EcoGreenEnergy

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EGE GAIA Flex AIO

50kW/112kWh

- Plug & Play All-In-One Design
- Flexible Applications
- Compact High Energy Density
- Remote Control and Updates
- Strict Safety Standards

EGE's GAIA Flex AIO is a fully integrated, DC-coupled energy storage solution engineered for commercial and industrial applications. The system incorporates LiFePO4 batteries, an optional hybrid inverter, an advanced BMS, a thermal management system, and an integrated fire safety system into a single, unified platform.

Its internal Energy Management System enables the configuration of multiple operational modes including self-consumption optimization, peak demand shaving, load shifting, and backup power to maximize energy savings, ensure power reliability, and optimize operational expenditures.

• *Features*

Integrated System & Performance

- All-in-one IP55 outdoor energy storage cabinet
- 112 kWh capacity with LiFePO4 chemistry

Power Conversion & Energy Management

- 50kW hybrid inverter for grid/off-grid use
- Integrated smart EMS for energy strategies

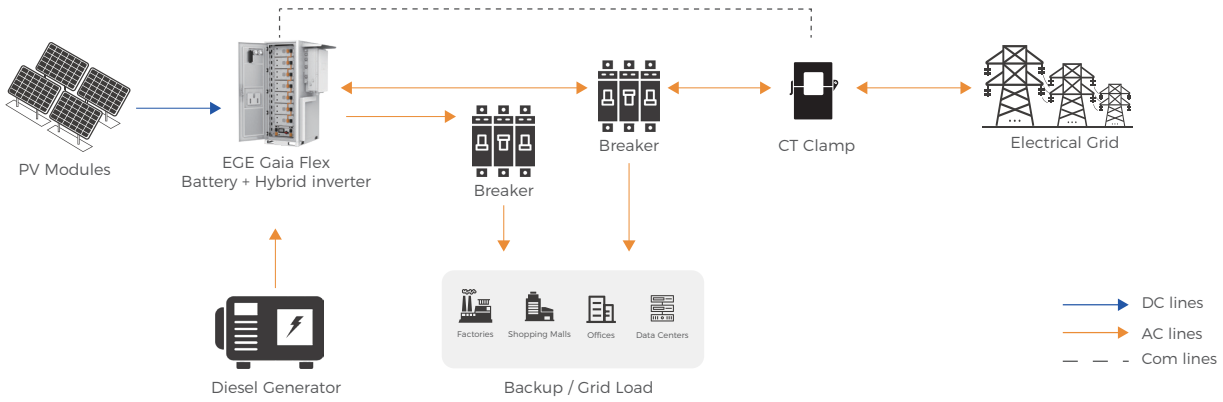
Safety & Protection

- Comprehensive multi-level safety systems
- Leakage detection and emergency shutdown

Design & Usability

- Robust design with air-cooling system
- Remote monitoring via dedicated mobile app

• *System diagram*



EGE GAIA Flex AIO 50kW/112kWh

Battery Parameters

Usable Energy (kWh)	112
Cell Type	LFP (LiFePO4)
Cell Lifecycle	6000 cycles (80% DOD)
Battery Module Capacity (kWh)	16.076
Number of Battery Modules	7
Rated Voltage (V)	358.4
Maximum Charge/Discharge Current (A)	157

PV Input Parameters

Maximum Input Power (kW)	100
Maximum Input voltage (V)	1000
MPPT Voltage Range (V)	150~850
Startup Voltage (V)	180
Rated Input Voltage (V)	600
Maximum Input Current per MPPT (A)	40
Maximum Short-Circuit Current per MPPT (A)	60
Number of MPPTs	4
Number of Strings per MPPT	2

On-Grid Output Parameters (optional)

Rated Output Power (kW)	50
Rated Output Apparent Power (kVA)	50
Rated Output Voltage (V)	3/N/PE , 220/380V , 230V/400V
Output Voltage Frequency (Hz)	50 / 60
Rated Output Current (A)	76 / 72.2
Maximum Bypass Current (A)	152 / 144.4
Power Factor	> 0.99 (0.8 leading to 0.8 lagging)
Total Current Harmonic Distortion	< 3%

Off-Grid Output Parameters (optional)

Rated Output Power (kW)	50
Maximum Off-Grid Apparent Power (kVA)	Continuous output of 1.6 times rated power for 2s
Rated Output Voltage (V)	3/N/PE,220V/380V,230V/400V
Rated Output Voltage Frequency (Hz)	50 / 60
Total Voltage Harmonic Distortion (@ linear load)	< 2%

Max Parallel

On-Grid	10
Off-Grid	10
Hybrid	6

Efficiency

Maximum PCS Efficiency	97.80%
System Efficiency	95.00%

Protection

PV Reverse Polarity Protection	Integrated
Residual Current Monitoring	Integrated
Battery Reverse Polarity Protection	Integrated
Anti-Islanding Protection	Integrated
AC Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
DC Switch	Integrated
DC Surge Protection	Level 2
AC Surge Protection	Level 3

Basic Parameters

Operating Temperature Range (°C)	-20~+55
Relative Humidity	0~95%
Maximum Operating Altitude (m)	3000
Cooling Method	Smart Air Conditioning + Fan
Human-Machine Interface	LED, WLAN+APP
BMS Communication Method	RS485,CAN
Communication Protocol	RS485
Communication Interface	CAN
Weight (kg)	~1530
Dimensions (WxHxD mm)	804*2179*1184
Topology	Non-Isolated
Protection Level	IP55
Fire Protection system	Aerosol
Installation Method	Floor-mounted

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