Storage

HES LV

3-6K

SINGLE PHASE HYBRID

PV Ratio Up to **2.0**

Grid Independence

Shadow Scan Algorithm

String-level Monitoring via HYPON.CLOUD

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HES MODEL	HES-3000	HES-3680	HES-4000	HES-5000	HES-6000

PV INPUT

Max. PV Power / W	HES-3000	6000
	HES-3680	7360
	HES-4000	8000
	HES-5000	10000
	HES-6000	12000

Max.Input Voltage / V	600
Start Up Voltage / V	70
MPP Voltage Range / V	80-550
Rated Input Voltage / V	360
Max. Input Current / A	16/16

Max. Short Circuit Current / A	20/20
No. of MPPTs/No. Strings Per MPPT	2/1

BATTERY INPUT

Battery type		Lithum/Lead-Acid
Input voltage range[V]		40-60
Max.charging/discharging current[A]	HES-3000 HES-3680	70
	HES-4000	80
	HES-5000 HES-6000	120

Rated Battery Voltage [V]	48
Max.Charging/Discharging voltage [V]	<=60 (Adjustable)
Charging strategy for Li-ion battery	Self Adaption to BMS
Charging strategy for lead-acid battery	3 Stages Curve
Temperature sensor	Optional (for Lead-Acid)

AC OUTPUT

Rated Power / W	3000	3680	4000	5000	6000
Max. Apparent Power / VA	3300	4048	4400	5500	6600
Max. Apparent Power from Grid / VA	6600	8096	8800	10000	10000
Rated Grid Voltage / V	220/230/240	220/230/240	220/230/240	220/230/240	220/230/240
Rated Grid Frequency / Hz	50/60	50/60	50/60	50/60	50/60
Rated Output Current / A	13.0	16.0	17.4	21.7	26.1
Max. Output Current / A	14.3	17.6	19.1	23.9	28.7
Max. Current from Grid / A	28.7	35.2	38.3	40.0	40.0
Power Factor	0.8ind - 0.8cap	0.8ind - 0.8cap	0.8ind - 0.8cap	0.8ind - 0.8cap	0.8ind - 0.8cap
THDi @ Rated Power	<3%	<3%	<3%	<3%	<3%
Grid Connection	L-N-PE	L-N-PE	L-N-PE	L-N-PE	L-N-PE

AC OUTPUT (BACK-UP)

Rated Power / W	3000	3680	4000	5000	6000
Rated Output Voltage / V	230	230	230	230	230
Rated Output Frequency / Hz	50/60	50/60	50/60	50/60	50/60
Peak Output Apparent Power / VA	2 times of rated power for 3000-4000W@10s; 1.5 times for 5000-6000W@10s				
Rated Output Current / A	13.0	16.0	17.4	21.7	26.1
Switch Time / ms	<10	<10	<10	<10	<10
THDV@ Rated Power	<2%	<2%	<2%	<2%	<2%

EFFICIENCY

MPPT Efficiency	99.90%	Max. Efficiency	98.00%	Charged Efficiency@PV-Battery	96.00%
Euro Efficiency			97.60%	Charged/Discharged Efficiency@Battery<->Grid/Load	95.00%

PROTECTION

Anti-Islanding Protection	Integrated	Output Over Circuit Protection	Integrated	Battery Reverse Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated	Output Short Circuit Protection	Integrated	Battery Terminal Temp Protection	Integrated
Insulation Resistor Detection	Integrated	Over Voltage Protection	Integrated		
Residual Current Monitoring Unit	Integrated	Surge Protection	DC Type II, AC Type III		

GENERAL DATA

Dimensions (W*H*D) / mm	455*365*182	Communication with Meter	RS485		
Weight / kg	18.4	Operating Ambient Temperature / °C	-30 ~ +60		
User Interface	LCD&LED	Allowable Relative Humidity Range / %	0-100		
PV Connection Type	MC4	CT Connection Type	Plug-in Connector		
AC Connection Type	OT Terminal + Shell	Max. Operating Altitude / m	3000 (>3000 Derating)		
Battery Connection Type	Plug-in	Degree of Protection	IP65		
Communication with Cloud	RS485/Wi-Fi/4G/LAN (optional)	Climatic Category (IEC 60721-3-4)	4K4H		
Communication with BMS	CAN/RS485	Topology	Transformerless		
Cooling Method	Natural Cooling	Night Consumption / W	<5	Max. Parallel Number	9