

Model No	GC50-100
AC Side (Micro-Grid)	
Nominal AC Voltage	400V / 230V (-5%~5%)
AC Voltage THD	<3% (Resistance load)
Unbalance Load Capacity	100%
AC Output Power	50kW
Solar Charge Controller	
PV open circuit voltage	250~850V
MPPT voltage range	200~830V
PV short circuit current (A)	25+25+25+25A
Maximum PV power(W)	15+15+15+15kW
General	
Max. Efficiency	97.80%
Reverse Polarity Protection	Yes
Grid Monitoring /Ground Fault Monitoring	Yes / Yes
Insulation Monitoring	Yes
Overheat Protection	Yes
Operating Ambient Temperature Range	-30~60°C(>45°C derating)
Allowable Relative Humidity Range (non-condensing)	5~95%
Max. Operating Altitude	2000m(>2000m derating)
Safety	IEC62477,IEC62109-1/2
EMC	IEC61000-6-1/2/3/4
Grid Regulation	EN 50549
Grid Support	LVRT, active & reactive power control and power ramp rate control
Lithium Battery Technical Specificaliton	
Module Voltage	48V
Module Capacity	9.6kWh
Module Quantity	10 Series
Operating Temperature Range	Discharge:-20°C+50°C charge:0°C~+50°C
Maximum Charging Discharging Current	100A/200A
Safety	UN38.3
EMC	EN61000-6--2/-4

All-in-one ESS Solution

GC50-100

50kW | 96kWh | IP21

- ⚡ For backup power, Mini-grid and commerial ESS applications
- ⚡ Supports parallel connection for system expansion

Highlights

Better Performance

- ⚡ Rapid switching between on-grid and off-grid modes
- ⚡ Seamless power sources switch between generator and battery
- ⚡ Strong off-grid load capacity
- ⚡ High cycle efficiency
- ⚡ Excellent charge and discharge performance
- ⚡ Longer lifespan
- ⚡ Minimal self-discharge losses
- ⚡ Broader operating temperature range

More Flexible

- ⚡ Supports parallel connection for easy system expansion, with up to 15 units in parallel
- ⚡ AC side parallel connection, compatible with mixed use of new and old systems
- ⚡ Built-in MPPT solar charge controller, supports DC coupling
- ⚡ Supports optimal solar self-consumption through AC coupling with a PV inverter
- ⚡ Supports zero grid feed-in
- ⚡ Supports multiple operating modes, suitable for backup power/mini-grid/ESS applications
- ⚡ Supports two AC inputs (optional accessories required)
- ⚡ Supports two AC outputs (optional accessories required)

Safer

- ⚡ Built-in temperature detection against potential fire hazards
- ⚡ Built-in fire suppression module within the battery pack
- ⚡ Separate installation of PCS cabinet and battery cabinets to enhance heat dissipation

Smarter

- ⚡ Built-in energy management unit for energy scheduling and management
- ⚡ Intelligent auto generator start/stop control based on load power and time control
- ⚡ Intelligent solar power generation control to maximize solar self-consumption
- ⚡ Intelligent load management with multi-condition switching control
- ⚡ Intelligent grid interaction management with power control and energy optimization
- ⚡ Intelligent cloud platform for remote monitoring, configurations,and O&M
- ⚡ Intelligent temperature control
- ⚡ Unattended operation supported
- ⚡ Remote power on/off control and management

More Convenient

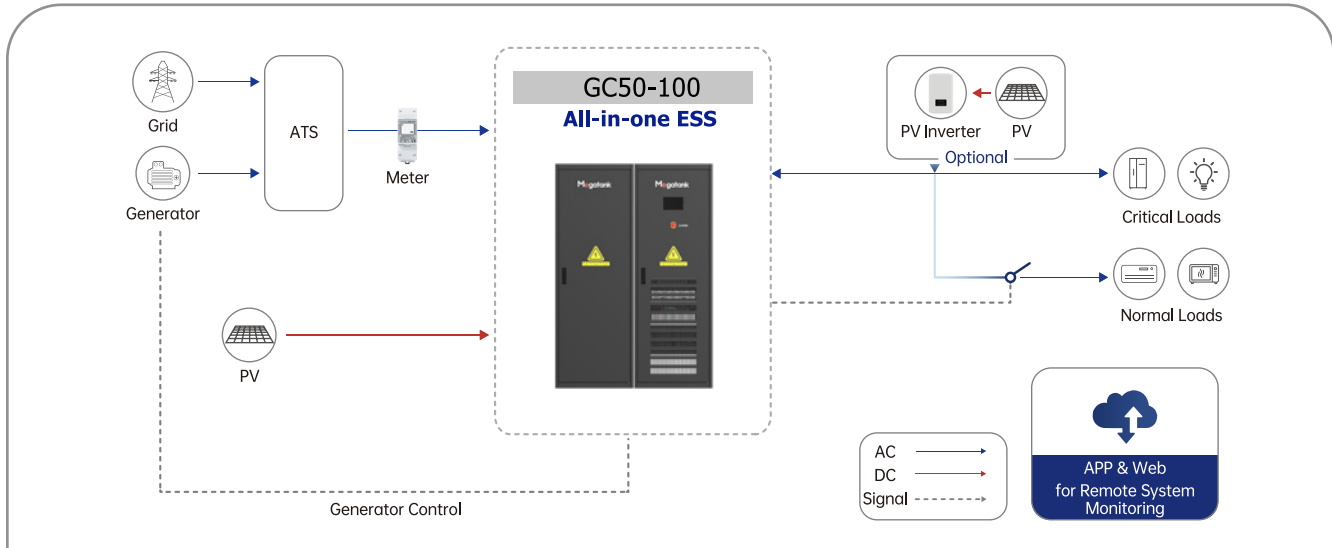
- ⚡ Modular design
- ⚡ Detachable cabinet for easy transportation



GC50-100 is an all-in-one Mini Grid / Energy Storage System integrated with hybrid inverter, AC power distribution unit, energy management unit, battery module, and battery control unit (BCU) to form a high-voltage integrated power supply system, for convenient installation and maintenance.

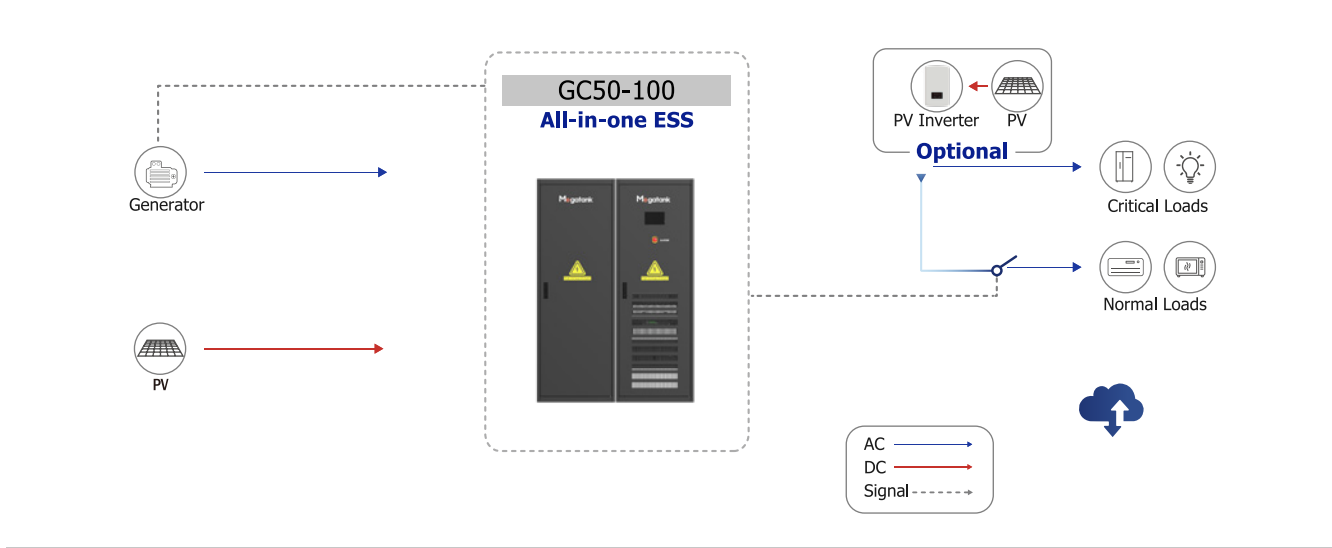
As a versatile integrated system, GC50-100 boasts better performance, safer operation, smarter system management, more flexible system retrofitting, as well as more convenient uses.

For backup power application



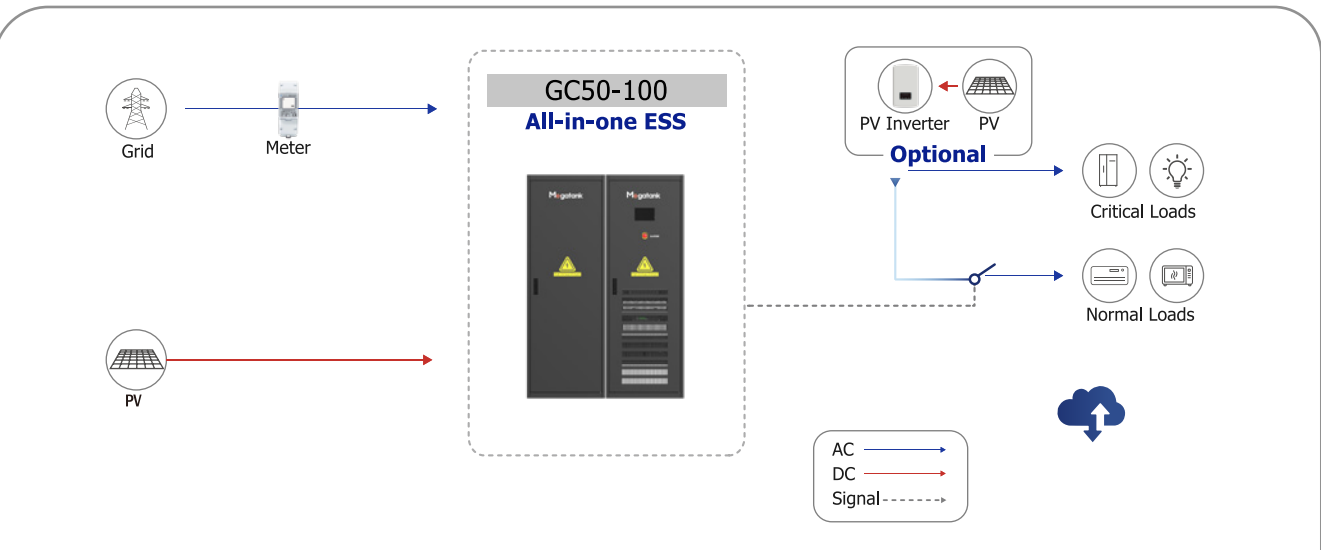
Typical for scenarios with dual AC power supplies (grid and diesel generator) serving as a backup power system. In such cases, employing an Automatic Transfer Switch (ATS) is recommended, with the grid as the main input and the diesel generator as the backup. The ATS ensures continuous output availability when either AC input is active. When the grid is normal, it powers the loads; during a power grid failure, the system seamlessly switches to the battery for power supply. Once generator startup conditions are met, it activates to supply power. Under any working conditions, PV energy takes precedence, powering loads first, with surplus energy directed to battery charging. If connected to the grid, the system will feed back excess energy into the grid.

For mini-grid application



Deployed in remote locations like border posts or small villages, the GC50-100 ensures self-sufficient electricity, elevating living standards. PV energy takes the lead in powering loads, storing surplus energy in the battery. In case of insufficient solar energy, the storage system takes over. If the battery reaches a preset low SoC, the generator automatically starts to power loads and charge the battery.

For ESS application



Designed for scenarios with accessible and stable grid, the primary objective is self-consumption, effectively reducing AC input instant power and long-term grid consumption to zero. Utilizing an energy meter connected to the grid side, users can real-time adjust the system's charging and discharging power. This ensures prioritized use of solar power to either energize loads or charge the battery. Any surplus energy permitted to be fed back to the grid is exported accordingly.

Specifications

Model No	GC50-100
System Specification	
Nominal Output Power / Maximum AC Input Power	50kW / 55kW
Battery Capacity Range	96kWh
Battery Chemistry	LiFePO ₄
IP Protection	IP21
System Cabinet Dimensions(W*H*D)	700*2000*800mm
Battery Cabinet Dimensions(W*H*D)	700*2000*800mm
Hybrid Inverter Specification	
Nominal Power	50kW
Battery Voltage Range	320~800V
Max. Charging/ Discharging Current	160A
AC Side (Grid)	
Nominal Output Power / Max. AC Current	50kW / 80A
Nominal AC Voltage/ AC Voltage Range	400V / 230V (-20%~15%)
Nominal Grid Frequency/Frequency Range	50Hz / 47Hz~52Hz, 60Hz / 57Hz~62Hz
AC Current THD	< 5% (Resistance load)
Adjustable Reactive Power	-30kVA~+30kVA