

2.2 Inverter

2.2.1 PV Inverter

The string inverters for feeding grid-connected photovoltaic systems are the one of the best choice for medium-sized systems. Outstanding peak efficiency factors, patented technology and high-quality workmanship make them a reliable choice for permanently high system yields. This is ideally complemented by simple operation and comprehensive warranty and servicing options.

- Maximum efficiency of 98.5% and wide input voltage range
- Internal DC switch
- Transformer less GT topology
- Compact design
- MTL – String



Technical Data	36KW	60KW
Input (DC)		
Max. PV input voltage	1000 V	1000 V
Startup voltage	220 V	620 V
MPP voltage range	200 - 950 V	570 - 950 V
MPP voltage range for nominal power	500 - 800 V	570 - 850 V
No. of MPPTs	3	1
Max. number of PV strings per MPPT	3 / 3 / 2	14
Max. PV input current	88 (33 A / 33 A / 22 A)	120 A
Max. current for input connector	12 A	12 A
Output (AC)		
Nominal AC output power	36000 W	60000 W
Max AC output power (PF=1)	36000 W	66000 W
Max. AC output apparent power	36000 VA	66000 VA
Max. AC output current	53 A	96 A
Nominal AC voltage	3 / N / PE, 400 V	3 P + N + PE/3P + PE, 230 / 400 Vac
AC voltage range	352 - 440 V	310 - 480 Vac
Nominal grid frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Grid frequency range	45 - 55 Hz / 55 - 65 Hz	45 - 55 Hz / 55 - 65 Hz
THD	< 3% (at nominal power)	< 3% (at nominal power)
Power factor	> 0.99 @ default value at nominal power, (adj. 0.8 leading - 0.8 lagging)	> 0.99 @ default value at nominal power, (adj. 0.8 leading - 0.8 lagging)
System Data		
efficiency	98.50%	98.70%
Ingress protection rating	IP65	IP65
Night power consumption	< 1 W	< 1 W
Operating ambient temperature range	-25°C to 60°C (> 50°C derating)	-25°C to 60°C
Allowable relative humidity range	0 - 100%	0 - 100%

2.2.2 Hybrid Inverter

The bidirectional energy storage photovoltaic inverter can not only realize the function of off grid and grid connected generation, but also realize the bidirectional flow control of electric energy. The complete energy storage photovoltaic system consists of the following components: PV array, ES series energy storage inverter, power grid, energy storage equipment, local load. The day of photovoltaic energy storage power through the photovoltaic inverter to provide local load or grid, also can be used to charge the storage equipment according to the needs of the night; storage equipment in the power grid can be released, in addition to the storage device through the inverter charging.

- Maximum efficiency of 96.5% and wide input voltage range
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Datasheet	3600ES	4600ES
Input Data (DC)		
Max. DC power	3800W	5000W
Max. DC voltage	550V	
Start voltage	150V	
DC nominal voltage	360V	
PV voltage range	100V-580V	
MPP voltage range	125V-530V	
Max. input current per string of tracker A/tracker B	11A/11A	
Number of independent MPP inputs	2	
Output Data (AC)		
Nominal AC output power	3600W	4600W
Max. AC apparent power	3600VA	4600VA
Max. output current	16 A	21A
AC nominal voltage; range	220V/230V/240V	
AC grid frequency; range	50,60Hz; ±5 Hz	
Power factor at rate power	100.00%	
Power factor	0.8leading...0.8lagging	
THDi	<3%	
AC connection	Single phase	
Battery		
Battery type	Lead-acid or Li-ion	
Norminal voltage	51.2V	

Max. discharging /charging power	2500W / 2500W	
Charging curve	3-stage adaptive with maintenance	
Operating voltage range	46V-57V	
Max. charging/discharging current	50A / 50A	
Backup Output		
Output rate power	2000VA	
Peak power	3000VA,10s	
Output voltage	230V \pm 2%, 50Hz (60Hz Optional) \pm 0.2%, THD _v <3% (linear load)	
Eciency		
Max. eciency	97.00%	97.10%
Euro - eta	96.50%	96.50%
MPPT eciency	99.50%	99.50%
Protection Devices		
DC reverse polarity protection	Yes	
DC switch rating for each MPPT	Yes	
Output over current protection	Yes	
Output overvoltage protection-varistor	Yes	
Ground fault monitoring	Yes	
Grid monitoring	Yes	
Integrated all - pole sensitive leakage current	Yes	
monitoring unit		
Display	LCD	
Interfaces: Wi-Fi/GPRS/RS485	Yes/Opt/Opt	

