



ES Series

The GoodWe ES series bi-directional energy storage inverter is applicable with both on-grid and off-grid PV systems. It can control the flow of energy intelligently. During daytime, the PV plant generates electricity which can be provided to the loads, fed into the grid or charge the battery. The electricity stored can be released when the loads require it during the night. Additionally, the power grid can also charge the storage devices via the inverter.

- Innovative solution for Energy Storage
- Charge controller and inverter integrated
- Intelligent battery management function
- Capable of being grid-interactive or grid-independent
- Compatible with both Lead-acid and Li-Ion battery
- More security & performance for same costs
- IP65 dust-proof and water-proof rating
- 45°C full-load output
- Monitoring inverters freely via computers or mobile phones
- Fanless low-noise design

Technical Data

	GW5048D-ES	GW3648D-ES
Solar		
Max. recommended PV Power [W]	6000	4600
Nominal DC Power [W]	5000	4200
Max. DC voltage [V]	580	580
MPPT voltage range [V]	125~550	125~550
Starting voltage [V]	150	150
Max. DC current [A]	11/11	11/11
No. of DC connectors	2	2
No. of MPPTs	2 (can parallel)	2 (can parallel)
DC connector	MC4/ Phoenix/ Amphenol	MC4/ Phoenix/ Amphenol
Battery		
Battery type	Lead-acid or Li-Ion	Lead-acid or Li-Ion
Normal Voltage [V]	48	48
Max Discharge power [W]	4600	3600
MAX Charge power [W]	2300, programmable	2300, programmable
Battery capacity [Ah]	≥ 100 (depending requirement)	≥ 100 (depending requirement)
Charging curve	3-stage adaptive with maintenance	3-stage adaptive with maintenance
Charging voltage [V]	60 (optional)	60 (optional)
Battery temperature compensation	Included (Li-Ion)	Included (Li-Ion)
Battery voltage sense	Integrated	Integrated
Current shunt	Integrated	Integrated
AC Output Data		
Normal AC power [W]	4600	3600
Max. AC power [W]	4600/4850/4950/5100*	3600
Peak power (Back-up) [W]	1.5x Pnom, 10sec	1.5x Pnom, 10sec
Max. AC current [A]	20/21**	16
Normal AC output	50/60Hz; 230Vac	50/60Hz; 230Vac
AC output range	45~55Hz/55~65Hz; 180~270Vac	45~55Hz/55~65Hz; 180~270Vac
AC output (Back-up)	230Vac ±2%, 50Hz(60Hz optional) ±0.2%, THDv<3% (linear load)	
THDi	<1.5%	<1.5%
Power factor	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging
Grid connection	Single phase	Single phase
Efficiency		
Max. efficiency	97.6%	97.6%
Euro efficiency	>97.0%	>97.0%
MPPT adaptation efficiency	99.9%	99.9%
Protection		
Residual current monitoring unit	Integrated	Integrated
Anti-islanding protection	Integrated	Integrated
DC switch (PV)	Integrated (optional)	Integrated (optional)
AC over current protection	Integrated	Integrated
Insulation monitoring	Integrated	Integrated
Certifications&Standards		
Grid regulation	VDE-AR-N4105, VDE 0126-1-1, G83/2, G59/3, AS4777.2/3	
Safety	IEC62109-1&-2, AS3100, IEC62040-1	
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-3-11, EN61000-3-12	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-3-2, EN61000-3-3
General Data		
Dimensions (WxHxD) [mm]	516*440*184	516*440*184
Weight [kg]	30	28
Mounting	Wall bracket	Wall bracket
Ambient temperature range	-25~60°C (>45°C derating)	-25~60°C (>45°C derating)
Relative humidity	0~95%	0~95%
Max. operating altitude	4000m(> 3000m derating)	4000m(> 3000m derating)
Protection degree	IP65	IP65
Topology	Transformerless	Transformerless
Standby losses [W]	<8	<8
Cooling	Natural convection	Natural convection
Noise emission [dB]	<25	<25
Display	LED light & APP	LED light & APP
Communication	USB2.0; WiFi	USB2.0; WiFi
Standard warranty [years]	5	5

*4600 for VDE-AR-N4105, 4850 for Thailand, 4950 for Australia, 5100 for other countries

**21 for Thailand, 20 for other countries



BP Series

The GoodWe BP series DC energy storage system is compatible with most single-phase on-grid inverters. Ordinary PV stations can be upgraded to PV energy storage systems with the addition of a BP energy storage unit. During daytime, the PV system generates electricity which can be firstly provided to the loads. Then the excess energy will charge the battery via the BP energy storage system. During the night, battery discharges via BP energy storage system, then electricity will be provided to the loads via PV inverter. The BP energy storage system improves self consumption ratio greatly.

- Normal on-grid system equipped with storage function
- Intelligent battery management function
- BMS communication integrated
- Nominal 48V battery, secure and reliable
- Easy access to single-phase on-grid system
- Higher self-consumption ratio
- IP65 protection class
- Up to 10 safety measurements
- Max. Battery Charge efficiency 96%
- Fanless low-noise design
- 45°C full-load output

Technical Data

GW2500-BP

PV input	
Max. PV input power [W]	6000
Max. PV input voltage [V]	600
Max. PV input current [A]	25
No. of PV input & output connectors	1/1
PV connector	MC4/ Phoenix/ Amphenol
Battery	
Battery Type	Lead-acid or Li-Ion
Norminal Voltage [V]	48
MAX Discharge/Charge current [A]	50/50A
MAX Discharge/Charge power [W]	2500/2500
Battery capacity [Ah]	50~1000
Charging curve	3-stage adaptive with maintenance
BP output and input data	
Rated output voltage [V]	360
Output voltage range [V]	250~360
Input voltage range while chargeing [V]	150~500
Max input and output current [A]	10
Protection	
Battery over & low voltage protection	Integrated
Over current protection	Integrated
Output current short protection	Integrated
Efficiency	
Max. Battery Charge efficiency	96.0%
Max. Battery Discharge efficiency	96.5%
Certifications & standards	
Safety/EMC	CE
General data	
Dimensions (WxHxD) [mm]	344*274.5*128
Weight [kg]	8
Mounting	Wall bracket
Ambient temperature range	-25~60°C(>45°C derating)
Relative humidity	0~95%
Max. operating altitude	4000m(>3000m derating)
Protection degree	IP65
Topology	High frequency insulation
Standby losses [W]	<8
Cooling	Nature convection
Noise emision [dB]	<25
Display	LCD & LED light
Communication	USB2.0;WiFi;RS485
Standard warranty [years]	5