



**HYD**  
**3k~6k-ES**  
3000/3600/4000/4600/5000/6000

## Single-Phase Energy storage integrated inverter

- Outdoor IP65 design
- Compatible with on grid and off grid
- Avariety of work modes are optional
- EPS function, switching time is less than 10ms
- Built-in zero export fuction
- Flexible configuration of lead acid or lithium battery
- Integrated fanless self-recognition heat dissipation design



Datasheet	HYD 3000-ES	HYD 3600-ES	HYD 4000-ES	HYD 4600-ES	HYD 5000-ES	HYD 6000-ES
<b>Battery Parameters</b>						
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	65A (Programmable)					
Maximum Discharging Current	70A (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>						
Recommended Max. PV input power	3990W	4790W	5320W	6120W	6650W	7980W
Max DC power for single MPPT	2000W	2400W	2600W	2800W	3000W	3500W
Max. input voltage	600V					
Start-up voltage	120V					
Nominal DC Voltage	360V					
MPPT operating voltage range	90-580V					
Full power MPPT voltage range	160V-520V	180V-520V	200V-520V	230V-520V	250V-520V	300V-520V
MPPT number	2					
The max DC input current	12A/12A					
The max DC input short current	15A/15A					
<b>Output AC(Grid side)</b>						
Rated Power	3000W	3680W	4000W	4600W	5000W	6000W
Max. Output Power	3000VA	3680VA	4000VA	4600VA	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	21.0A	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	180-276Vac (According to local standard)					
Switch time	10ms default					
<b>Efficiency</b>						
MPPT efficiency	99.9%					
Max efficiency of solar Inverter	97.6%	97.6%	97.6%	97.8%	97.8%	98.0%
European efficiency of solar Inverter	97.2%	97.2%	97.2%	97.3%	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	<10W					
Topology	High frequency insulation (for bat)					
DC-Switch	Yes					
Degree Of Protection	IP65					
Allowable Relative Humidity Range	0~100%					
Communication	RS485, Wifi/Ethernet/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 mm					
Display	LCD display					
Warranty	5 Years or more					
<b>Standard</b>						
EMC	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12					
Safety standards	IEC62109-1/2, IEC62040-1, IEC62116, IEC61737, IEC-61683, IEC60068(1,2,14,30)					
Grid standards	AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50438/EN50549, GB3/G9/G98/G99, UTE C15-712-1, UNE 206 007-1					