PSC SOLAR UK

Residential Hybrid Inverters Advantages

Clean Power for You

Content

Specification Comparison

PSC SOLAR UK

Deye 1990-2022

Specificaitons	Deye SUN-5K-SG01LP2	A	B	C
Battery Voltage Range (V)	40-60	40-60	42-59	42-58
Max. Charging Current (A)	120A	100A	66A	62.5
Max. Discharging Current (A)	120A	100A	66A	62.5
Charging Curve	Three-stage	Three-stage	Three-stage	Three-stage
External Temperature Sensor	yes	No	yes	No
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	Self-adaption to BMS	Self-adaption to BMS	Self-adaption to BMS
Max. DC Input Power (W)	6500	6500W	8000W	6500W
Max.PV Input Voltage (V)	500	580	550V	600
MPPT Range (V)	125-425	125-550	150-550	90-520
Start-up Voltage (V)	125	150	150	120
PV Input Current (A)	13A+13A	11A+11A	12A+12A	11A+11A
No. of MPPT Trackers	2	2	2	2
No. of Strings per MPPT Tracker	1	1	1	1
Rated AC Output	5000W	4600	4999W	5000W
Max. AC Current(A)	25A	24.5	22A	23.9
Output Frequency and Voltage	50/60Hz; 230&208/240Vac	50/60Hz，230Vac	50/60Hz，230Vac	50/60Hz，230Vac
Current harmonic distortion	THD<3%(Linear load<1.5%)	THD<3%	THD<3%	THD<2%
UPS Power (W)	5000W	4600W	3000W	3000W
Peak Power(off grid)	2*5000,10S	6900,10S	/	4KW 10S
AC Output Rated Current(A)	21.7A	20A	21.7A	21.7A
Off-grid mode,Output Frequency/ Voltage	50/60Hz; 230V&208/240Vac	56/60Hz，230Vac	56/60Hz，230Vac	56/60Hz，230Vac
communication interface	RS485;WIFI;CAN	USB2.0; RS485;WIFI;CAN	R232，WIFI，RS485	CAN，RS485，WIFI
weight	20.5KG	30KG	27KG	17KG
size	580*330*217mm	516*440*184	547*516*170mm	333*505*249mm
Protection Degree	IP65	IP65	IP 65	IP65
Max. Efficiency	97.6	97.6	97.6	97.5
Euro Efficiency	97	97	97.1	96.8
MPPT Efficiency	99.9	99.9	99.9	97.5

Specification Comparison

Specificaitons	D	E	F	G	H
Battery Voltage Range (V)	40-60	40.4-58	42-58	32-70	42-58
Max. Charging Current (A)	50	120	100	65A	65A
Max. Discharging Current (A)	50	120	100	65A	70A
Charging Curve	Three-stage	Three-stage	Three-stage	\	NO
External Temperature Sensor	\	\	\	\	\
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	\	Self-adaption to BMS	Self-adaption to BMS	Self-adaption to BMS
Max. DC Input Power (W)	5000	3000	6600	6500	5500
Max.PV Input Voltage (V)	550	145	550	600	600
MPPT Range (V)	125-530	60-115	120-450	125-580	90-580
Start-up Voltage (V)	*150*	75	100	125	120
PV Input Current (A)	12A+12A	25A	15.6A+15.6A	11A+11A	12+12A
No. of MPPT Trackers	2	1	2	2	2
No. of Strings per MPPT Tracker	1	1	1	1	1
Rated AC Output	4600	5000	4600	4600	5000
Max. AC Current(A)	21.7	23.9	20.9	20	22.8
Output Frequency and Voltage	50/60Hz，230Vac	50hz,220	50/60Hz, 230 Vac	50HZ，230V	50HZ，230V
Current harmonic distortion	THD<3%	THD<3%	THD<=3%	THD<=3%	THD<=3%
UPS Power (W)	2000W	5000W	4600VA	4600	3000VA
Peak Power(off grid)	1.5*2000 10S	1.5*5000 10S	6900VA,10s	4.6KW	4000VA
AC Output Rated Current(A)	8.7	42A	24.5	20	21.7
Output Frequency and Voltage	56/60Hz，230Vac	50/60Hz; 120Vac&240Vac	50HZ/230Vac	50HZ，230V	50HZ，230V
communication interface	et/Dry contact/WIFI/CAN	USB, RS-232,SNMP	WIFI，RS485,CAN,USB	RS485, WiFi CAN Ethernet	485, WiFi CAN Ethernet,GPRS,
weight	27KG	30KG	18KG	22KG	20.5KG
size	700*591*151	204 x 460 x 600	610*425*190mm	457*515*170mm	566*394*173
Protection Degree	IP20	IP20	IP20	IP65	IP65
Max. Efficiency	97.6	96	97.7	97	97.8
Euro Efficiency	97	\	97	97	97.3
MPPT Efficiency	99.9	98	\	99	99

Comparison Conclusions

Deye hybrid inverter advantages at a glance

- A full range of products 3.6/5/7.6/8KW with output voltage of 230V/208/240Vac; the DC/AC ratio of 1.3.
- More higher charging and discharging power of 120A &5000W. Max. instantaneous power is 10000W@10S.
- Independent Grid port, diesel generator port and backup load port, easy connection.
- Built-in DG control interface, and support DG charges the battery ensuing the system works within 7*24H.
- Compatible with solar panel and wind turbine as well.
- 2 kinds of AC couple method to update existing solar system to energy storage system.
- Adopt V/f droop control, support Max. 16 units paralleled and three-phase application without additional accessory.
- “Time of use” function, support 6 different time periods for charging and discharging battery.
- 4ms fast transfer from on-grid to off-grid mode, ensuing the traditional fixed frequency air conditioner works well
- Colorful touch screen and buttons, easy operation and maintenance.
- Smart load application, expanding output interface
- Grid peak-shaving function, improving self-consumption ratio of solar energy
- 48V low voltage battery, built-in transformer for electrical isolation more security.

Hybrid Inverter Product Map

SUN 3-6K-SG04

SUN 3.6-8K-SG03/05

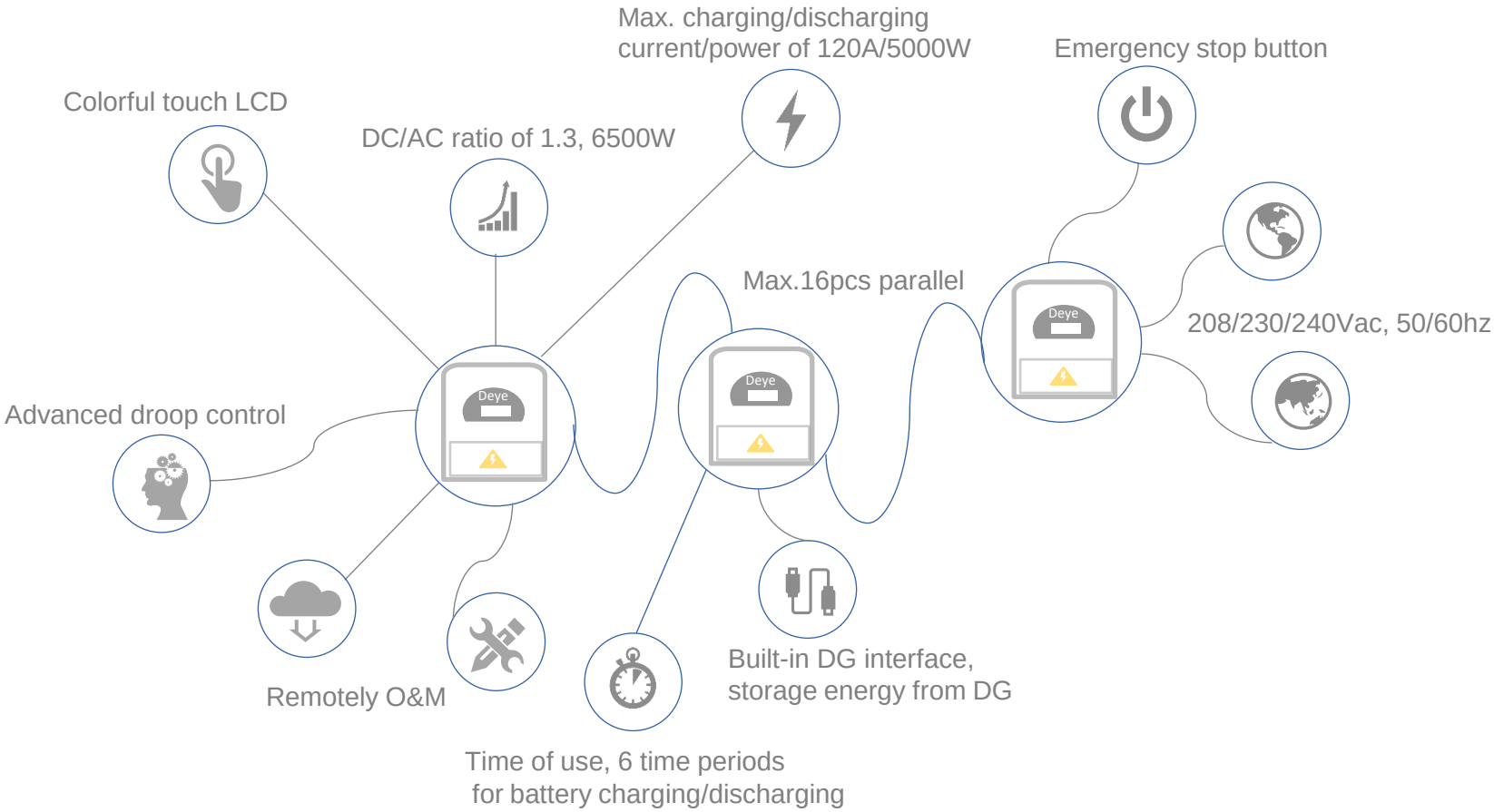
SUN 5-8K-SG01

SUN 8-12K-SG03

SUN 8-12K-SG01

SUN 6-50K-SG01

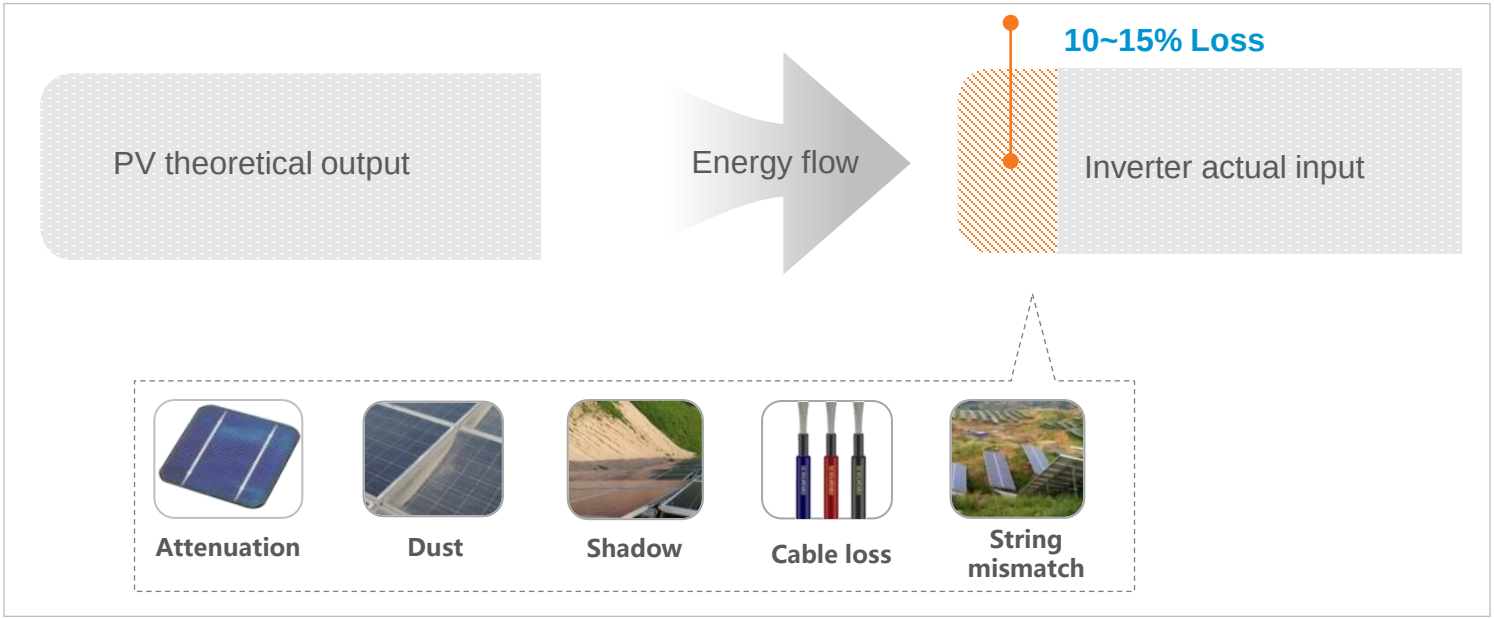
5KW Hybrid Inverter Features



DC/AC Ratio of 1.3

DC/AC ratio up to 1.3, saving equipment investment

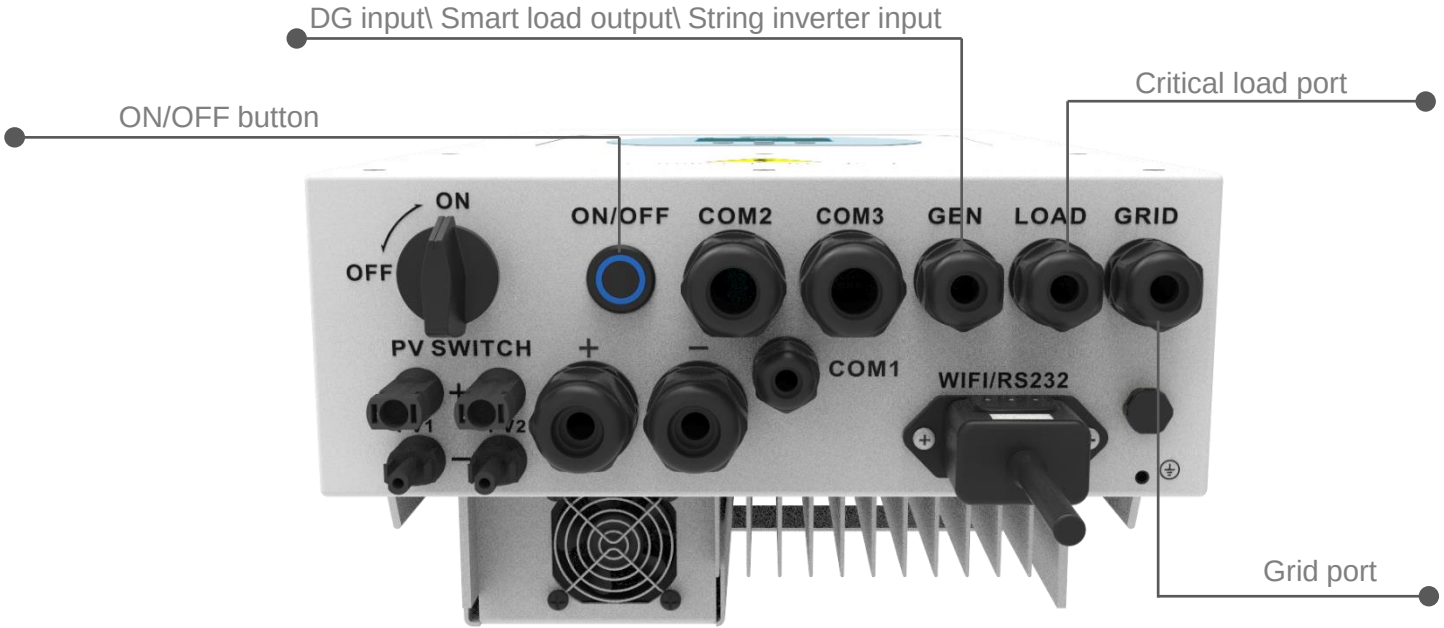
- Max. DC input current of 13A, completely compatible with double-side solar panel
- Under some special conditions such as low irradiation, more solar panel connected will efficiently increase power generation.



Independent Backup Load Port

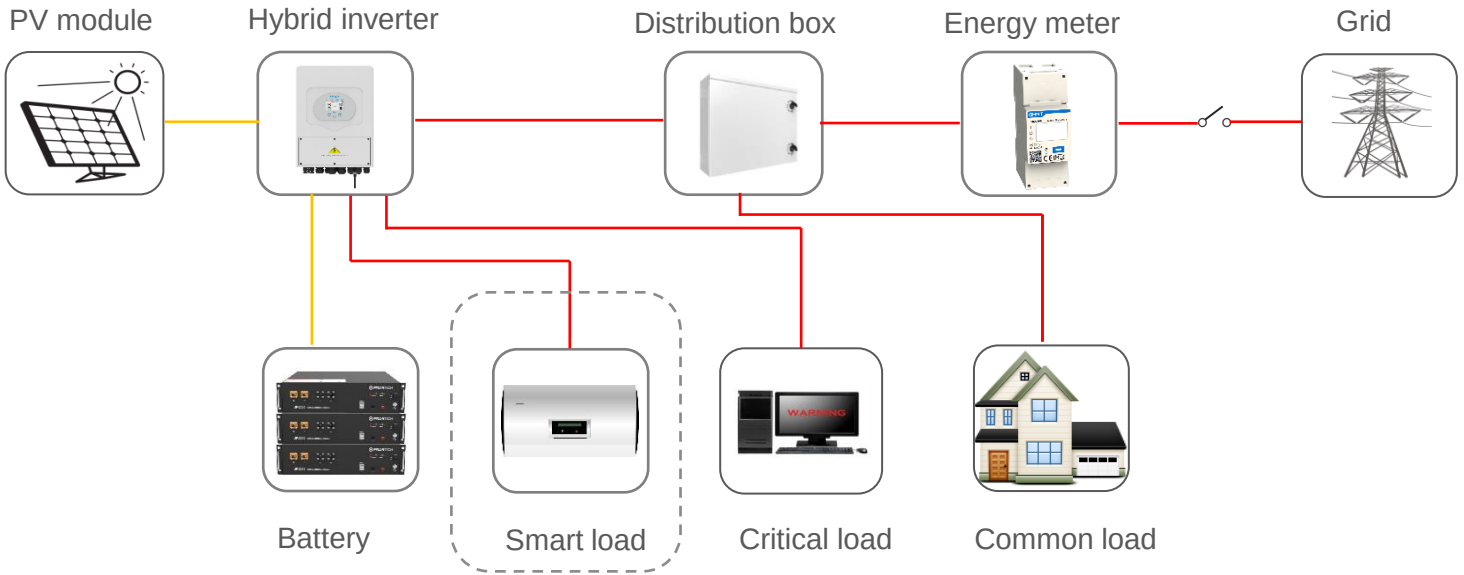
- Integrating independent grid port, diesel generator port and load port, more flexible and powerful.
- The diesel generator port also can be used as input or output port. As AC input, it can connect microinverter or string inverter. When as output port, it can used to power the load（Smart load)

- Built-in ON/OFF switch, easily cuts off output when emergency situation, more safe and reliable.



Smart Load

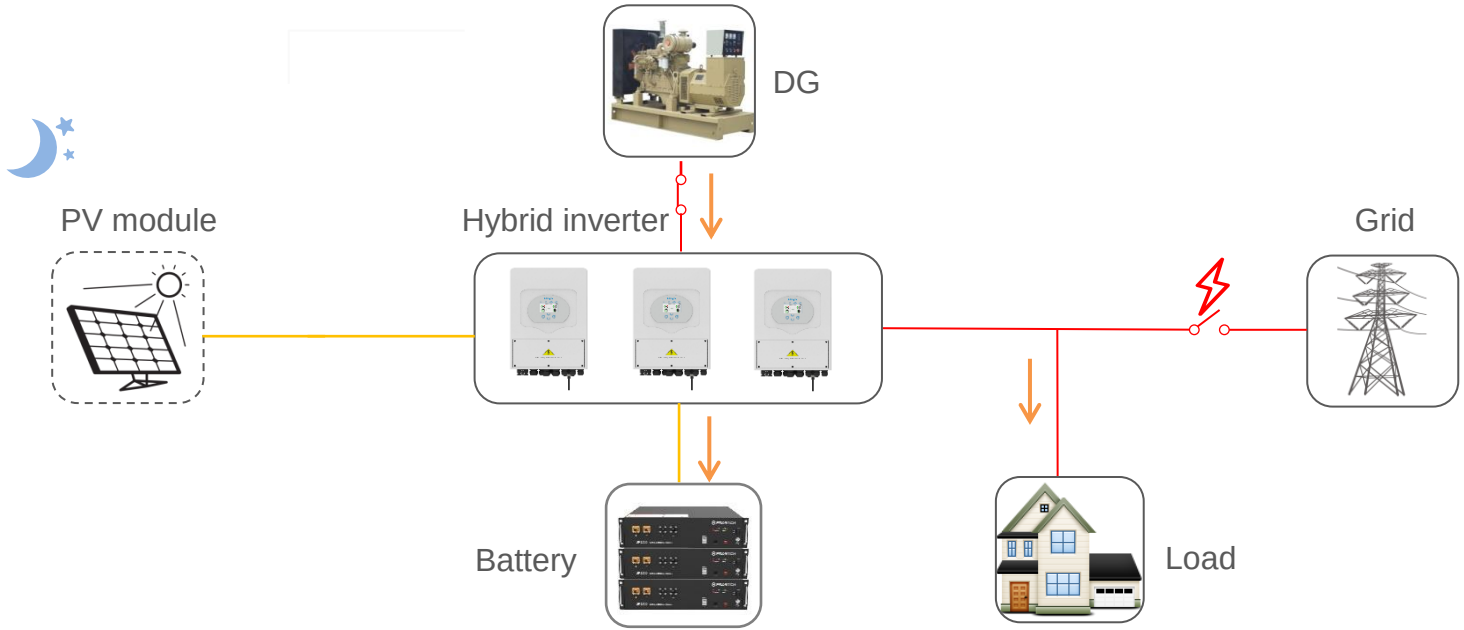
- The diesel generator port can be used as a output port. When as output port, it can used to power the load（smart load)



Completely Compatible with DG

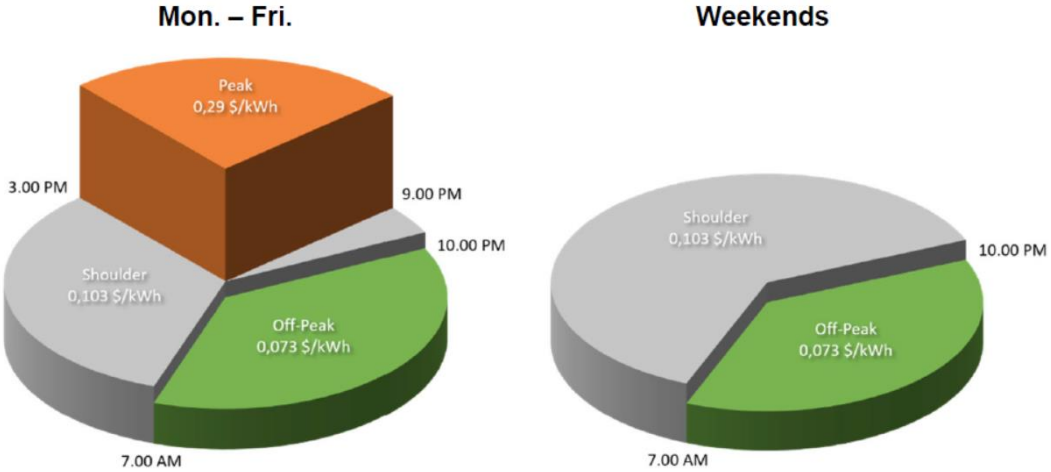
Supports diesel generator charges battery

- When utility grid cuts off, the hybrid inverter is able to start DG to supply load and charge battery.

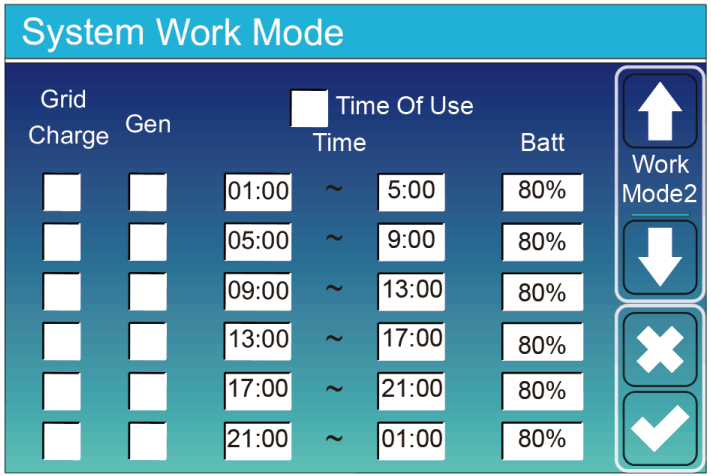


Time of Use

- “Time of use”, time-dependent electricity tariffs, customers pay different prices for their energy consumption at different times of the day. Below figure shows typical time-of-use tariffs applied in Australia.
- For this situation, Deye hybrid inverter allows users to set time windows for charging and discharging the energy storage system. In this way, the behavior of the hybrid inverter can be adjusted in line with the time-dependent electricity tariffs, reducing electricity bills.

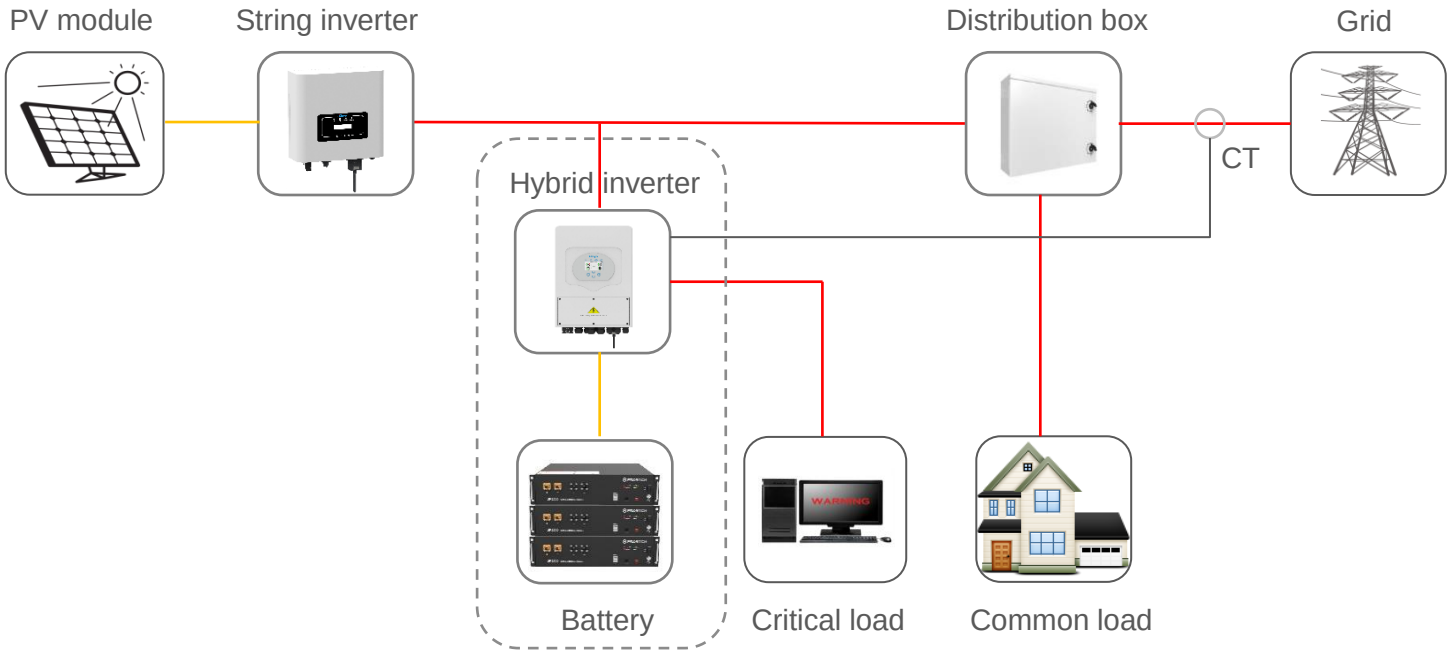


Time of use interface



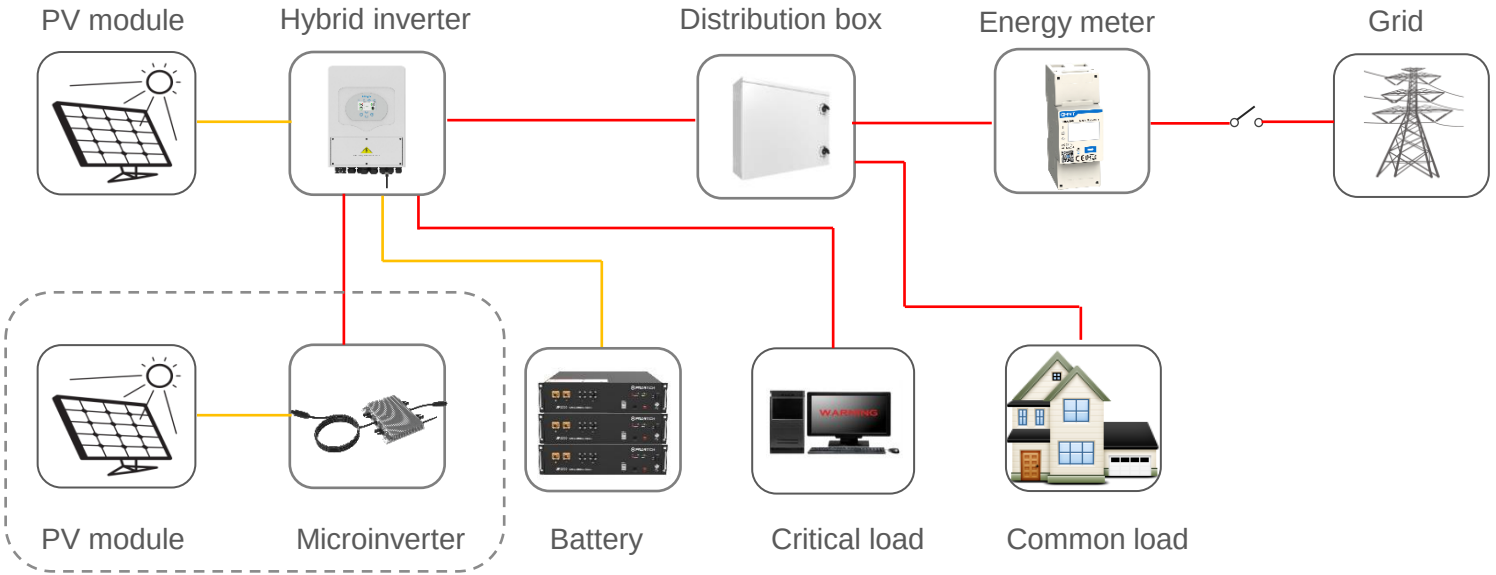
AC Couple Mode

- Update the existing solar system to energy storage system, which is applicable to area with low FIT and high energy price, and the hybrid inverter working as battery charge controller in the system.
- In this mode, an external CT is needed to detect energy flow direction.



AC Couple Mode

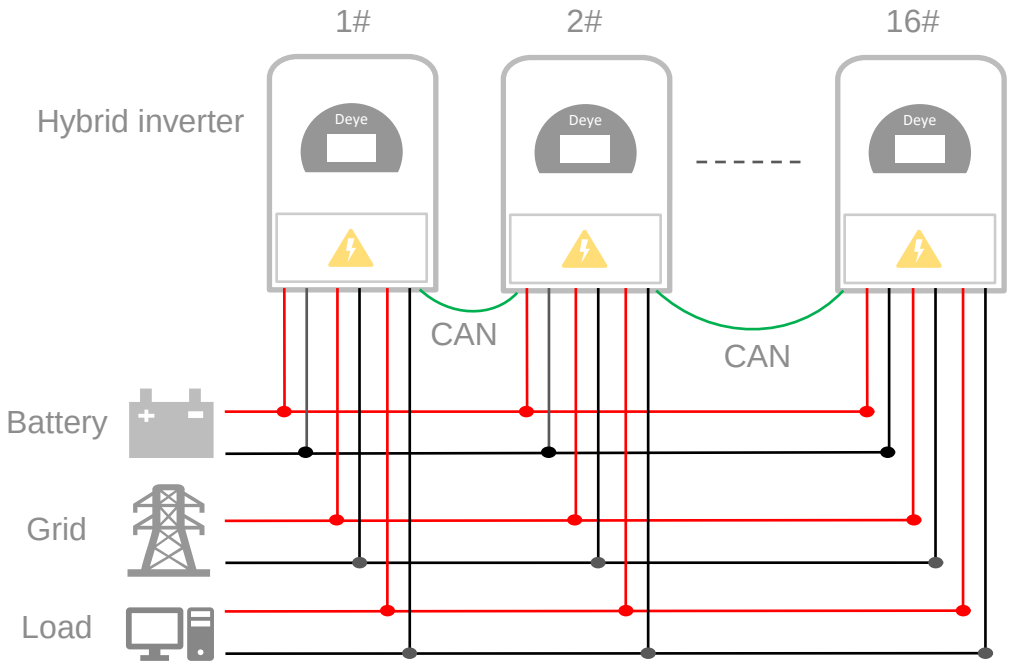
- Update the existing solar system to energy storage system. This solution is more flexible even during the grid is not present, the whole system is still able to run.
- System allows string inverter output energy to charge the battery or supply load.



Support Max. Number of Parallel of 16pcs

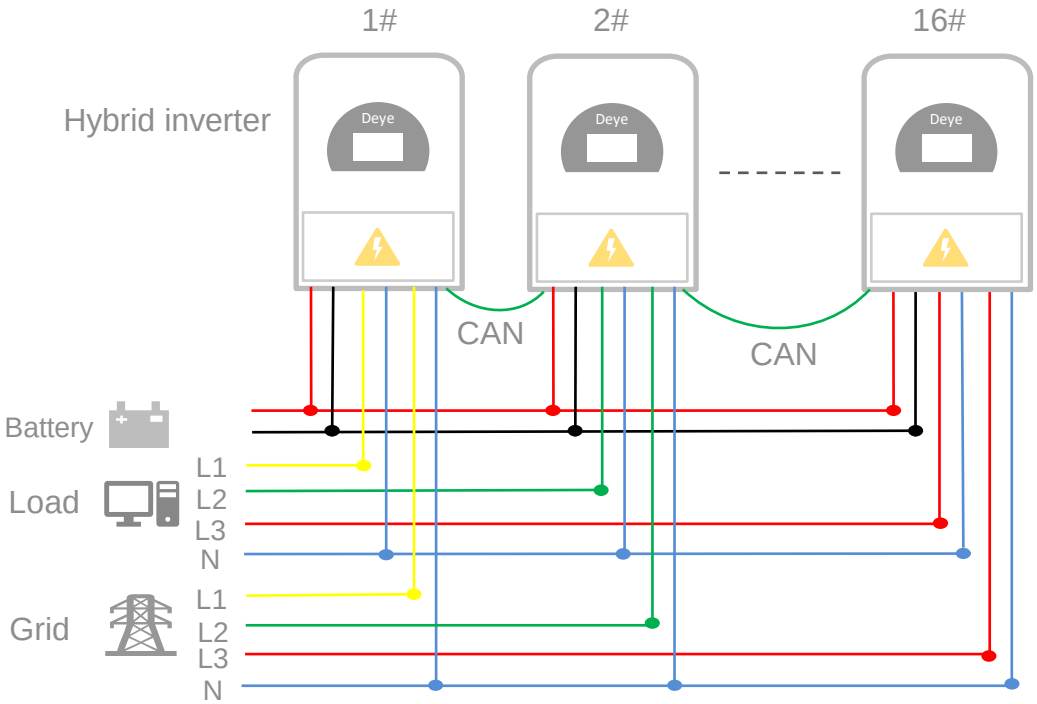
Support Max. number of parallel of 16pcs

Single-phase system diagram



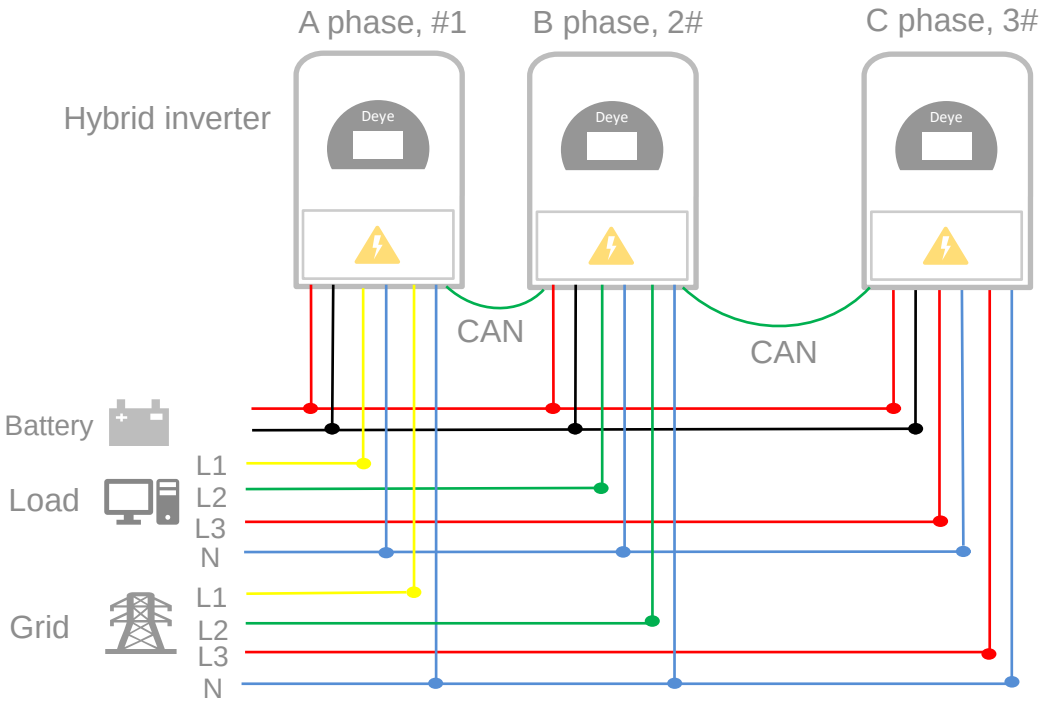
Support Max. Number of Parallel of 16pcs

Three-phase system diagram

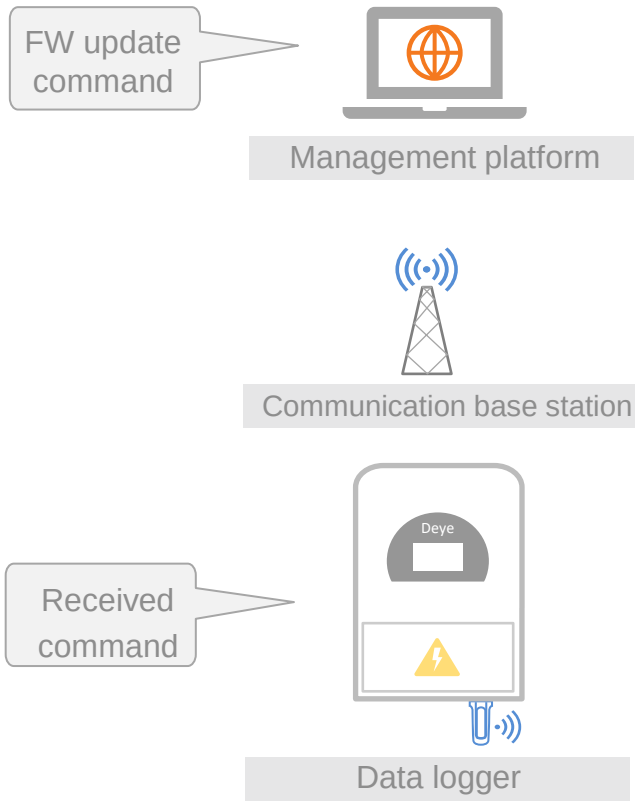


Support Max. Number of Parallel of 16pcs

Three-phase system diagram



Support set parameters and FW update remotely



Short time for FW update

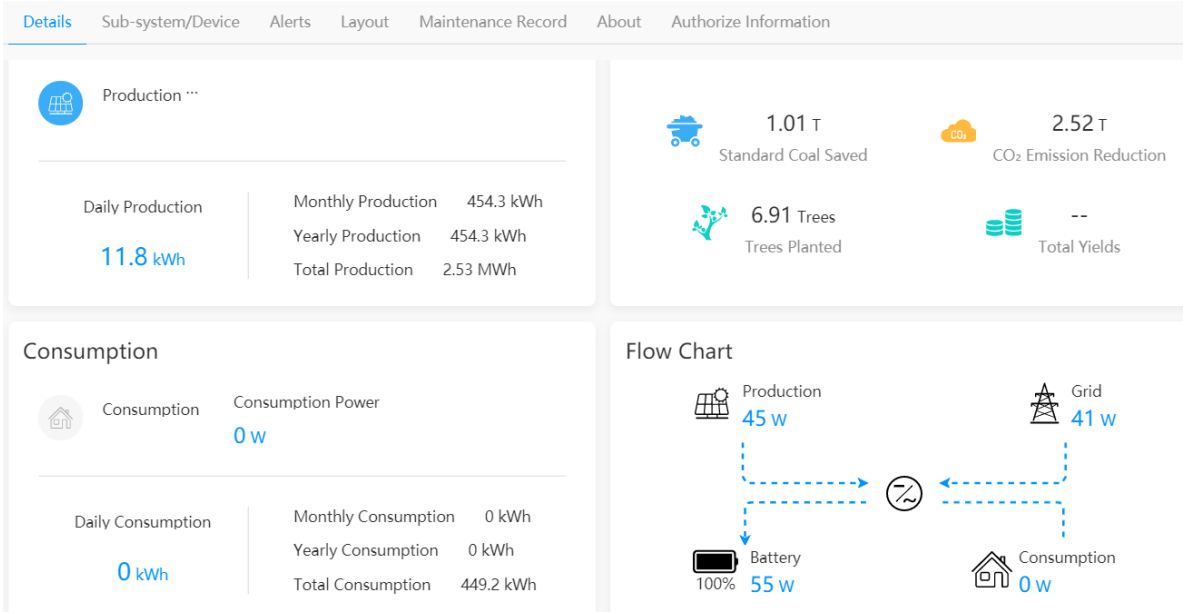
- Remotely inverter parameter setting and software upgrade within 20 minutes

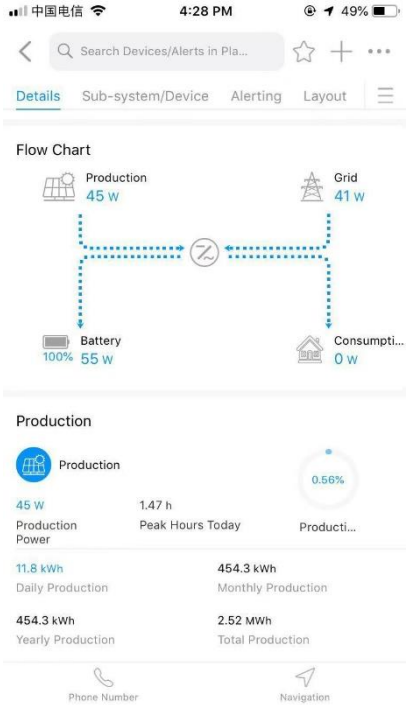
Save time, save cost

- Not need O&M engineer on site to check and operation

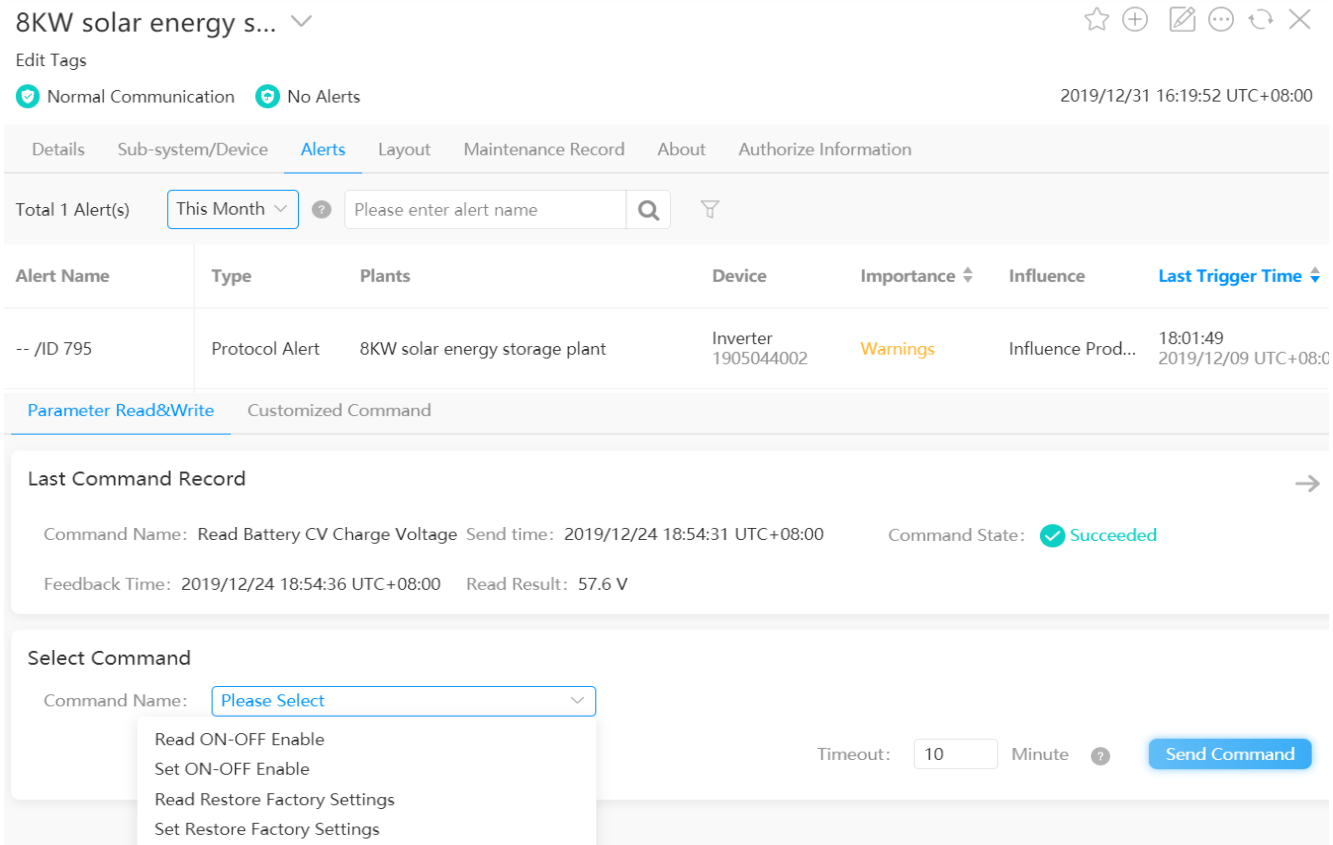
Remotely O&M

- Check your solar station by your mobile phone and PC at any time and any where.
- For distributor and installer, they can find and fix problems before end user complaint



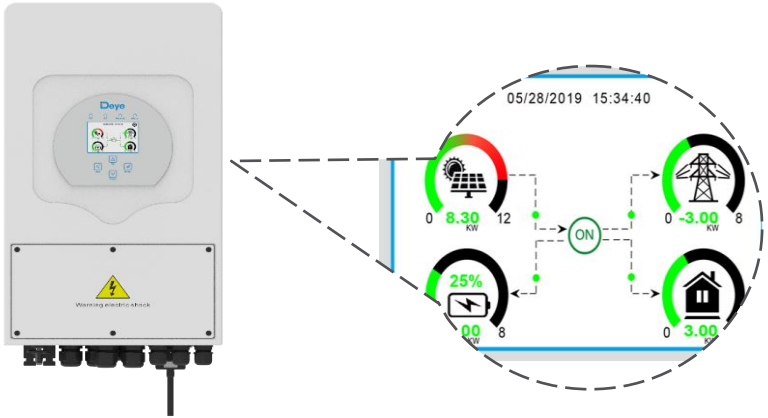


- Record fault codes with date, also check and set parameters remotely.



Local Touch LCD Screen

- **Local colorful touch LCD screen** with buttons, more reassurance after seeing the data
- Graphic shows the system energy flow direction real-time, easy understand.

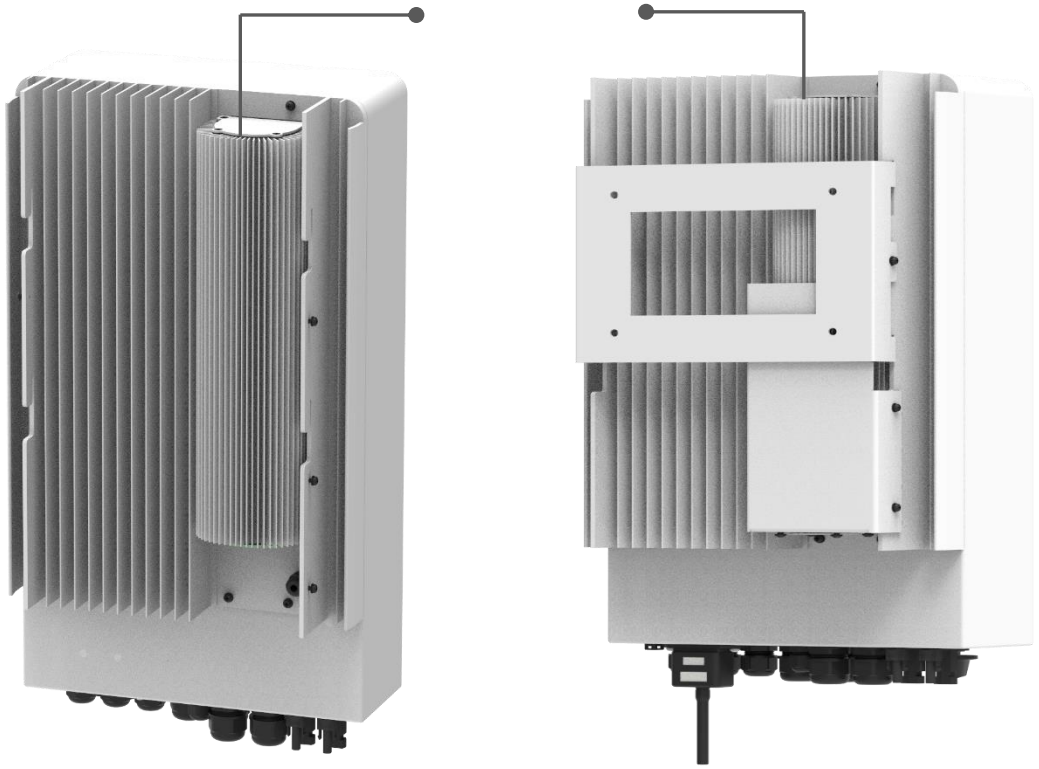


PV Status | Grid Status | Battery Status | Load Status

IP65 Protection Degree

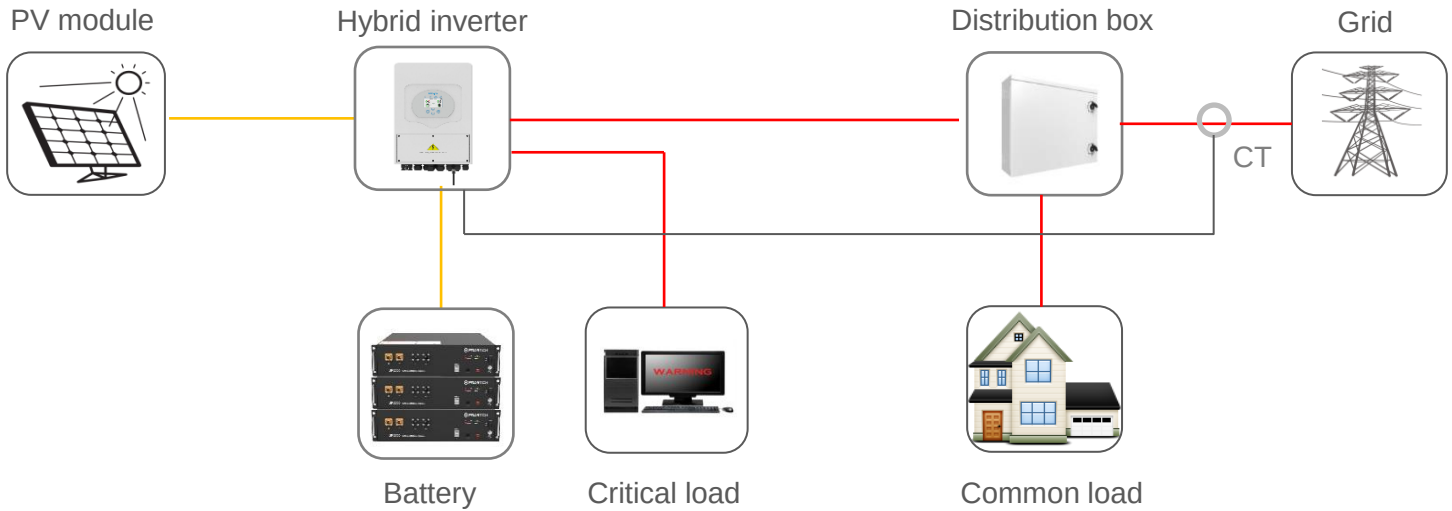
- Full series IP65 protection degree, sufficient heat dissipation, adapt to harsh environment, high reliability.

External fully enclosed glue-filled inductor, greatly inducing heat and noise from inductor



Export Output Control

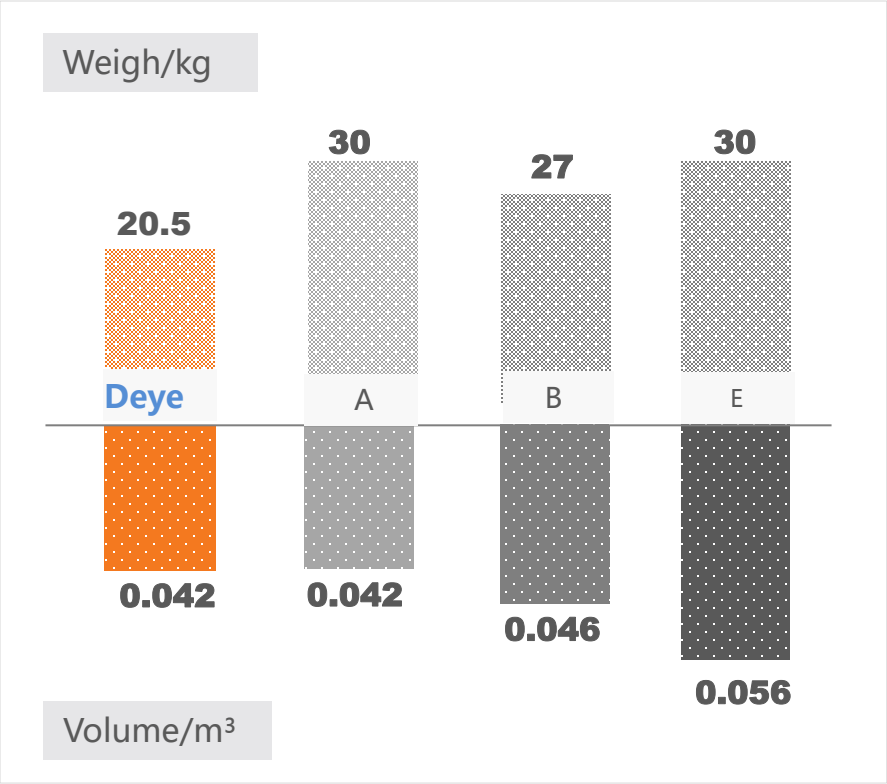
Zero-export output—intelligent adjust output power, meeting different requirements.



High Power Density

- Compactness design, smaller size and light in weight

SUN 5K



10KW Storage Power Plant in Iraq

SUN 5K-SG

16KW Storage Power Plant in South Africa

SUN 8K-SG

32KW Storage Power Plant in South Africa

SUN 8K-SG

32KW Storage Power Plant in Iraq


THANK YOU !