

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)



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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			10ms default		
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 insolation(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