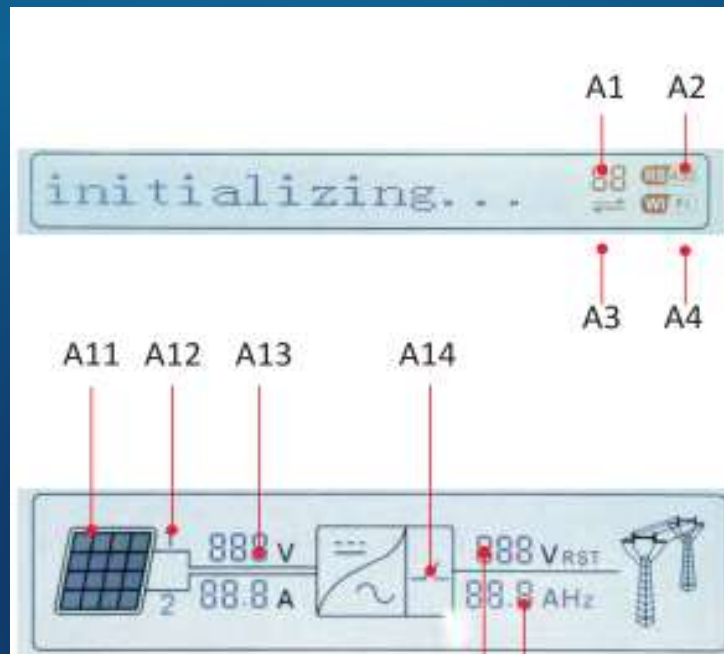
A1 - Indicates modbus communication address.

A2 - RS485 communicating

A3 - Light ON for RS485 communicating

A4 - WIFI communicating

A5 - Light flashes to warn over frequency and power derating. Light ON to warn remote off

A6 - Indicates today's energy

A7 - Indicates the total energy

A8 - Light ON warning for inverter high temperature

A9 - Indicates real time output power

A10 - MPPT SCAN function is activated (not available)

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Enter Setting –This Option is used for changes your parameters.

System Info – This Option is used to check which parameters you set.

Software Update – This Option used for Software update only.

1) SET TIME AND DATE:

Enter Setting – Input Password – use 0001 – Set date – Set time in 24hr format.

2) SET COUNTRY CODE: (22 Country code – OV1 =283V and LV1 = 150V)

Switch Off the AC Supply of Inverter from ACDB
Enter setting ----Set country potion-----Input Password----0001-----Then Set 22 -----Success.
Switch off DC supply to turn off the Inverter. Keep the Inverter in OFF condition for 5 minutes.
Switch on DC supply , display of inverter is ON and then turn on AC supply. Inverter will work on NORMAL condition.

ENSET COUNTRY
If Set country option shows disable then go to the **Enset country option**----If password ask--- enter 0001----- Enable ---success.
Enter setting ----Set country potion-----Input Password----0001-----Then Set 22 -----Success.
Switch off DC supply to turn off the Inverter. Keep the Inverter in OFF condition for 5 minutes.
Switch on DC supply , display of inverter is ON and then turn on AC supply. Inverter will work on NORMAL condition.

3) SET INPUT MODE: (INDEPENDENT OR PARELLEL)
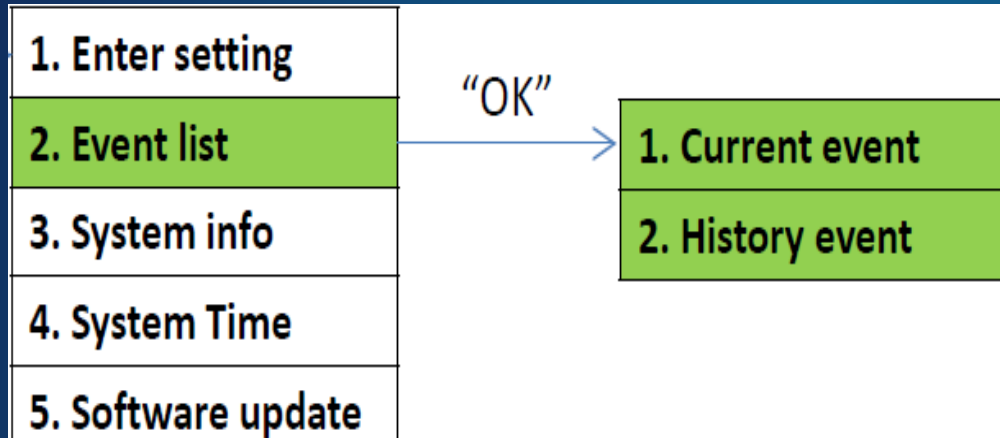
Switch Off the AC Supply of Inverter from ACDB
Enter Setting----Input mode ---- If password ask----enter 0001---Set Independent or Parellel mode -------
Success .
Switch off DC supply to turn off the Inverter. Keep the Inverter in OFF condition for 5 minutes.
Switch on DC supply , display of inverter is ON and then turn on AC supply. Inverter will work on NORMAL
condition.

| 1. Enter setting |
| 2. Event list |
| 3. System info |
| 4. System Time |
| 5. Software update |

"OK" →
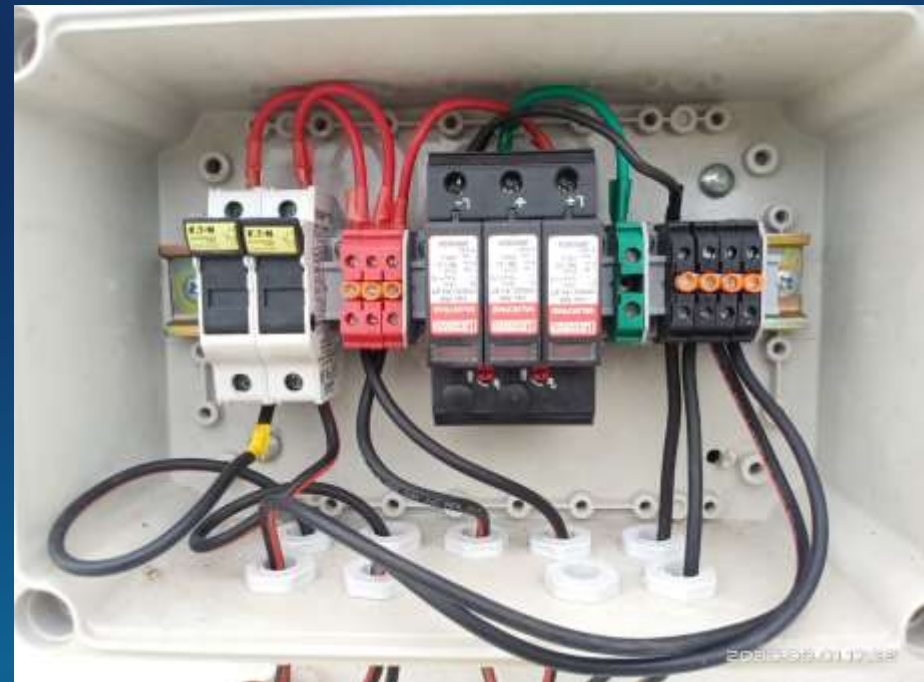
| 1. Current event |
| 2. History event |

2.1.Current Event: Display current error information
2.2.History Event: Display history error information, maximum 100 items
3.SystemInfo: Display inverter information

3.SystemInfo

1. Inverter Type
2. Serial Number
3. SoftVersion
4. HardVersion
5. Country
6. Input Mode
7. Relay Command
8. Power Factor
9. P(f)
10. Q(v)

System Info Option used for Read all parameters which you set for the Inverter.

- Country code

- Input mode

- Inverter ratings

- Inbuilt Software version

- Safety Parameters (Over voltage and Under voltage Limit) as per Country code

04 Software Update Process

Steps:

1. Copy firmware folder to Memory card/USB and connect to inverter
2. Turn OFF AC supply.
3. Choose "Software Update" option
4. Use password 0715 to update , it takes around 5 minutes
5. Turn off/on the inverter

Notes:

1. AC should be off during the updating.
2. "firmware" file folder must be copy in SD card.
3. Can not change the file folder name.
4. In G3 Series use USB for Firmware update and For G2 Series use Memory card.
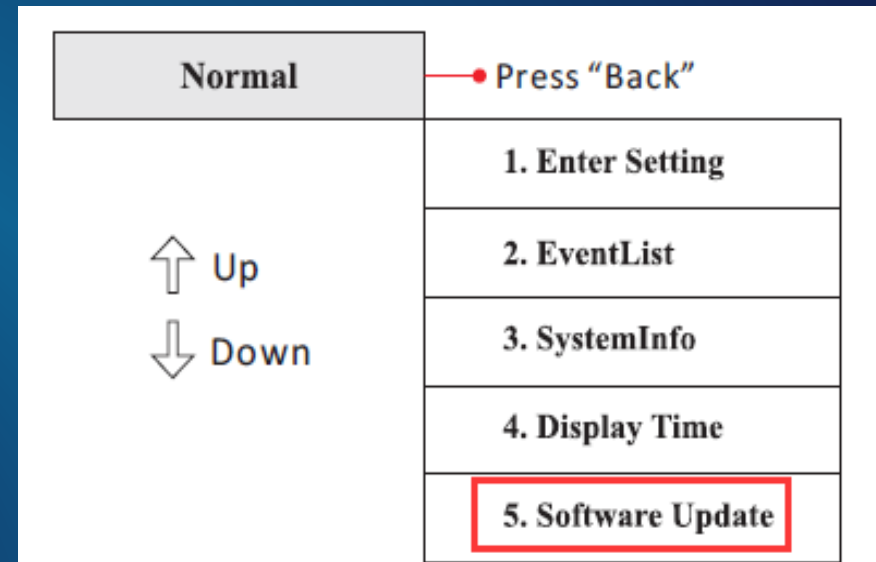
CONTENTS

SOFAR SOLAR

DISPLAY OFF

INVERTER'S DISPLAY NOT TURN ON:
- Chances of Reverse Polarity

Solution:

❖ Turn off AC and DC.

❖ Check DCDB side wiring from Panel and IN/OUT of MCB.

❖ Remove Strings from inverter and Check voltage at Strings with Multimeter.

❖ After check Polarity, Verify tightness of + / - Cables of MC4 connectors.

SWITCH ON DISPLAY AND FOUND LANGUAGE IS CHINESE:

Solution:

❖Switch on inverter by only DC supply.

❖Take images of Time - Date set in the Inverter, Serial number of Inverter. All these images need to change Language by use of Special **PASSWORD**.

❖ Enter setting – language Change – Use Special password – Change language in English.

Grid voltage/frequency is too High:

Grid Voltage exceeds the safety value
1. Just a sudden vibration on the grid
2. Inverter is far from on-grid point

Solution:

1.The inverter will become normal automatically after grids voltage becomes normal
2. Locate the inverter near the on-grid point and use thicker cable.
3. If the regular voltage is high indeed , change the country code after checking with the grid operator. (**Country Code 22**: Europe General supports 283V).

PV isolation fault(ID56), bus voltage problem ID27:

The cable , connector , panel has short-circuit with ground
Cable Insulation break and short with DC side Earth.

Solution:

Turn off AC and DC
Check the isolation resistance of each string, at least 2M ohms
Check +DC and –DC string voltage w.r.t DC earth. (It should be ideally half of DC voltage)

05 GFCI FAULT

AC ground fault :
The AC side has leakage current to ground

Solution:

Turn off AC and DC.
Check AC cable to see if there is short-circuit with ground,
Check If the PE cable(yellow-green, 4mm Cu) is connect correctly
Check N-E voltage (Ideally <5V).

GFI LED is ON
There is buzzer sound

HELPFUL POINTS FOR TROUBLESHOOT THE PROBLEM

1. MODEL and SR.NO identification Photo.
2. Image reference of ALARM on Display. (Keep Back Light ON)
3. Fault occurring 15 seconds video for reference.
4. WI-FI/GPRS username and password if used.
5. SD CARD data in ZIP file. (KTL-X Series)
6. DCDB and ACDB photos if required.
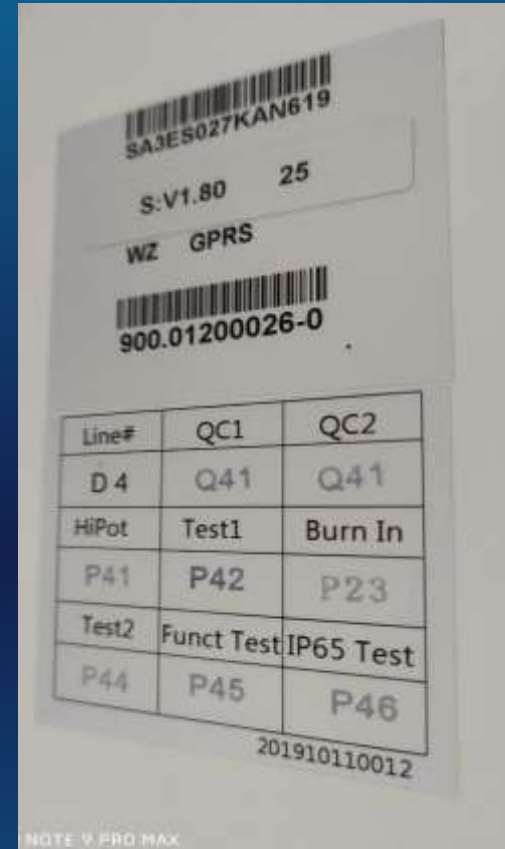
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SOFAR
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SOLARMAN Monitoring Platform

- Flexible customization of various display screens.

- Unified management of different plant types, including residential, industrial and commercial, ground power station, etc.

- View the fleets based on areas.

- List the major KPIs in a clear way.

- Comprehensive information management.

- Flexible setting on energy generation, energy consumption, energy storage system.

- Charts, alerts, tickets and events.

- Support different types of alarms, reports and data analysis

solarman
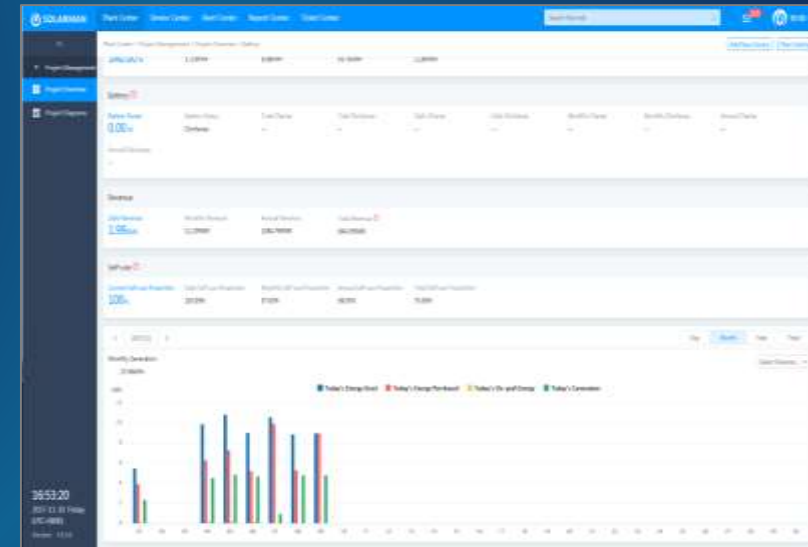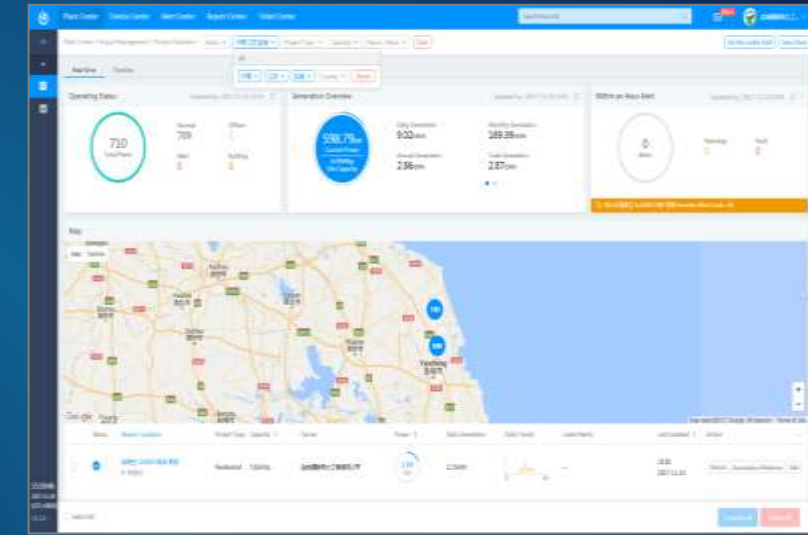
solarmanPro

Monitor System

Residential System Monitoring

Panel Array → Inverter + WIFI kit → Data logger → Router → Internet

Commercial System Monitoring

Panel Array → Inverter | RS485 | RS485 | RA485 → Data logger → Router → Internet

Monitor System

Offline Plant

Device ...Name / SN	Brand	Communicati... Signal Strength	Valid until	Connected Device (...	Last Update ...	Operation
⊗ Data Logger 1730546801	Solarman	-- 📶 Updated 08:05 20...	--	0/ 0/ 0	11:47 2020-07-03	Delete

Online Plant

Inverter Logger						Configuration Method ⊕
Device ...Name / SN	Brand	Communicati... Signal Strength	Valid until	Connected Device (...	Last Update ...	Operation
✔ Data Logger 1822903084	Solarman	GPRS 📶 Vodafone - Gujarat Updated 09:29 20...	--	1/ 0/ 0	09:29 2020-10-01	Delete

Solarman Registration Link: - https://home.solarman.cn/login.html

Monitor System

CONTENTS

Service System

Customer

Satisfaction

Pre-sales Support
- Technical consulting
- System design
- Product Training

On-sales Support
- System design optimization
- Logistics
- On-time delivery

After-sales Support
- Free Software Upgrade
- Replacement
- Warranty Extension
- On-site Service

Service Concept

Dissatisfaction

Satisfaction

Exchange pool

Repair Center
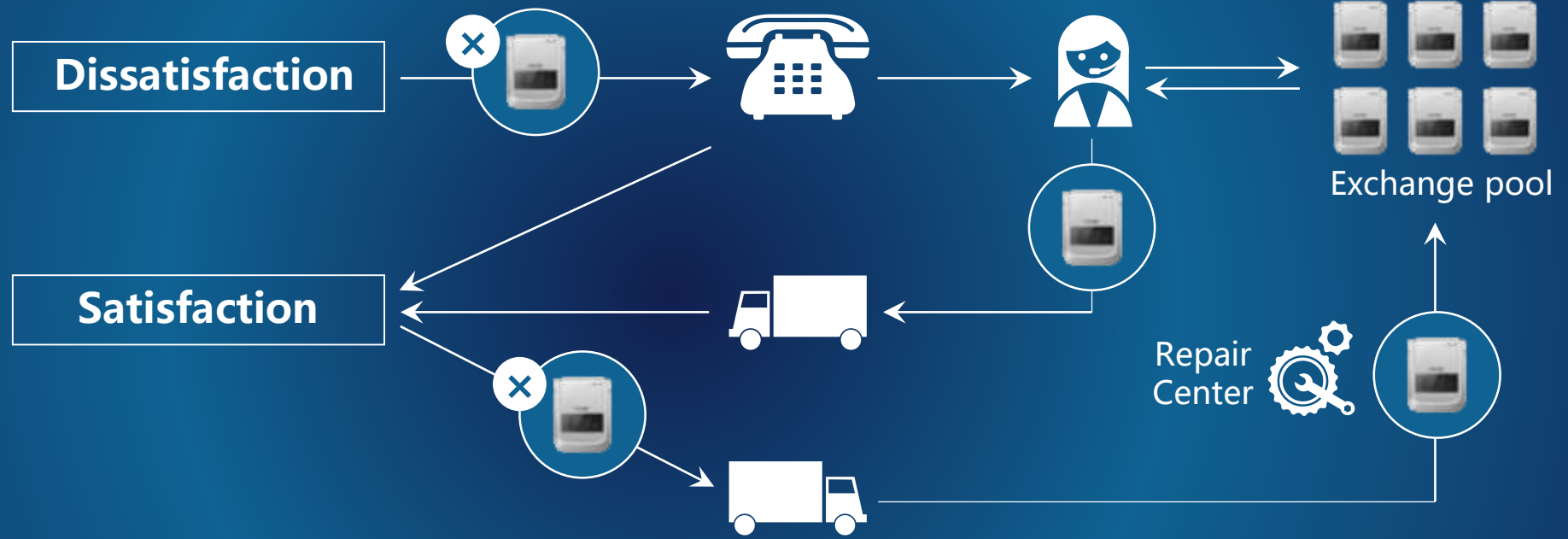
Service methods

Inverter Replacement

Inverter Maintenance

On-site service

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SOFAR
SOLAR

SKY PROJECT - GUJARAT

The Gujarat government launched a solar power scheme for farmers- Suryashakti Kisan Yojana (SKY) enabling them to generate electricity for their captive consumption as well as sell the surplus power to the grid and earn an extra buck.

SOFARSOLAR is currently installing more than 28MW covering whole Gujarat Region.

These project demanding very high quality and flexible adaptability for various grid situations and outstanding efficiency in extreme weather condition. SOFAR 4.4KW – 70KW models are using with RS-485 communication.

Why to choose SOFAR SOLAR ?

- Top 3 On Grid solar inverter for residential market in China

- Top 5 String inverter manufacturer in China

- Specialized in On grid string inverter since 2012, with wide range from 1KW to 70KW.

- Wider MPPT Range, External inductor to lower temperature

- All types of Inverter have leakage current detection components

- Zero export for Single phase and Anti Reverse Power Controller for Three phase inverters

- Local data is recorded in SD card for 25 years.

- IV curve Shadow scanning for Panel

- Go through anti- corrosion and anti –rust protection processes

- **Have all IEC certificates and BIS certified products.**

SOFARSOLAR ACHIEVEMENTS

THANKS

SOFAR SOLAR

UNIQUE SUN POWER

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info@uniquesunpower.com | www.uniquesunpower.com