### AC Coupled Battery Inverter and Storage System For Upgrading Existing PV System Most Affordable under Equivalent Performance



## **System Overview**

#### 1 2.4kW Battery Inverter







③ Energy Meter 1



(4) Energy Meter 2



#### 1 Battery Inverter

In combination with the batteries, this battery inverter converts energy from PV or battery bi- directionally when necessary. It communicates with energy meters to get the real-time power data on PV and Grid sides, decides when to charge/discharge battery packs accordingly.

2 **4.8kWh Lithium battery packs** Lithium battery system stores the energy generated by PV and increases self-use from 30% to 70%; 2.4kWh modular design, with 2 modules totaling 4.8kWh in this system.

③ **ADL 100-E/C energy meter on PV side** Connecting between the Generation Meter and the battery inverter, this meter is to collect the power data generated by PV. It transmits the PV data to GMDE battery inverter.

(4) ADL 100-E/C energy meter on grid side Connecting between the battery inverter and the public grid, this meter is to collect the power data fed-in or draw from the public grid. It transmits the grid power flow data to GMDE battery inverter.

- Time of Use/Economic 7/peak shaving working modes available
- AC coupling system to upgrade existing PV system
- Automatic on/off-grid switching, safe and intelligent
- LiFePO4 battery packs, capacity-extendable and safer

# Application

#### Upgrade the Existing PV System



Clients who has installed PV system could adopt GBESS2.4\_4.8KWH to retrofit their standard PV system into energy storage system.

# **Operation Modes**

#### Peak shaving (Economic 7)



By charging the battery packs from the grid during off-peak period and injecting it back on to the AC sides during peak period, the system help customer gain energy price difference between peak and off-peak time.

# Maximizing self-use mode (default)

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A: If PV could provide sufficient energy, the PV energy supply priority should be: (1) PV -> Load; (2) PV -> Load & Bat; (3) PV -> Load & Bat & Grid

B: If there is less PV or no PV, grid energy will be used: (4) Grid & PV -> Load & Bat; (5) Grid -> Load &Bat.

#### Backup mode (on/off-grid automatic switching)

The automatic switching between on-grid and off-grid is integrated in the battery inverter. So when the battery inverter sensors the grid voltage drop, it disconnect the system from public grid side and the system shift to off-grid mode, under which the important load is powered by battery packs; the system will return to grid-tied mode if it detects that the grid is normal.

### Datasheet

| Model                                | GEatom 103KHF              |
|--------------------------------------|----------------------------|
| Input (BAT)                          |                            |
| Rated power [W]                      | 2400                       |
| Operation voltage range [V]          | 40-58                      |
| Max. charging current [A]            | 50                         |
| Max. discharging current [A]         | 50                         |
| Output (AC)                          |                            |
| Continuous output power [W]          | 2400                       |
| Nominal output voltage range [V]     | 230                        |
| Norminal AC voltage frequency [Hz]   | 50                         |
| Norminal output current [A]          | 10.5                       |
| Max. output current [A]              | 13                         |
| Max. charging/discharging efficiency | 93%                        |
| General Data                         |                            |
| Heat dissipation                     | Forced air cooling         |
| Dimension (W * H * D) [mm]           | 660 * 500 * 150            |
| Weight [kg]                          | 35                         |
| Protection Class                     | IP20                       |
| Operating Temperature Range          | 0 - 50 °C                  |
| Communication                        | RS485/Wi-Fi                |
| Battery Packs                        | LiFePO4                    |
| Battery capacity                     | 2 * 2.4 kWh battery module |
| Packs weight                         | 65                         |
| Dismension (W * H * D) [mm]          | 600 * 570 * 312            |



# About GMDE

#### Introduction

**Global Mainstream Dynamic Energy Technology Ltd. (GMDE)** mainly focuses on the development, manufacture and sales of high-efficient, cost-effective and differential energy storage inverters and whole systems. We strive to provide highly reliable and efficient green energy solution worldwide, maximizing the value for our customers.

#### Contact

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