

# HYBRID INVERTER

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



## Datasheet

HYD 3000-ES

HYD 4000-ES

HYD 5000-ES

HYD 6000-ES

Battery Parameters		Lithium-ion,Lead-acid			
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			
<b>Input DC(PV side)</b>					
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	11A/11A				
The max DC input short current	13.2A/13.2A				
<b>Output AC(Grid side)</b>					
Rated Power	3000W	4000W	5000W	6000W	
Max.Output Power	3000VA	4000VA	5000VA	6000VA	
Nominal Grid Voltage	L/N/PE,220,230,240				
Operation phase	Single(L-N-PE)				
Max.Input/Output current	13.7A	18.2A	22.8A	27.3A	
AC voltage Range	180V~276V(According to local standard)				
Grid Frequency range	44-55Hz/54-66Hz(According to local standard)				
THD	< 3%				
Power factor	1 default (+/-0.8 adjustable)				
<b>Output AC(Emergency Power Supply)</b>					
EPS rated power	3000VA				
Operation phase	Single(L-N-PE)				
EPS rated voltage, Frequency	230V,50/60Hz				
EPS rated current	13A				
Peak Output Apparent Power	4000VA , 10s				
THD	< 3%				
Switch time	5S default (1-60S adjustable)				
<b>Efficiency</b>					
MPPT efficiency	99.9%				
Max efficiency of solar Inverter	97.6%	97.6%	97.8%	98.0%	
European efficiency of solar Inverter	97.2%	97.2%	97.3%	97.5%	
MAX.Charging efficiency of battery	94.6%				
MAX.DisCharging efficiency of battery	94.6%				
<b>Protection</b>					
PV reverse polarity protection	Yes				
PV insulation detection	Yes				
Ground fault monitoring	Yes				
Over current protection	Yes				
Over voltage protection	Yes				
Battery soft start protection	Yes				
<b>General Data</b>					
Ambient temperature range	-30°C...+60°C(Above 45°C Derating)				
Standby Losses	< 5W				
Topology	High frequency insulation(for bat)				
DC-Switch	Optional				
Degree Of Protection	IP65				
Allowable Relative Humidity Range	0-100%, No Condensing				
Certification	NB/T32004-2013,AS4777,IEC62116,VDE0126-1G83/2,G59/3,EN50438,VDE-AR-N4105				
Communication	RS485,WI-FI/GPRS,SD,CAN2.0				
Protective class	Class I				
Max.Operating Altitude	2000m				
Current Sensor Connection	External				
Noise	< 25dB				
Weight	16KG			17KG	
Cooling	Natural				
Dimension (W*H*D)	532*360*173				
Display	LCD display				
Warranty	5 Years or more				



### High-yield

- Real time precise MPPT algorithm for max power generation
- Wide input voltage operation range
- Independent dual MPPT tracking, flexible solar roof system design

### Reliable and Safe

- High efficiency low energy loss, Low maintenance
- High frequency isolation between battery & PV/grid
- Advanced battery management technology to protect the battery life.

### Easier Operation

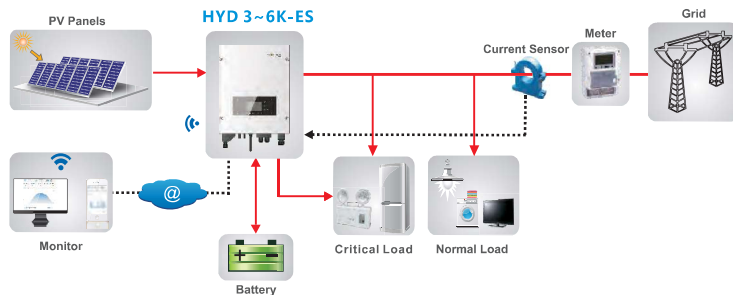
- Free site selection due to IP65
- 4' LCD clear, easy-to-read display
- Easy monitoring on phone (APP) & PC (web)

### Multiple working modes

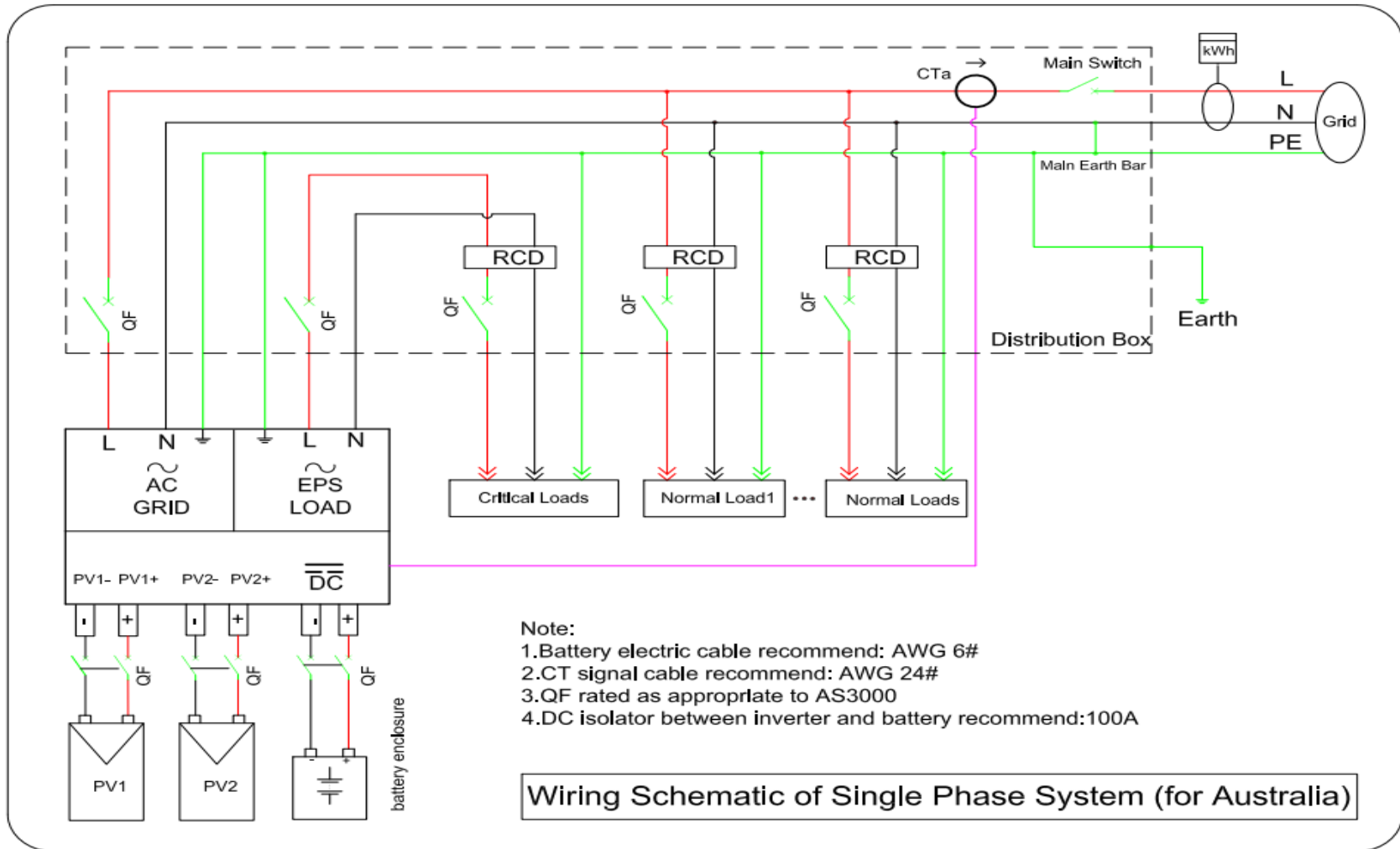
- PV & storage all in one, increases self consumption to 80%+, decreases reliance on the electrical grid, decreases the electricity bill.
- Stand alone mode (like UPS) available, ensures safe operation of critical loads
- Multiple operation modes selection: auto mode, time-of-use mode, timing mode, passive mode etc.

### Intelligent grid management

- Reactive power capability
- Limits AC output when grid frequency is too high or too low
- Limits AC output when grid voltage is too high
- Built in zero export function (optional)



# Distribution



# Monitor

中国移动 4G 下午5:03 40%

sofarhyd

Updated by: 3 Minute Ago

Intro Summary Device

15999579861 Owner  
No Introduction

Generation 1.97 kW  
 Grid --  
 Battery 19% 0.00 W  
 Consumption 2.01 kW

Current Generation Power

**-1.97 kW**

**-39%**  
5.00kWp

中国移动 4G 下午5:03 39%

sofarhyd

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

中国移动 4G 下午5:03 39%

Inverter SM1ES040J1111

Inverter Status Inverter Temp  
Grid 55°C

AC Output Total... Daily Generation Monthly Generation...  
-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