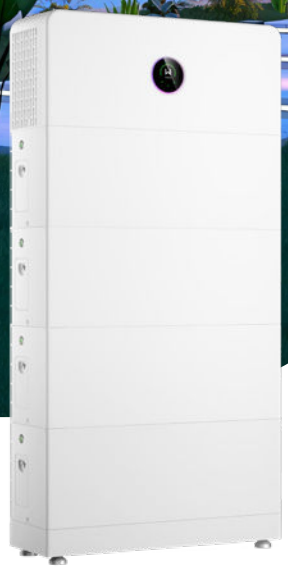
GOODWE

ESA Series

5-30kW/5-108kWh I Three Phase AC-Coupled

The GoodWe ESA Series 5-30kW/5-108kWh is a three-phase All-in-One ESS that integrates the inverter, battery, and intelligent energy management into a single system. Its pre-wired, modular design unifies the inverter and battery, delivering an installation-friendly structure that streamlines setup and accelerates commissioning. With four battery module options-5, 6, 8, and 9kWh-up to 12 modules can be connected for a total storage capacity of 108kWh. Featuring simplified configuration, large expandable storage, and an AI-driven EMS for dynamic tariff optimization, the ESA Series 5–30kW/5–108kWh provides an efficient, flexible, and future-ready solution for both residential and small commercial use.



Optimized Performance

· Up to 1C charge/discharge for rapid energy cycling
· Smart fan cooling for quiet operation, noise <35dB

Flexible & Adaptable Applications

· Dual-port design for whole-home backup
· Flexible battery mixing with different capacity or old & new batteries
· Supports on- and off-grid parallel operation

Superb Safety & Reliability

· Advanced 6-layer safety protection
· IP66 protection for enhanced durability
· Heating mode ensures reliable performance even in -20°C

Smart Control & Monitoring

· Ready for AI-driven EMS
· Seamless switching to backup <4ms
· One-click upgrade & one-click configuration

ESA Series / Power Module

GOODWE

Technical Data	GW5K-BTA-G20	GW6K-BTA-G20	GW8K-BTA-G20	GW9.999K-BTA-G20	GW12K-BTA-G20	GW15K-BTA-G20	GW20K-BTA-G20	GW25K-BTA-G20	GW29.999K-BTA-G20
Battery Side									
Battery Type	Li-Ion								
Nominal Voltage (V)	750								
Voltage Range (V)	700 ~ 950								
Start-up Voltage (V)	720								
Number of Battery Inputs	1								
Max. Continuous Charging Current (A)	6.7	8.1	10.7	13.4	16.1	20.1	26.7	33.3	40.0
Max. Continuous Discharging Current (A)	7.4	8.9	11.8	14.7	17.7	22.1	29.4	36.7	44.1
Max. Charging Power (kW)	5.0	6.0	8.0	10.0	12.0	15.0	20.0	25.0	30.0
Max. Discharging Power (kW)	5.5	6.6	8.8	11.0	13.2	16.5	22.0	27.5	33.0
AC Side (On-Grid)									
Rated Power (kW)	5	6	8	9.999	12	15	20	25	29.999
Max. Power (kW)	5	6	8	9.999	12	15	20	25	29.999
Rated Apparent Power to Grid (kVA)	5	6	8	9.999	12	15	20	25	29.999
Rated Apparent Power from Grid (kVA)	5	6	8	9.999	12	15	20	25	29.999
Max. Apparent Power to Grid (kVA)	5	6	8	9.999	12	15	20	25	29.999
Max. Apparent Power from Grid (kVA)	43.5	43.5	43.5	43.5	43.5	43.5	43.5	55.2	55.2
Nominal Voltage (V)	220 / 380, 230 / 400, 3L / N / PE								
Voltage Range (V)	180 ~ 260 (According to local standard)								
Nominal Frequency (Hz)	50 / 60								
Frequency Range (Hz)	45 ~ 55 / 55 ~ 65								
Rated Current to Grid (A)	7.6 at 380V 7.3 at 400V	9.1 at 380V 8.7 at 400V	12.2 at 380V 11.6 at 400V	15.2 at 380V 14.5 at 400V	18.2 at 380V 17.4 at 400V	22.8 at 380V 21.8 at 400V	30.4 at 380V 29.0 at 400V	37.9 at 380V 36.3 at 400V	45.5 at 380V 43.5 at 400V
Rated Current from Grid (A)	7.6 at 380V 7.3 at 400V	9.1 at 380V 8.7 at 400V	12.2 at 380V 11.6 at 400V	15.2 at 380V 14.5 at 400V	18.2 at 380V 17.4 at 400V	22.8 at 380V 21.8 at 400V	30.4 at 380V 29.0 at 400V	37.9 at 380V 36.3 at 400V	45.5 at 380V 43.5 at 400V
Max. Current to Grid (A)	7.6 at 380V 7.3 at 400V	9.1 at 380V 8.7 at 400V	12.2 at 380V 11.6 at 400V	15.2 at 380V 14.5 at 400V	18.2 at 380V 17.4 at 400V	22.8 at 380V 21.8 at 400V	30.4 at 380V 29.0 at 400V	37.9 at 380V 36.3 at 400V	45.5 at 380V 43.5 at 400V
Max. Current from Grid (A)	63	63	63	63	63	63	63	80	80
Power Factor	0.8 leading ~ 0.8 lagging								
THDi	<3%								
Back-up Side									
Rated Output Apparent Power (kVA)	5	6	8	10	12	15	20	25	30
Max. Output Apparent Power (kVA)	Off-grid: 5.5 (10.0, 10s), on-grid: 43.5	Off-grid: 6.6 (12, 10s), on-grid: 43.5	Off-grid: 8.8 (16.0, 10s), on-grid: 43.5	Off-grid: 11 (20.0, 10s), on-grid: 43.5	Off-grid: 13.2 (24, 10s), on-grid: 43.5	Off-grid: 16.5 (30, 10s), on-grid: 43.5	Off-grid: 22 (30.0, 10s), on-grid: 43.5	Off-grid: 27.5 (45.0, 10s), on-grid: 55.2	Off-grid: 33 (45.0, 10s), on-grid: 55.2
Nominal Output Voltage (V)	220 / 380, 230 / 400, 3L / N / PE								
Nominal Output Frequency (Hz)	50 / 60								
Rated Output Current (A)	7.6 at 380V 7.3 at 400V	9.1 at 380V 8.7 at 400V	12.2 at 380V 11.6 at 400V	15.2 at 380V 14.5 at 400V	18.2 at 380V 17.4 at 400V	22.8 at 380V 21.8 at 400V	30.4 at 380V 29.0 at 400V	37.9 at 380V 36.3 at 400V	45.5 at 380V 43.5 at 400V
Max. Output Current (A)	Off-grid: 11.4, on-grid: 63	Off-grid: 13.7, on-grid:63	Off-grid: 18.2, on-grid: 63	Off-grid: 22.8, on-grid:63	Off-grid: 27.3, on-grid: 63	Off-grid: 33.4, on-grid: 63	Off-grid: 33.4, on-grid: 63	Off-grid: 50.0, on-grid: 80	Off-grid: 50.0, on-grid: 80
THDv (@Linear Load)	<3%								
On / Off-grid Switching Time (ms)	<4								
Efficiency									
Max. Efficiency	98.0%	98.0%	98.0%	98.1%	98.1%	98.1%	98.1%	98.2%	98.2%
European Efficiency	96.4%	96.9%	97.1%	97.2%	97.2%	97.3%	97.3%	97.4%	97.4%
CEC Efficiency	96.4%								
Max. Battery to AC Efficiency	98.0%								
Protection									
Residual Current Monitoring	Integrated								
Battery Reverse Polarity Protection	Integrated								
Anti-islanding Protection	Integrated								
AC Overcurrent Protection	Integrated								
AC Short Circuit Protection	Integrated								
AC Overvoltage Protection	Integrated								
AC Surge Protection	Type II								
Remote Shutdown	Integrated								
General Data									
Operating Temperature Range (°C)	-35 ~ +60								
Relative Humidity	0 ~ 100%								
Max. Operating Altitude (m)	4000 (>2000 derating)								
Cooling Method	Smart Fan Cooling								
User Interface	LED, WLAN + APP								
Communication with BMS	CAN								
Communication	RS485, WiFi + LAN + Bluetooth, 4G + Bluetooth (Optional)								
Communication Protocols	Modbus-RTU, Modbus-TCP								
Weight (kg)	34	34	34	34	34	34	34	38	38
Dimension (W x H x D mm)	800 x 340 x 270								
Noise Emission (dB)	≤35	≤35	≤35	≤35	≤35	≤40	≤40	≤45	≤45
Ingress Protection Rating	IP66								
Mounting Method	Wall / Floor Mounted								
Country of Manufacture	China								

*: Please visit GoodWe website for the latest certificates.

GoodWe-Single page-20261009-AU-V2.1. Information may be subject to change without notice during product improving.

ESA Series / Battery Module*

GOODWE

Technical Data		GW5.1-BAT-D-G20	GW8.3-BAT-D-G20	GW5.1-BAT-D-G21	GW8.3-BAT-D-G21	GW6.0-BAT-D-G20	GW9.0-BAT-D-G20
Battery Type		LFP ($LiFePO_4$)					
Rated Energy (kWh)		5.12	8.32	5.12	8.32	6.0	9.0
Usable Energy (kWh)		5.0*1	8.0*2	5.0*1	8.0*2	5.9*3	8.85*3
Operating Voltage Range (V) (single phase system)		350 ~ 550					
Operating Voltage Range (V) (three phase system)		700 ~ 950					
Max. Input Current (System) (A)		12.0	19.0	12.0	19.0	7.1	10.7
Max. Output Current (System) (A)		13.2	21.0	13.2	21.0	7.9	11.8
Max. Input Power (System) (kW)*4		5.0	8.0	5.0	8.0	3.0	4.5
Max. Output Power (System) (kW)*4		5.0	8.0	5.0	8.0	3.0	4.5
Peak.Output Power (System) (kW)*4		7.5 @10s	12 @10s	7.5 @10s	12 @10s	4.5 @ 10s	6.75 @ 10s
Charging Temperature Range (°C)		-18 ~ +55	-18 ~ +55	+2 ~ +55	+2 ~ +55	-20 ~ +55	-20 ~ +55
Discharging Temperature Range (°C)		-20 ~ +55					
Relative Humidity		4 ~ 100%					
Max. Operating Altitude (m)		4000					
Noise Emission (dB)		≤29	≤29	≤29	≤29	≤27	≤27
Communication		CAN	CAN	CAN	CAN	CAN & 485	CAN & 485
Weight (kg)		57.5 ± 1	79 ± 1	57.5 ± 1	79 ± 1	61 ± 1	77± 1
Ingress Protection		IP66					
Dimensions (W × H × D mm)		800 × 326 × 270					
Function Configuration		Heating (Optional); Aerosol fire extinguishing (Integrated)		Aerosol fire extinguishing (Integrated)		Heating (Integrated); Aerosol fire extinguishing (Integrated)	
Max. Storage time		12 months (-20°C ~ +35°C) 6 months (+35°C ~ +45°C)					
Scalability*5		12 pcs					
Mounting Method		Floor stacked / Wall-mounted				Floor stacked / Wall-mounted / Grounded	
Cycle Life*6		≥8000	≥8000	≥8000	≥8000	≥10000	≥10000
Standard and Certification	Safety	IEC62619, IEC60730, EN62477, IEC63056, IEC62040, CE, CEC, VDE2510				IEC62619, IEC60730, EN62477, IEC63056, IEC62040, CE, CEC, Regulation 2023 / 1542, VDE2510-50	
	EMC	CE, RCM					
	Transportation	UN38.3, ADR					

*1: Test conditions, 98% DOD (cell 2.85~3.6V voltage range), 0.2P charge& discharge at 25+2°C for battery system at the beginning of life. Usable energy is defined by its initial design value. AActual available energy may vary depending on charge/discharge rate, environmental conditions (e.g. temperature), trransport and storage factors.
*2: Test conditions, 96% DOD (cell 2.85~3.6V voltage range), 0.2P charrge & discharge at 25+2°C for battery system at the beginning of life. Usable energy is defined by its initial design value. AActual available energy may vary depending on charge/discharge rate, environmental conditions (e.g. temperature), transport and storage factors.
*3: Test conditions, 98% DOD (cell 2.87~3.61V voltage range), 0.4P charge & discharge at 25±2°C for battery system at the beginning of life. Usable energy is defined by its initial design value. Actual available energy may vary depending on charge/discharge rate, environmental conditions (e.g. temperature), transport and storage factors.
*4: Max. Input Power /Max. Output Power/Peak.Output Power derating will occur related to Temperature and SOC.
*5: For single-column stacked installations, the maximum number of parallel units is 6.
*6: Based on test data under specific laboratory conditions.
*: Based on Lynx D G2 Series technology
*: Please visit GoodWe website for the latest certificates.