

3~6KW HYBRID INVERTER

HYD (3000/3600/4000/5000/6000) -ES



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

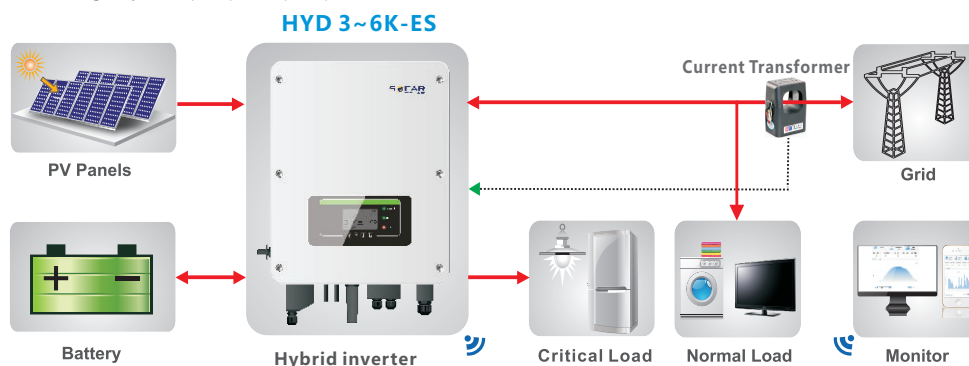
- Free site selection due to IP65
- 4" LCD clear, easy-to-read display
- Easy monitoring on phone (APP) & PC (web)

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 to low
- Limits AC output when grid voltage is too high
- Built in zero export function (optional)



HYBRID INVERTER



HYD 3000-ES / HYD 3600-ES / HYD 4000-ES / HYD 5000-ES / HYD 6000-ES

Datasheet

HYD 3000-ES

HYD 3600-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)

The max input power	3500W	4000W	4400W	5500W	6600W
Max DC power for single MPPT	2000W(160V-520V)	2400W(180V-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	180V-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				

Output AC(Grid side)

Rated Power	3000W	3680W	4000W	5000W	6000W
Max. Output Power	3000VA	3680VA	4000VA	5000VA	6000VA
Nominal Grid Voltage	L/N/PE,220,230,240				
Operation phase	Single(L-N-PE)				
Max. Input/Output current	13.7A	16A	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)				

Output AC(Emergency Power Supply)

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)				

Efficiency

MPPT efficiency	99.9%				
Max efficiency of solar Inverter	97.6%	97.6%	97.6%	97.8%	98.0%
European efficiency of solar Inverter	97.2%	97.2%	97.2%	97.3%	97.5%
Max. Charging efficiency of battery	94.6%				
Max. DisCharging efficiency of battery	94.6%				

Protection

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				

General Data

Ambient temperature range	-30°C...+60°C(Above 45°C Derating)				
Standby Losses	< 5W				
Topology	High frequency insulation(for bat)				
DC-Switch	Yes				
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	20.5kg				
Cooling	Natural				
Dimension (W*H*D)	566*394*173				
Display	LCD display				
Warranty	5 Years or more				



AS4777 G83/2 G59/3

CQC, IEC, VDE-AR-N4105 / VDE-0126, EMC, C10/11, EN50438, RD1669, CEI 0-21