



Shenzhen SOFARSOLAR Co., Ltd.

HYD Series Energy Storage Inverter

Store your way to independence !

Aug 2018

Outline

- ◆ [Demands](#)
- ◆ [Datasheet](#)
- ◆ [Overview](#)
- ◆ [Topology](#)
- ◆ [Distribution](#)
- ◆ [Diagram](#)
- ◆ [Work mode](#)
- ◆ [Advantage](#)

Demands

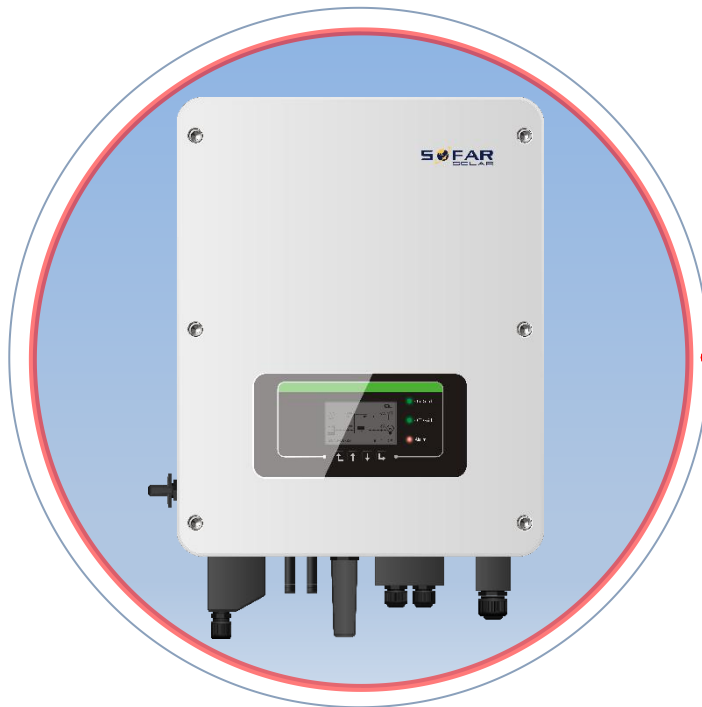
If you are or you are facing :

- Rising energy price costs;
- Reducing energy price subsidy;
- Want to own local emergency power supply system;
- Your spare energy forbid to feed into grid;
- Want to increase the self-consumption of energy;
- An environmentalist;
- An electronic enthusiast;

.....

Now we are here!

What's hybrid inverter?



Hybrid inverter



PV inverter



AC charger

Datasheet

»» HYD 3000-ES / HYD 4000-ES / HYD 5000-ES / HYD 6000-ES

Technical Data

HYD 3000-ES

HYD 4000-ES

HYD 5000-ES

HYD 6000-ES

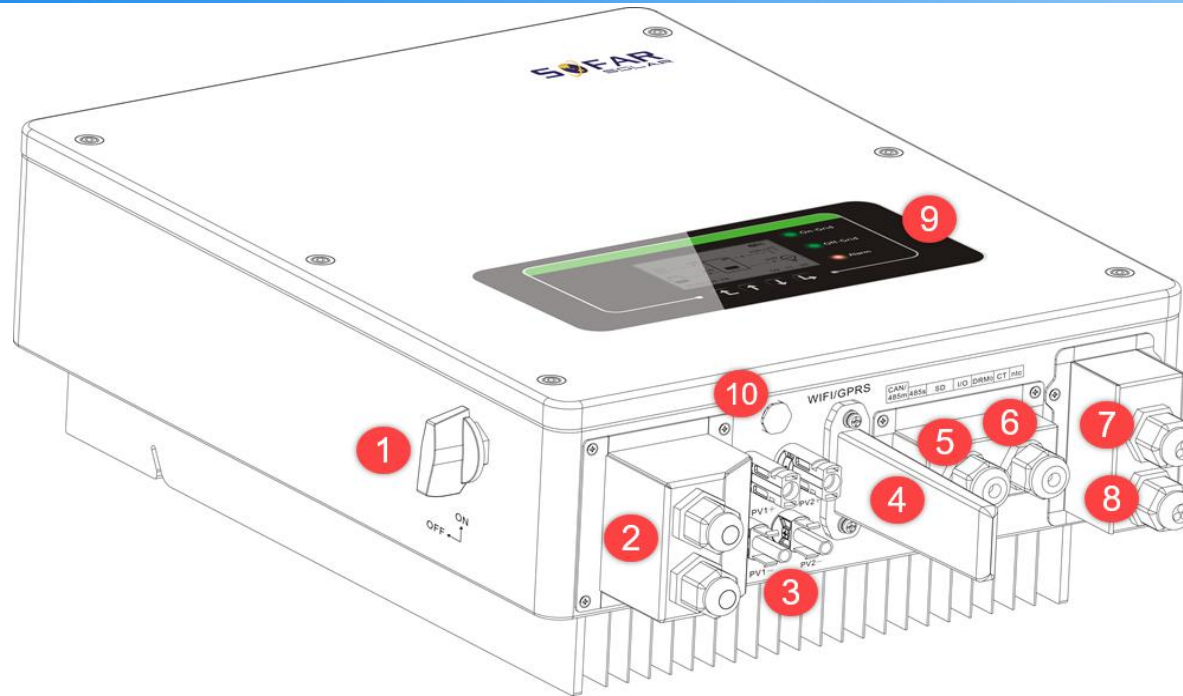
Battery Parameters

Battery Type	Lithium-ion, Lead-acid			
Nominal battery Voltage	48V			
Battery voltage range	42-58V			
Battery Capacity	50-2000AH			
Maximum Charging /Discharging Power	3000W			
Maximum Charging Current	60A (programmable)			
Maximum Discharging Current	60A (programmable)			
Charging curve(Lithium-ion)	BMS			
Charging curve(Lead-acid)	3-stage adaptive with maintenance			
Depth of discharge	Lithium-ion:0-90% DOD adjustable Lead-acid:0-50% DOD adjustable			

Input DC(PV side)

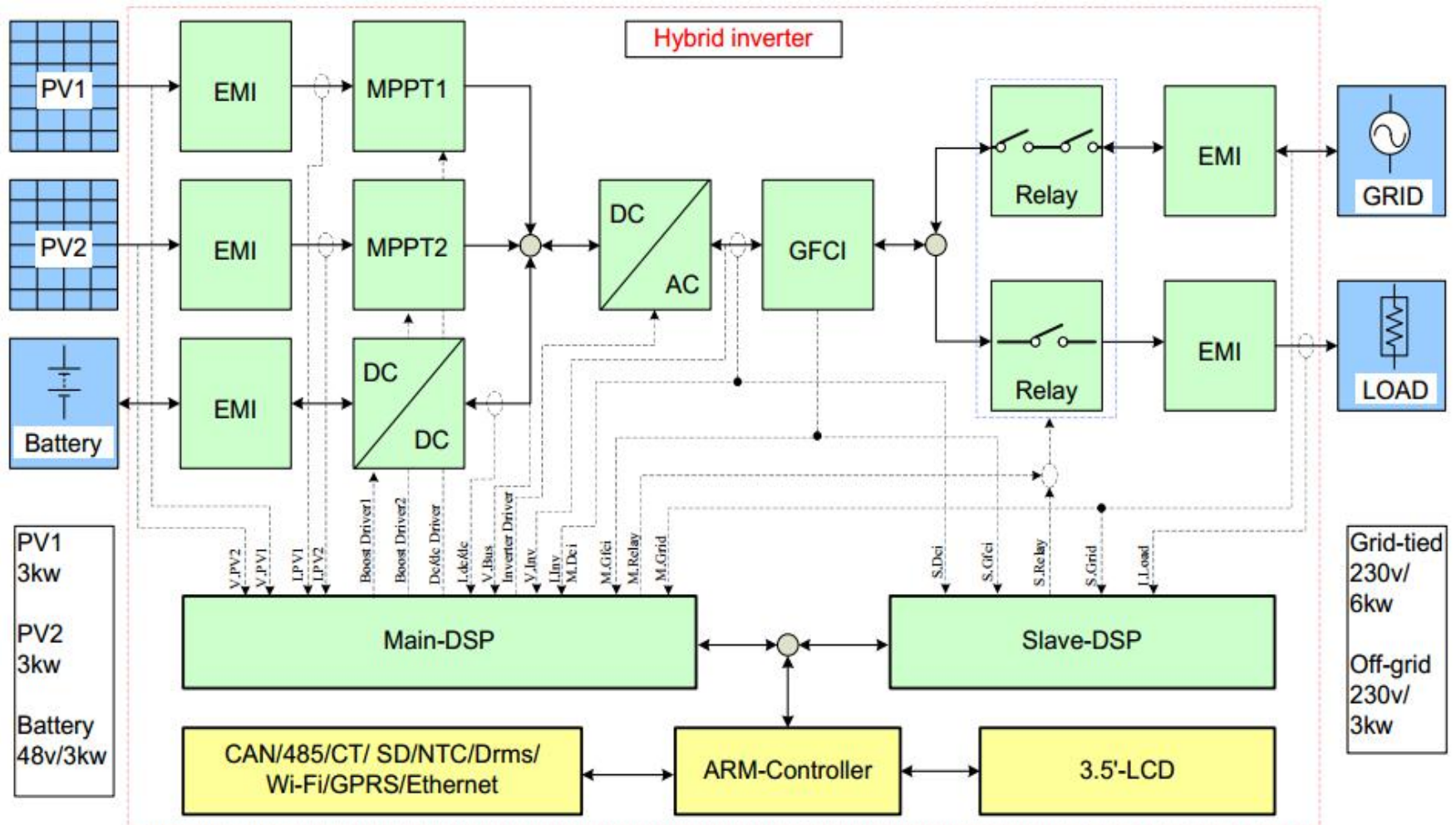
	3500W	4400W	5500W	6600W
The max input power	3500W	4400W	5500W	6600W
Max DC power for single MPPT	2000W(160V-520V)	2600W(200V-520V)	3000W(250V-520V)	3500W(300V-520V)
The max DC input voltage	600V			
Start-up DC voltage	120V			
Nominal DC Voltage	360V			
MPPT operating voltage range	90-580V			
Full load DC voltage range	160V-520V	200V-520V	250V-520V	300V-520V
MPPT number	2			
The max DC input current	12A/12A			
The max DC input short current	15A/15A			

Product overview

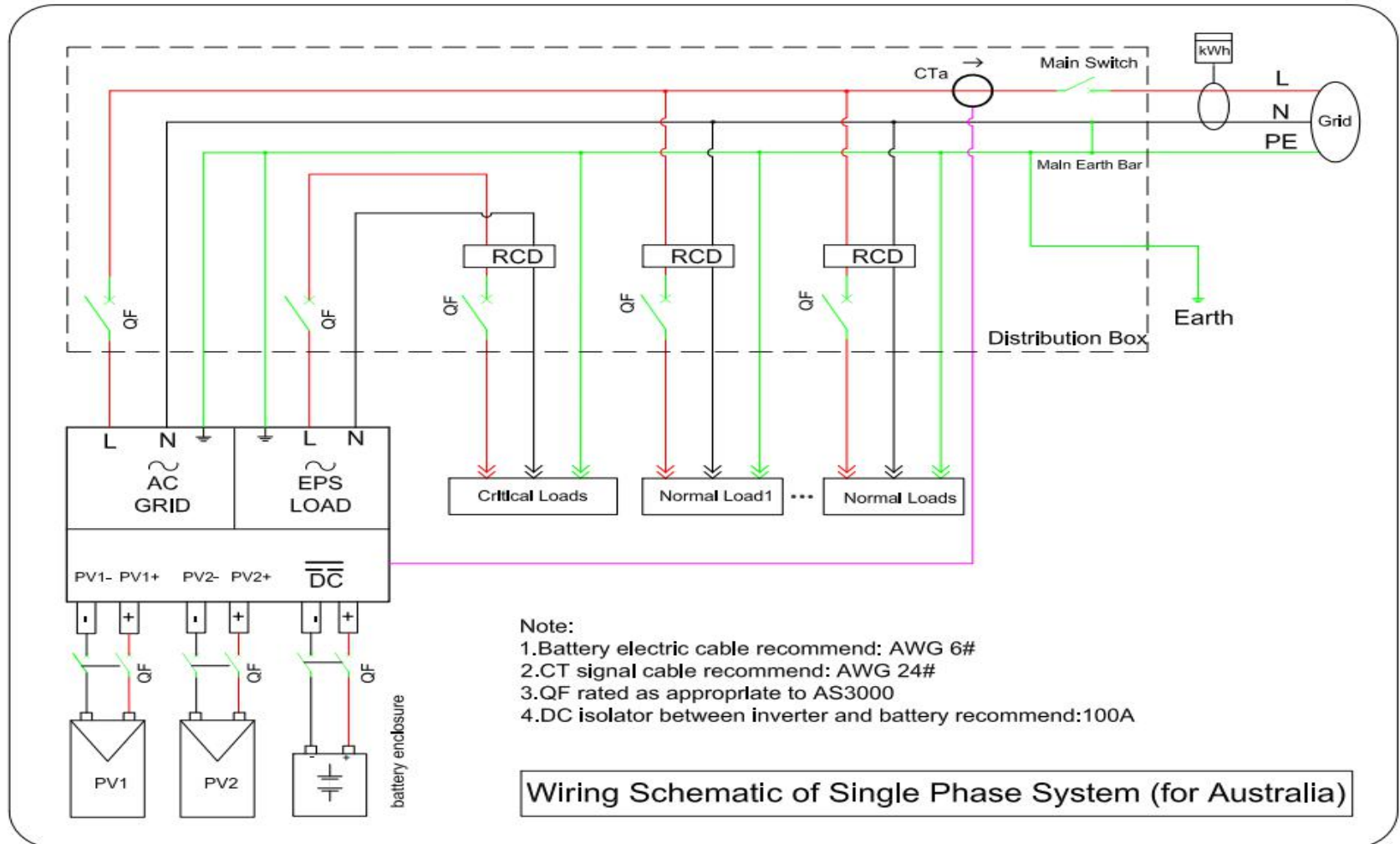


序号	描述	序号	描述
①	DC switch	⑥	Current transformer port
②	Battery input terminals	⑦	Load connection port to connect critical load
③	PV input terminals	⑧	Grid connection port to connect to grid
④	Wi-Fi/GPRS/Ethernet box	⑨	LCD to indicate working status
⑤	BMS communication cable connect to battery	⑩	Exhaust valve

Topology



Distribution



Energy Storage System Solution



HYD3000/4000/5000/6000-ES schematic diagram

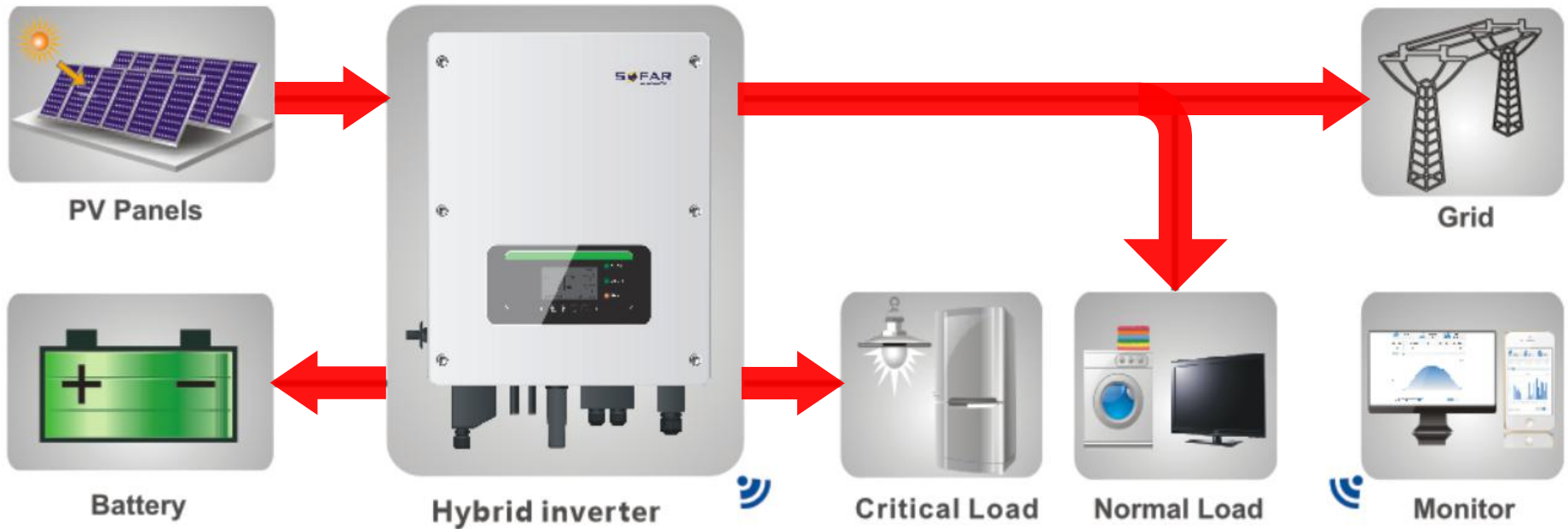
How does it work?



Work mode

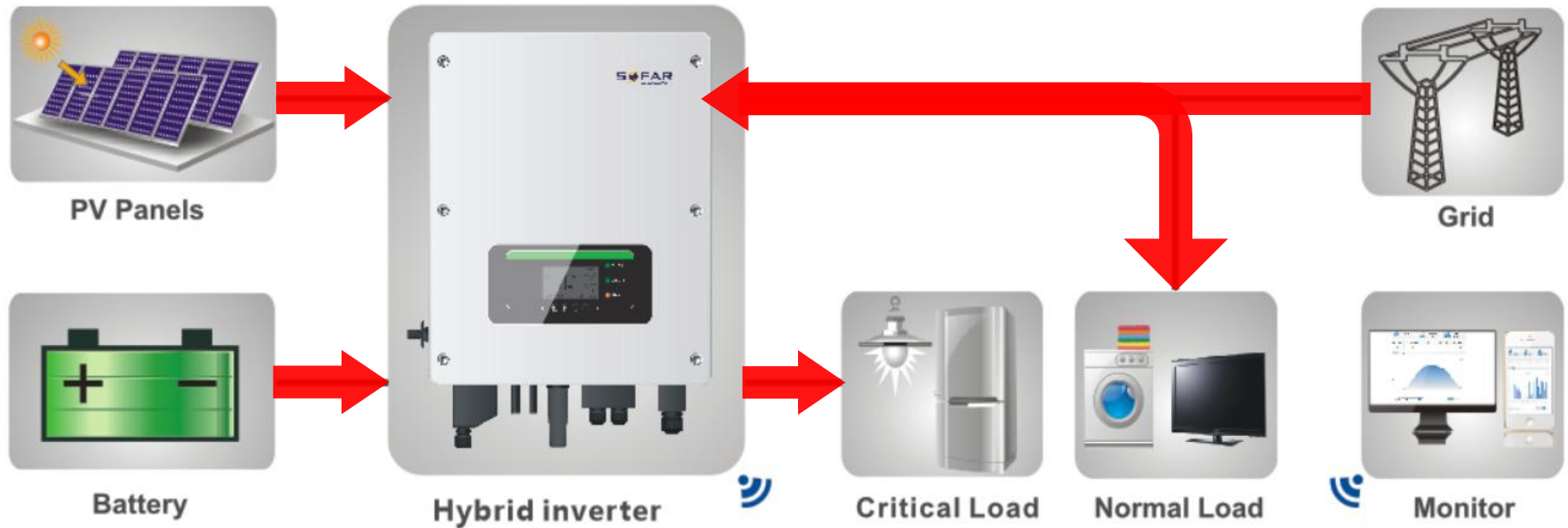
- 01 | Auto mode**
- 02 | Time-of-use mode**
- 03 | Timing mode**
- 04 | Passive mode**
- 05 | Off-grid work**

01 Auto mode



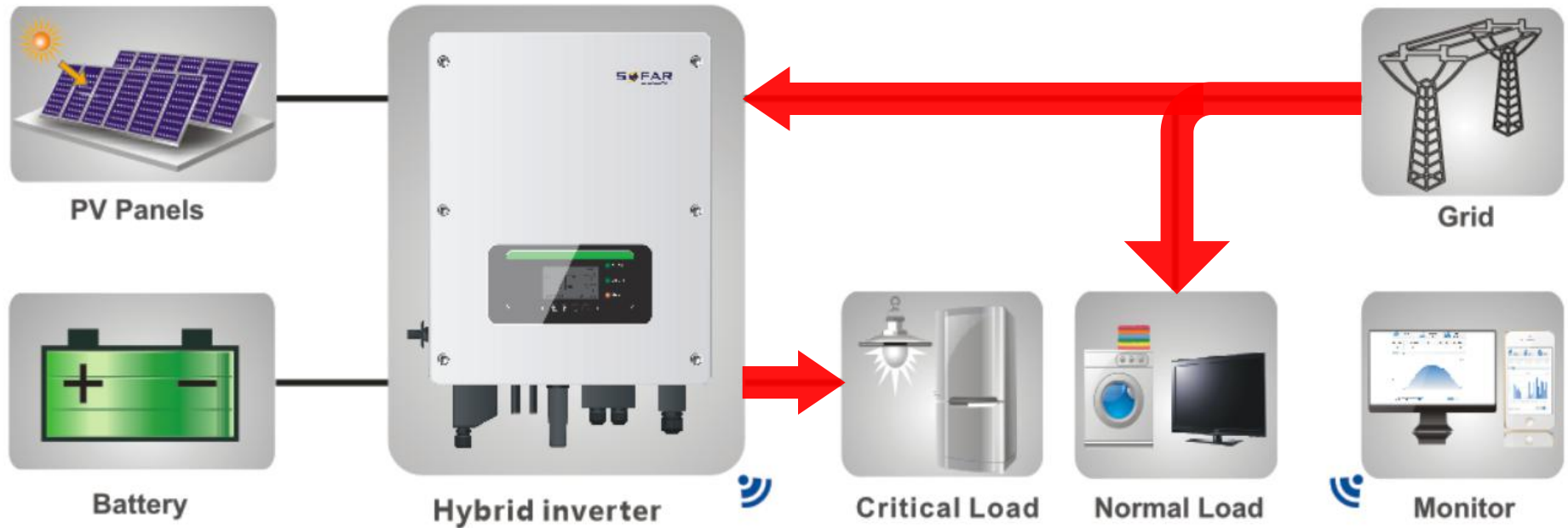
e.g.1 : PV is strong

01 Auto mode



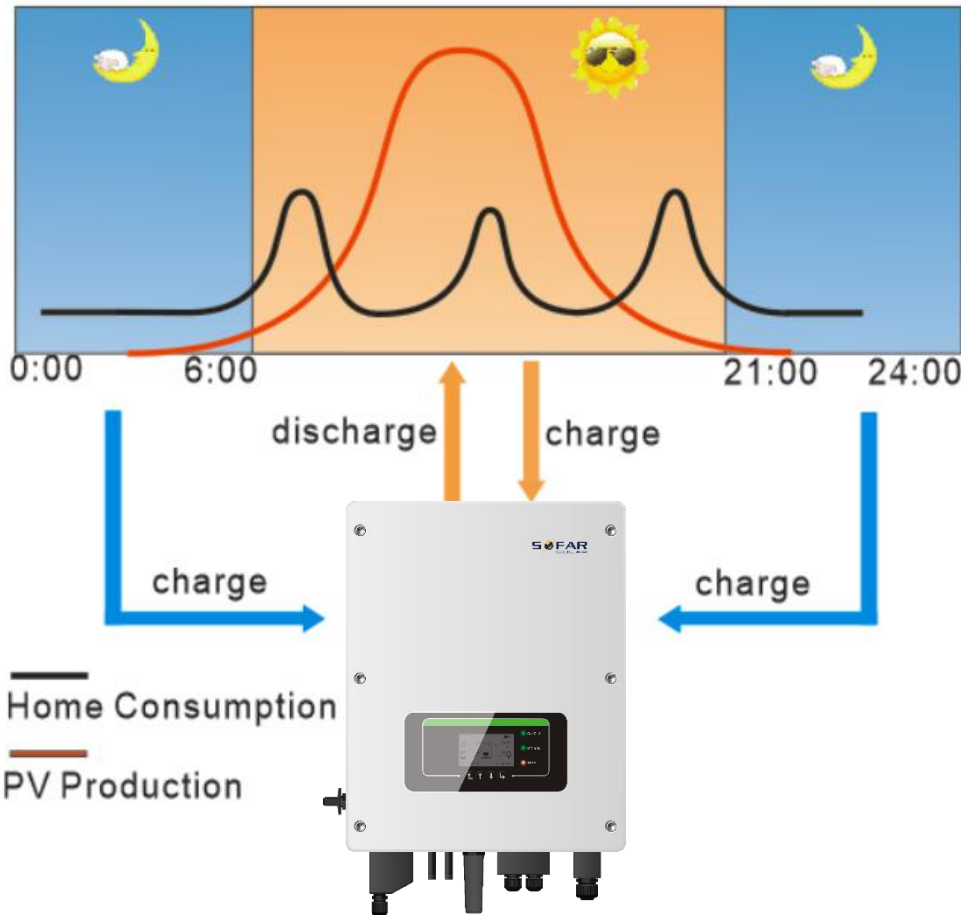
e.g. 2: PV is weak

01 Auto mode



e.g. 3: No PV & Battery is flat

02 Time-of-use mode



Set Time-of-use Mode

Rules. 0: Enabled

From	To	SOC	Charge
21h00m	- 06h00m	090%	1000W

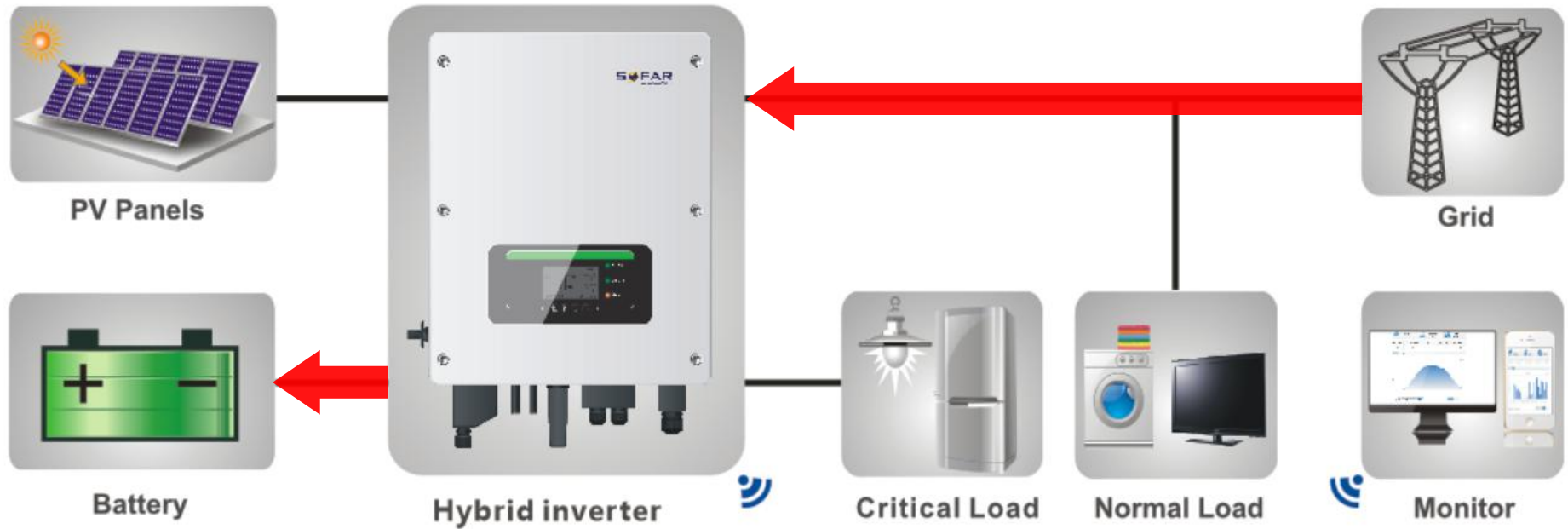
Effective date

Dec. 22 - Mar. 21

Weekday select

Mon. Tue. Wed. Thu. Fri. Sat. Sun.

02 Time-of-use mode



e.g. 4: Off-peak cost period

03 Timing mode



Set Timing Mode

Charge Start: 00 h 00 m

Charge End: 06 h 00 m

Charge Power: 1000 w

Discharge Start: 07 h 00 m

Discharge End: 12 h 00 m

Discharge Power: 1000 w

Charge time

Discharge time

04 Passive mode



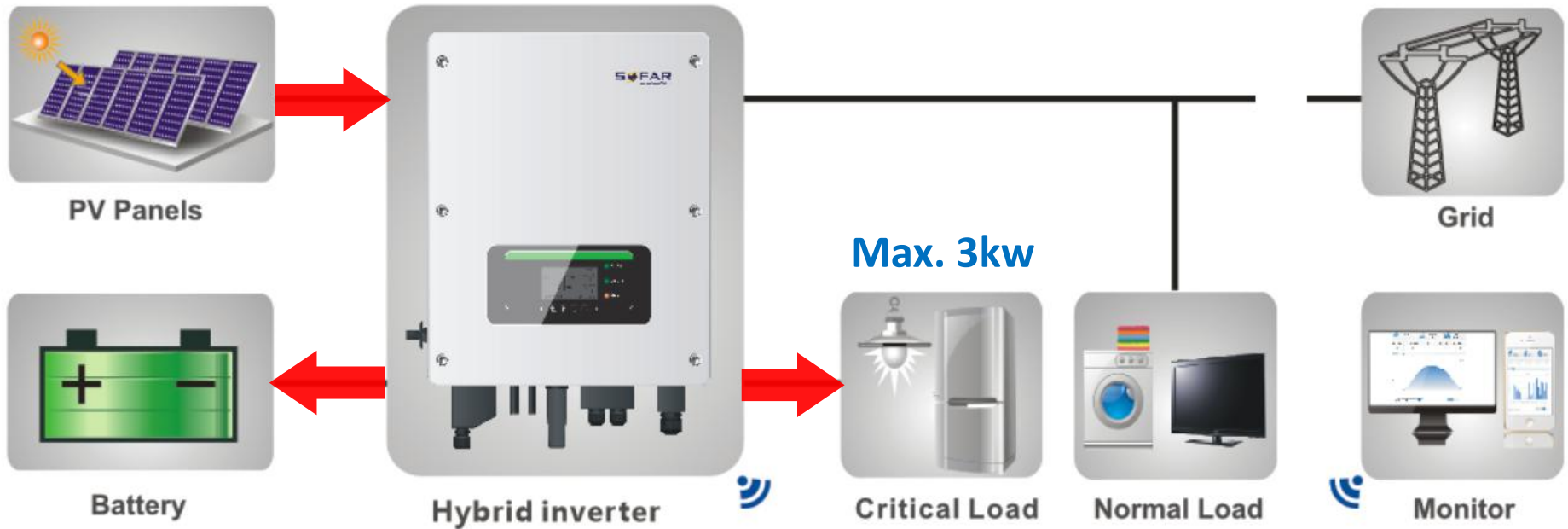
Set Passive Mode



Control instruction

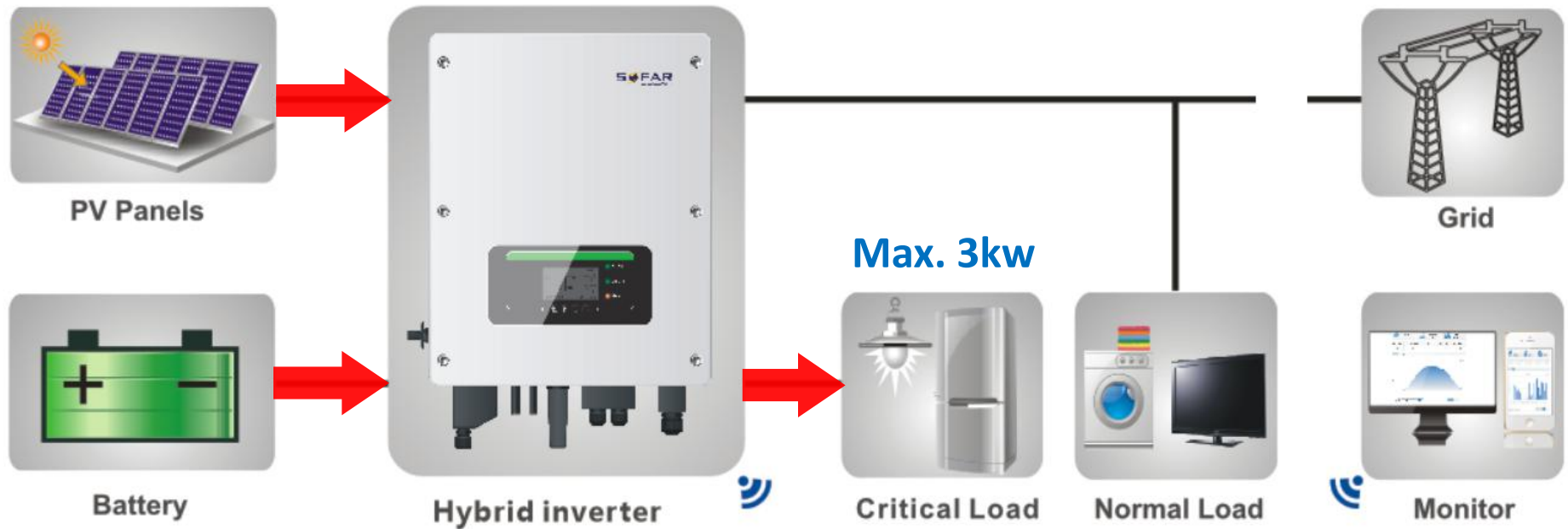


05 Off-grid work



e.g. 5: PV is strong

05 Off-grid work



e.g. 6: PV is weak

Advantage



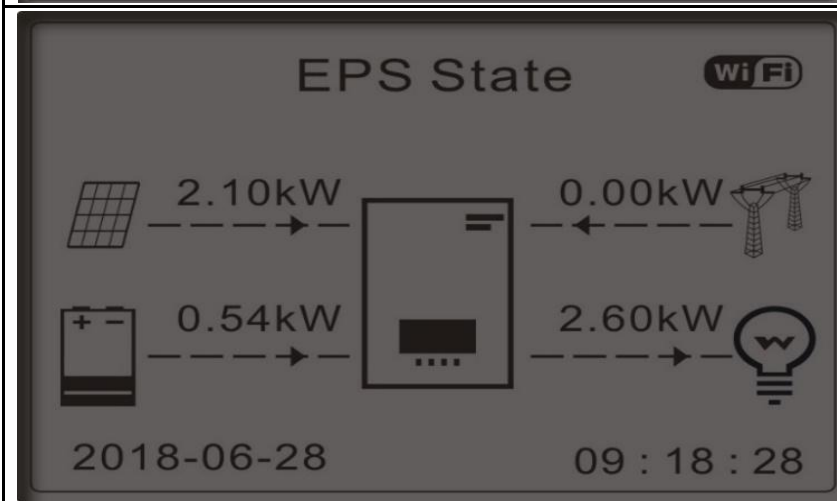
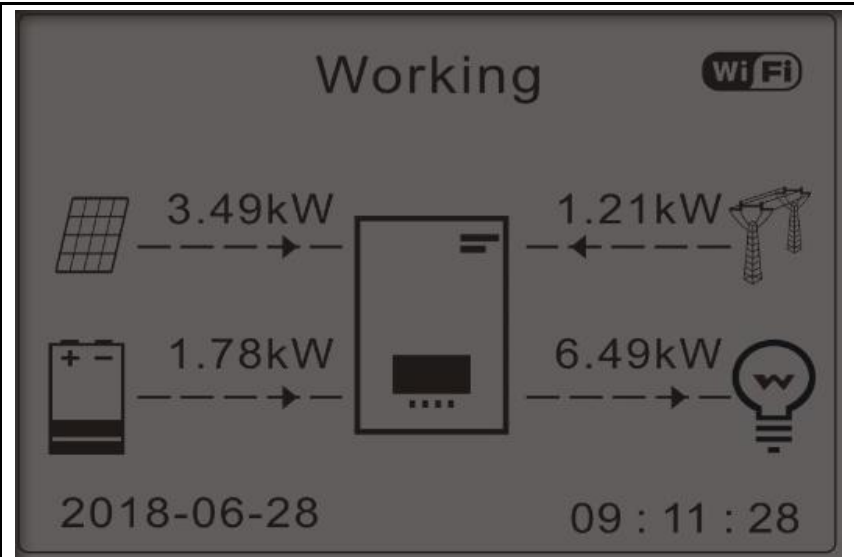
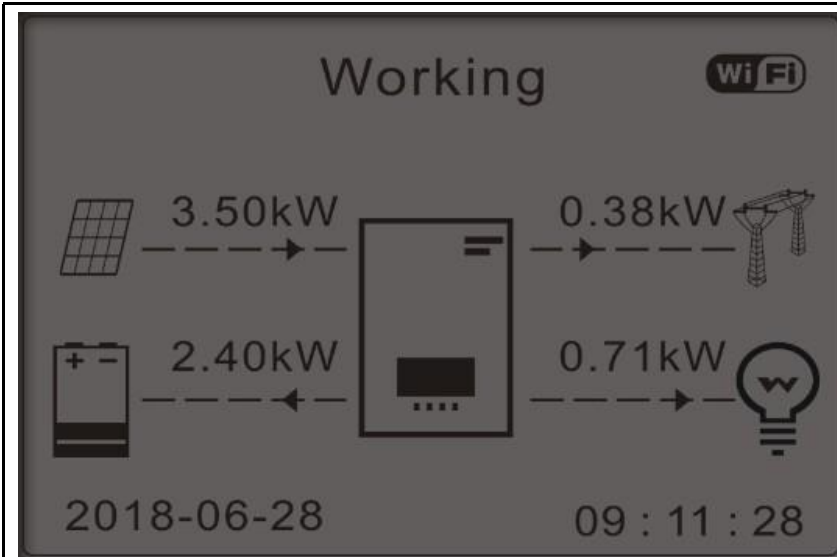
Advantage

- 01 | LCD interface**
- 02 | Remote monitor**
- 03 | Upgrade**
- 04 | Battery protection**
- 05 | Acousto-optic alarm**
- 06 | Ups**
- 07 | Export control**
- 08 | I/V curve scan**

01 LCD interface (Local monitor)

<p>Sofar</p>		<p>friendly</p>
<p>Competitor G</p>		<p>inflexible</p>

01 LCD interface (Local monitor)



02 Remote monitor (APP monitor)

Home view

Battery information

Current Consumption Power ?
2.01 kW

Daily Consumption **12.72 kWh** | Monthly Consumption **41.99 kWh**

Current Grid Power ?
--

Daily Grid **6.16 kWh** | Monthly Grid **20.05 kWh**

Daily Energy Bought **7.95 kWh** | Monthly Energy Bought **27.66 kWh**

Current Battery Power ?
0.00 w 19% Static

Daily Charge Energy **3.31 kWh** | Daily Discharge Energy **3.38 kWh**

PV information

Inverter Status ! Inverter Temp
SM1ES040J11111

Grid **55°C**

AC Output Total...	Daily Generation	Monthly Generati...
-1.94kW	10.87kWh	32.56kWh
Annual Generation	Total Generation	
367.55kWh	389kWh	

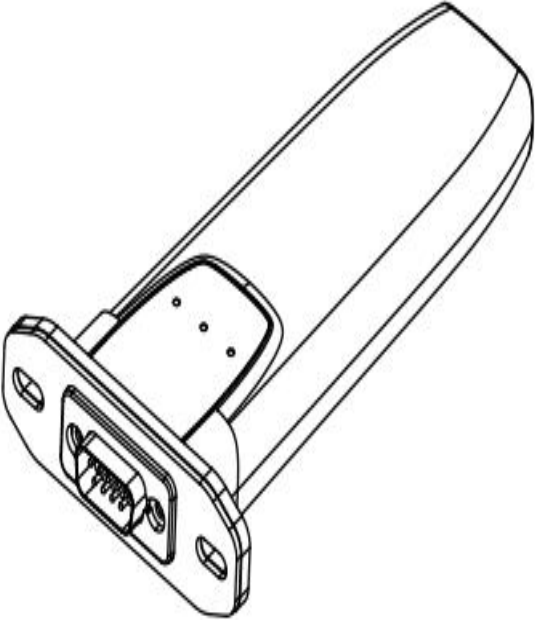
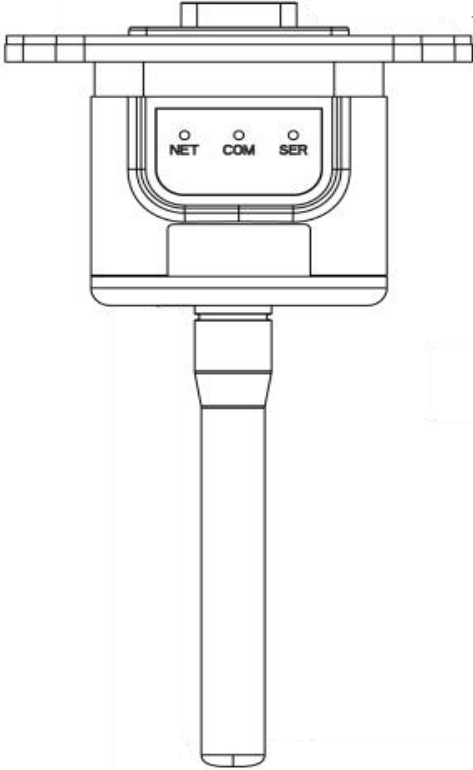
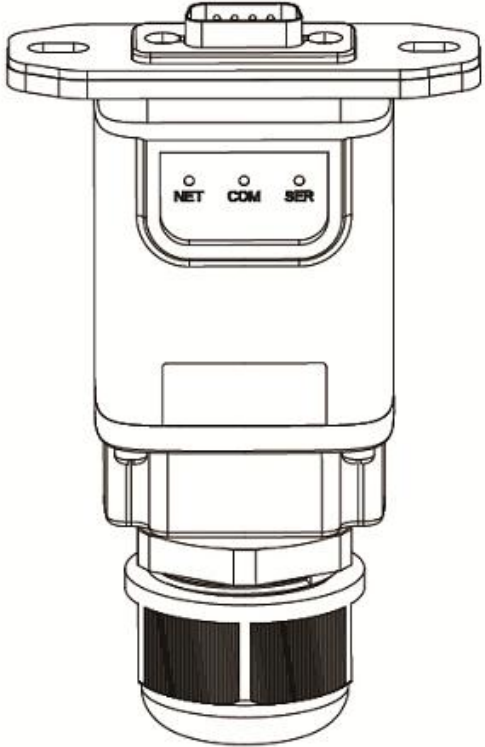
Generation | Grid | Usage | Battery | History

	Voltage	Current	Power
PV1	275.5V	0.04A	10W
PV2	115.8V	0A	0W

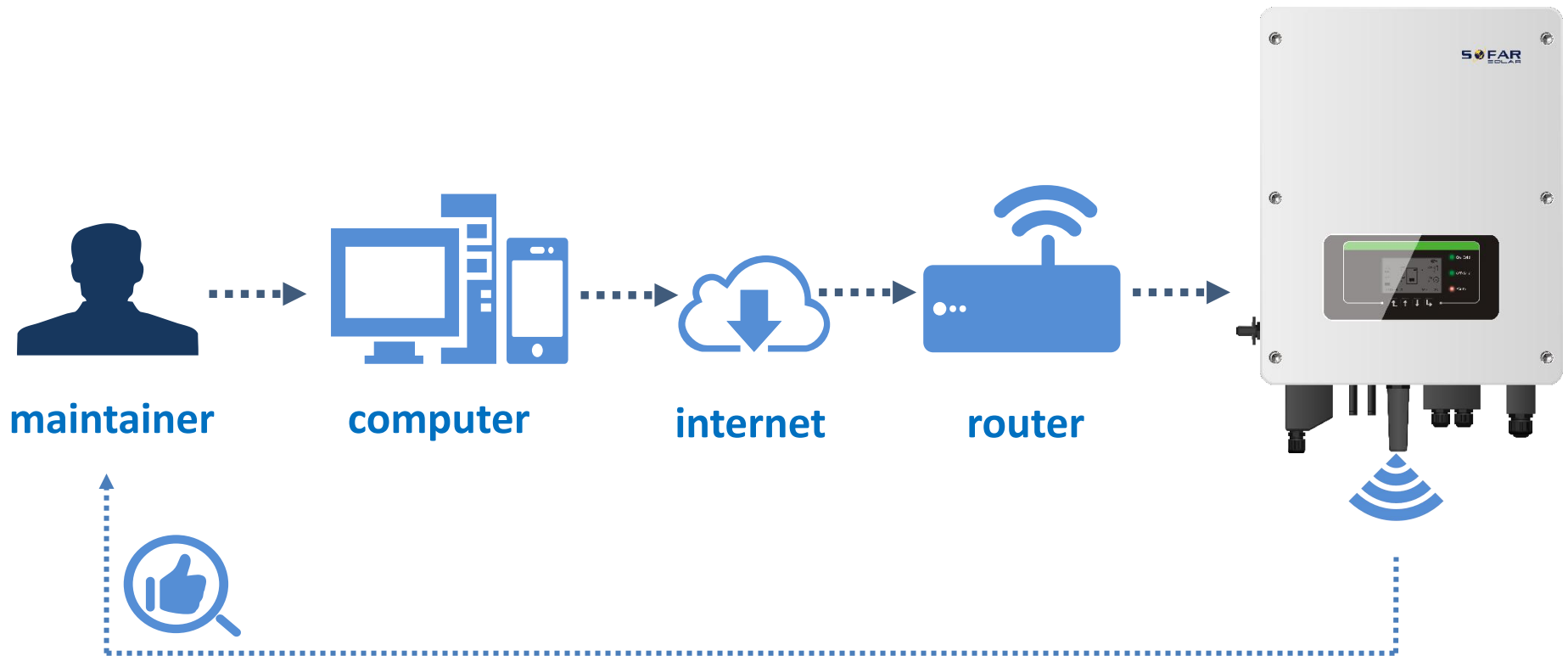
	Voltage	Current	Frequency
R	--	0.08A	--

Total DC input power
10W

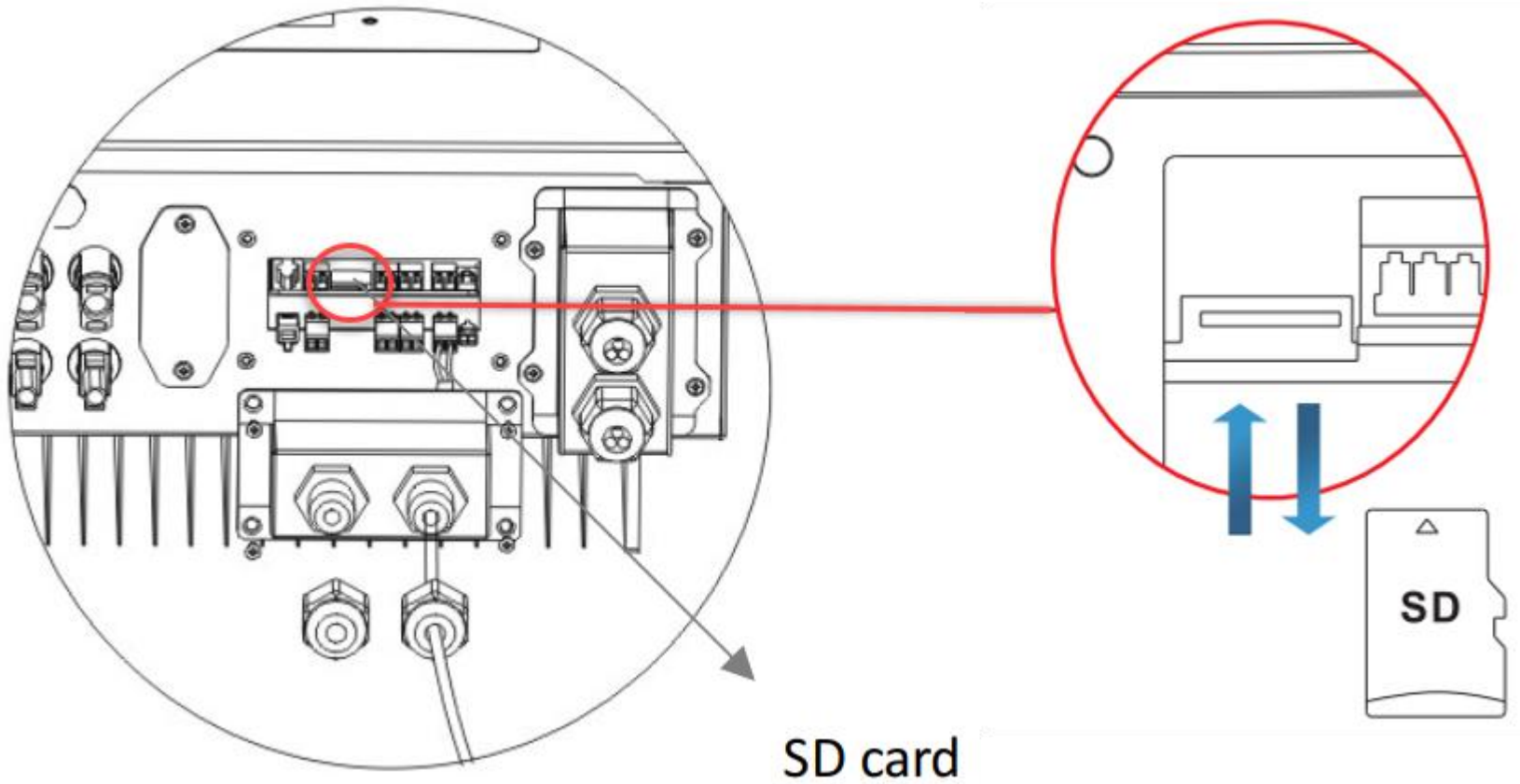
02 Monitor box

Wi-Fi box	GPRS box	Ethernet box
		
<p>Multiple selectivity</p>		

03 Upgrade (Remote)



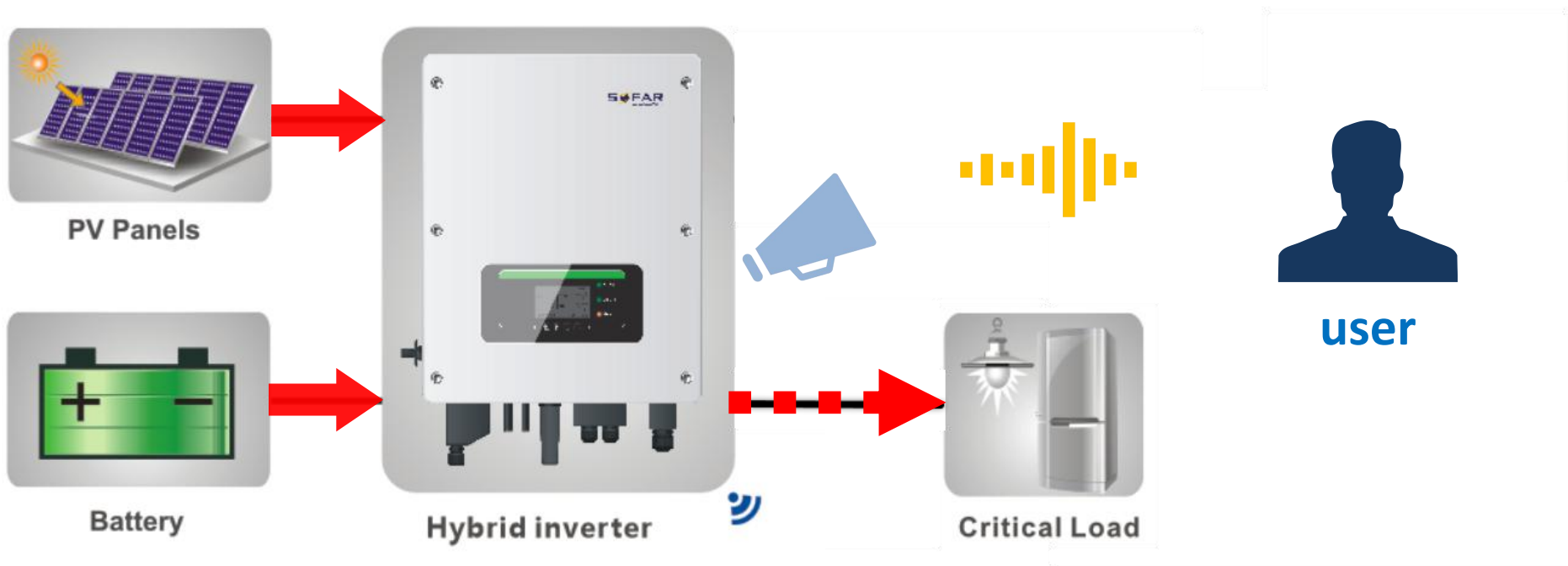
03 Upgrade (Local)



04 Battery protection

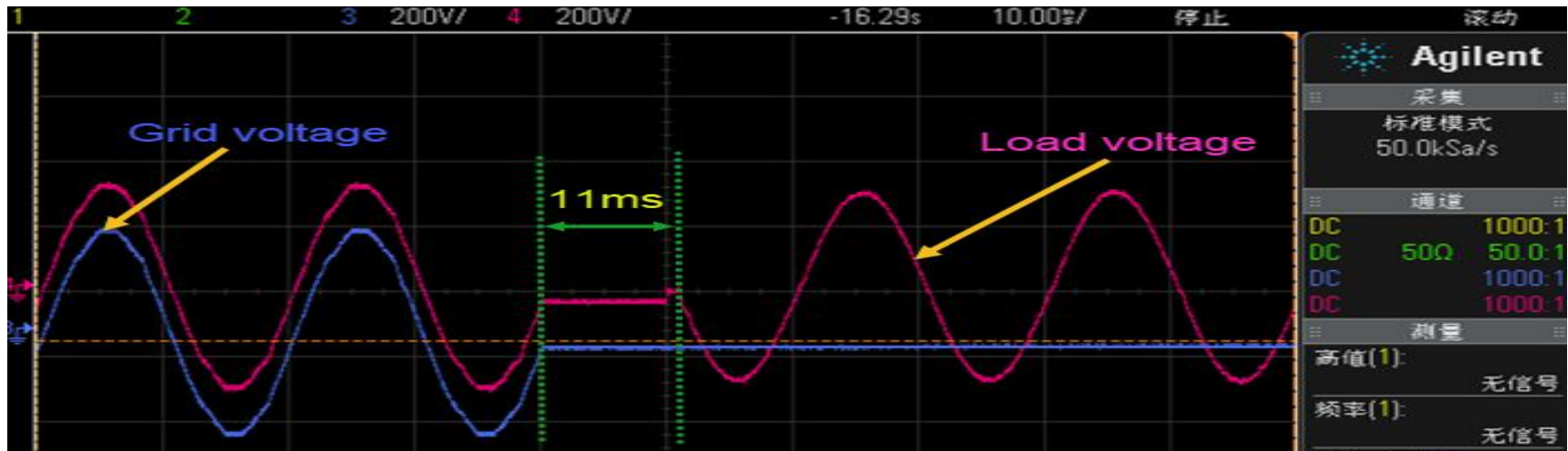
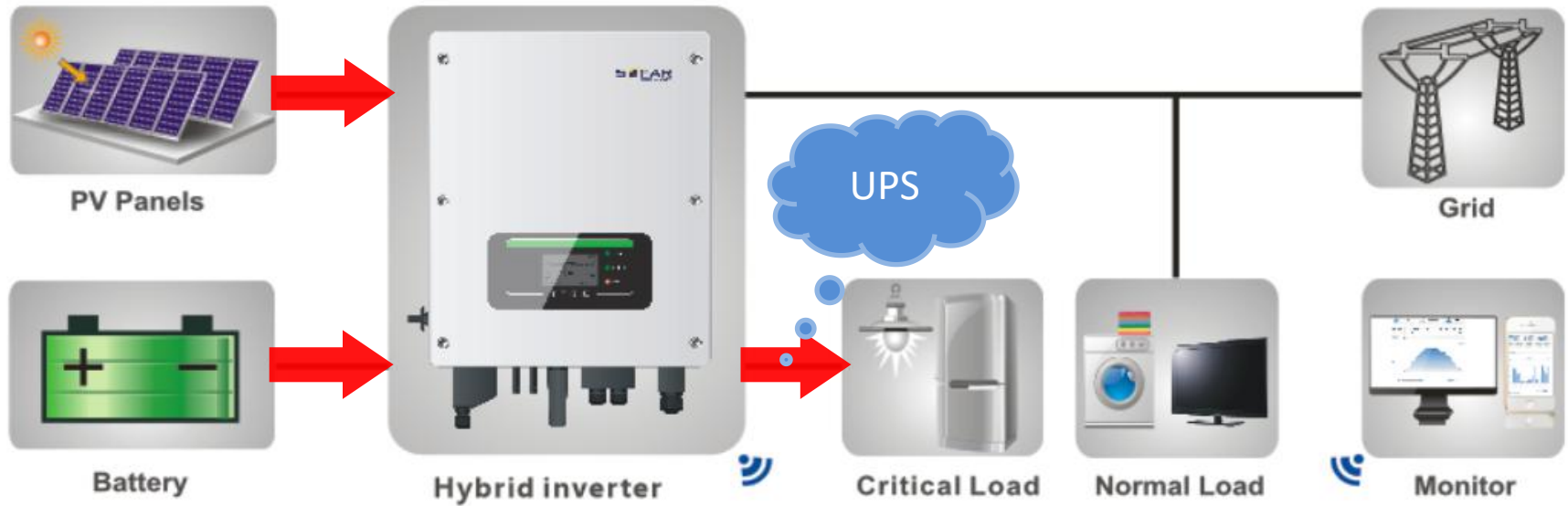
LIST	SOFAR	Competitor G
Over charge /over voltage /over current	Yes	Yes
Over discharge / under voltage	Yes	Yes
Emergency charge	Yes	Yes
Battery wake-up	PV or AC	Only PV
Load capacity	3kw	2.5kw
Over load	Acousto-optic alarm	Indicator alarm
Charge & discharge current ripple	<3A, @100%P	<6A,@100%P

05 Off-grid work (Over-load)



e.g. 7: PV & Battery both be weak

06 Off-grid work (UPS)



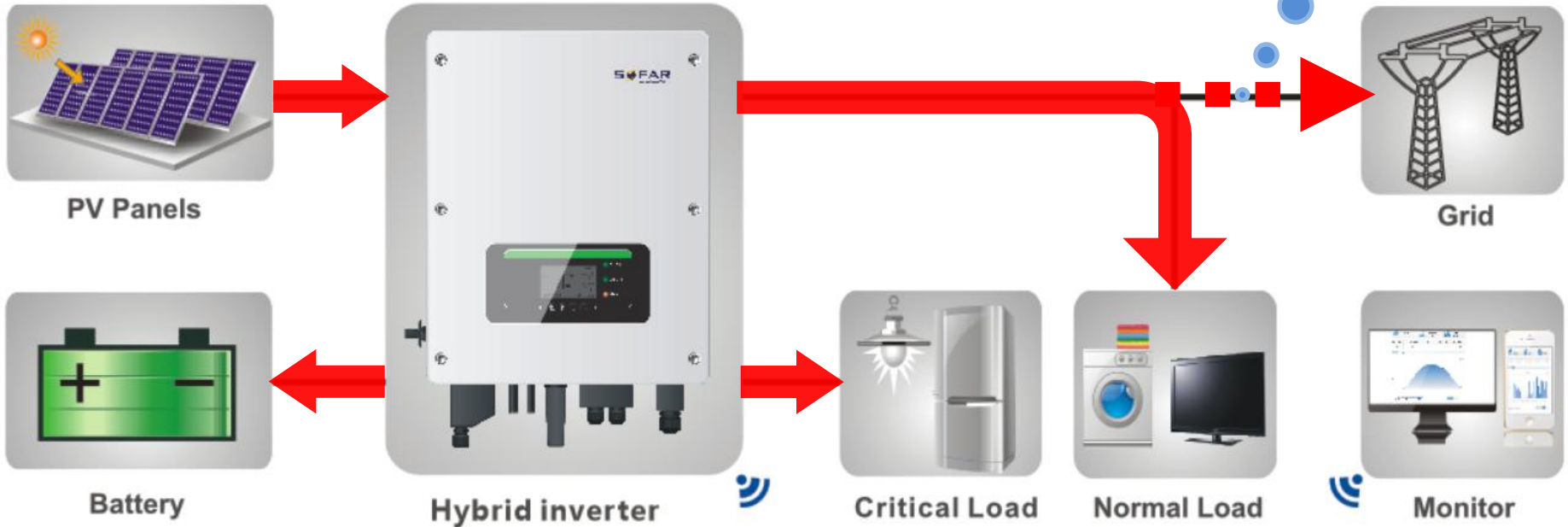
07 Export control



Set Anti-Reflux

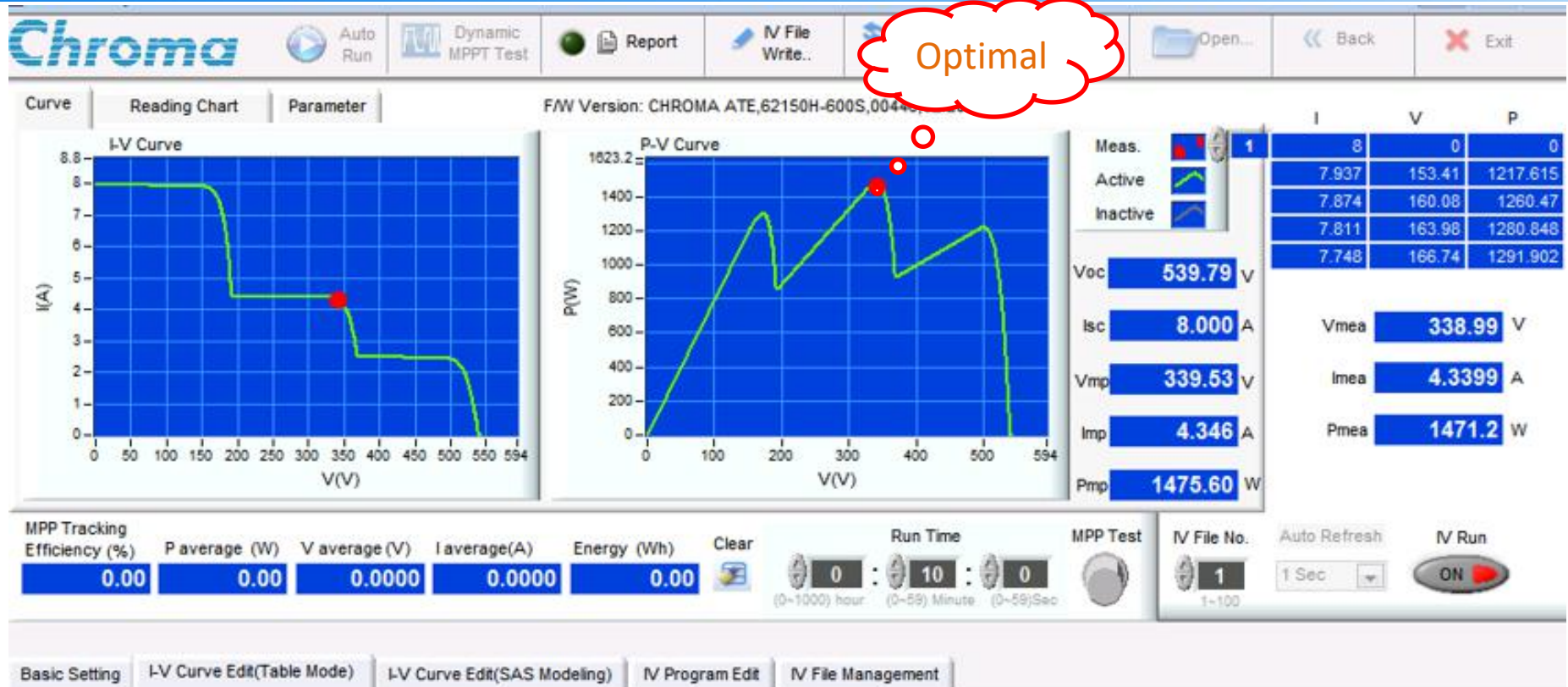
Reflux power:

0 ~ 6 KW



e.g. 8: If setting reflux power is 0 w

08 I/V curve scan





Thanks !

Email: info@sofarsolar.com

Web: www.sofarsolar.com & www.sofarpv.com