ESA Series / Power Module

GOODWE

Technical Data	GW5K-ETA-G20	GW6K-ETA-G20	GW8K-ETA-G20	GW9.999K-ETA-G20	GW12K-ETA-G20	GW15K-ETA-G20	GW20K-ETA-G20	GW25K-ETA-G20	GW29.999K-ETA-G20
Battery Side									
Battery Type	LFP (LiFePO4)								
Nominal Voltage (V)	750								
Voltage Range (V)	700 ~ 950								
Start-up Voltage (V)	720								
Number of Battery Input	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
PV Side									
Max. Input Power (kW)	10	12	16	20	24	30	40	50	60
Max. Input Voltage (V)[*1]	1000								
MPPT Operating Voltage Range (V)[*2]	120 ~ 950								
Start-up Voltage (V)	150								
Nominal Input Voltage (V)	750								
Max. MPPT Current (A)	21 / 21 / 21			21 / 21 / 21 / 21				21 / 21 / 42 / 42	
Max. MPPT Short Circuit Current (A)	26 / 26 / 26			26 / 26 / 26 / 26				26 / 26 / 52 / 52	
Number of MPPTs	3			4					
Number of Strings per MPPT	1 / 1 / 1			1 / 1 / 1 / 1				1 / 1 / 2 / 2	
AC Side (Grid Port)									
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)[*3]	5	6	8	9.999	12	15	20	25	29.999
Max. Apparent Power from Grid (kVA)[*4]	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) (According to local standard)	180 ~ 260								
Nominal Frequency (Hz)	50 / 60								
Frequency Range (Hz)	45 ~ 55 / 55 ~ 65								
Rated Current to Grid (A)	7.6@380V 7.3@400V	9.1@380V 8.7@400V	12.2@380V 11.6@400V	15.2@380V 14.5@400V	18.2@380V 17.4@400V	22.8@380V 21.8@400V	30.4@380V 29.0@400V	37.9@380V 36.3@400V	45.5@380V 43.5@400V
Rated Current from Grid (A)	7.6@380V 7.3@400V	9.1@380V 8.7@400V	12.2@380V 11.6@400V	15.2@380V 14.5@400V	18.2@380V 17.4@400V	22.8@380V 21.8@400V	30.4@380V 29.0@400V	37.9@380V 36.3@400V	45.5@380V 43.5@400V
Max. Current to Grid (A)[*5]	7.6@380V 7.3@400V	9.1@380V 8.7@400V	12.2@380V 11.6@400V	15.2@380V 14.5@400V	18.2@380V 17.4@400V	22.8@380V 21.8@400V	30.4@380V 29.0@400V	37.9@380V 36.3@400V	45.5@380V 43.5@400V
Max. Current from Grid (A)[*4][*5]	63	63	63	63	63	63	63	80	80
Power Factor	0.8 leading ... 0.8 lagging								
THDi	<3%								
AC Side (Back-up Port)									
Rated Apparent Power (kVA)	5	6	8	10	12	15	20	25	30
Max. Apparent Power (kVA)[*6]	Off-grid: 5.5 (10.0, 10s), on-grid: 43.5	Off-grid: 6.6 (12.0, 10s), on-grid: 43.5	Off-grid: 8.8 (16.0, 10s), on-grid: 43.5	Off-grid: 11.0 (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: 22.0 (30.0, 10s), on-grid: 43.5	Off-grid: 27.5 (45.0, 10s), on-grid: 55.2	Off-grid: 33.0 (45.0, 10s), on-grid: 55.2
Nominal Voltage (V)	220 / 380, 230 / 400, 3L / N / PE								
Nominal Frequency (Hz)	50 / 60								
Max. Current (A)[*6]	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%
Max. Battery to AC Efficiency	98.0%								
Protection									
PV String Current Monitoring	Integrated								
PV Insulation Resistance Detection	Integrated								
Residual Current Monitoring	Integrated								
PV Reverse Polarity Protection	Integrated								
Battery Reverse Polarity Protection	Integrated								
Anti-islanding Protection	Integrated								
AC Overcurrent Protection	Integrated								
AC Short Circuit Protection	Integrated								
AC Overvoltage Protection	Integrated								
DC Switch	Integrated								
DC Surge Protection	Type II(Type I + II optional)								
AC Surge Protection	Type II								
Rapid Shutdown	Optional								
AFCI	Optional								
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 × H × D mm)	800 × 340 × 270								
Noise Emission (dB)	≤35	≤35	≤35	≤40	≤40	≤40	≤40	≤45	≤45
Ingress Protection Rating	IP66								
Mounting Method	Wall / Floor Mounted								
Country of Manufacture	China								

*1: When the input voltage ranges from 950V to 1000V, the inverter will enter the standby mode, and the voltage returns to950V to enter the normal operation state.
*2: Please refer to the user manual for the MPPT Voltage Range at nominal Power.
*3: According to the local grid regulation.
*4: GOODWE ESA series has internal bypass 63A passthrough ability to supprt whole home backup solution. If the customer don't want to do any breaker upgrade, the main breaker size in SolarGo(or SEMS+) can be set as previous breaker size.

*5: If the backup port is not used, select an appropriate circuit breaker based on the AC maximum output current.
*6: "Off grid"means the energy of backup output only comes from PV and battery. "On grid"means the energy of the backup output includes the energy from grid or generator(on-grid) side.
*: Please visit GoodWe website for the latest certificates.