

## 48V System | 15kWh LiFePO<sub>4</sub> Battery | 8.12kWp Solar Array With approximately 40.6 kWh of daily solar generation| Single Phase

The **Voltarix 8KW Single-Phase Hybrid Solar Energy Storage System** is a complete integrated solution that combines an **8 kW hybrid inverter**, **15 kWh LiFePO<sub>4</sub> battery**, and an **8.12 kWp solar array**. Designed for **residential and small commercial applications**, it efficiently generates and stores clean solar energy to provide stable, continuous, and cost-effective power both **on-grid and off-grid**. Operating at **48 V DC**, the system intelligently manages power from solar, grid, and battery sources. With approximately **40.6 kWh of daily solar generation** (based on 5 peak sun hours), it offers a reliable and sustainable energy supply for households and offices. Its **compact architecture**, **smart energy control**, and **expandable battery capacity** make it an ideal choice for users seeking high performance, long lifespan, and energy independence.

### Key Features:

- **Integrated Hybrid Design:** Combines inverter, battery, and PV modules into a single optimized system.
- **High-Performance Output:** 8 kW pure sine wave single-phase inverter for stable operation.
- **Efficient Solar Generation:** 8.12 kWp PV array producing around **40.6 kWh/day** in 5 peak sun hours.
- **Reliable Energy Storage:** 15 kWh LiFePO<sub>4</sub> battery (48 V, 314 Ah, Vertical Type) with 90% DOD and >6000 cycles.
- **Smart Energy Management:** Automatic solar, grid, and battery power switching with intelligent control.
- **Seamless Backup:** <10 ms switching time ensures uninterrupted power during grid failures.
- **Durable and Safe:** IP65 protection, long lifespan, and high safety LiFePO<sub>4</sub> chemistry.
- **Scalable Configuration:** Modular battery setup allows capacity expansion for future energy needs.
- **Comprehensive Accessories:** Includes aluminum roof brackets, PV cables (4 mm<sup>2</sup>), and MC4 connectors (1000 VDC).
- **System Warranty:** 5-year complete system warranty and 10-year battery warranty.

Component	Specification
<b>System Type</b>	Single-phase hybrid solar energy storage system
<b>Rated Output Power</b>	8 kW
<b>System Voltage</b>	48 V DC
<b>PV Capacity</b>	8.12 kWp (14 × 580 W panels)
<b>Solar Panel Type</b>	N-Type Double Crystal Silicon
<b>PV Configuration</b>	7S × 2P (7 panels in series × 2 parallel strings)
<b>Estimated Daily Generation</b>	≈ 40.6 kWh/day (5 hours of peak sunlight)
<b>Inverter Model</b>	Voltarix GST48-8K
<b>PV Input Voltage Range</b>	125 – 425 V DC
<b>Output Voltage / Frequency</b>	220–230 V AC / 50–60 Hz
<b>Inverter Size (W×H×D)</b>	130 × 445 × 630 mm
<b>Inverter Weight</b>	27 kg
<b>Battery Type</b>	LiFePO <sub>4</sub> (Lithium Iron Phosphate)
<b>Battery Capacity</b>	15 kWh (48 V / 314 Ah)
<b>Depth of Discharge / Cycle Life</b>	90% DOD / >6000 cycles
<b>Battery Warranty</b>	10 years
<b>Protection Level</b>	IP65
<b>Operating Temperature</b>	-20°C ~ +55°C
<b>Communication Interface</b>	RS485 / CAN / Wi-Fi
<b>Mounting Type</b>	Wall or floor for battery / Aluminum roof brackets for panels
<b>Accessories</b>	PV cables (4 mm <sup>2</sup> ), MC4 connectors (1000 VDC)
<b>System Warranty</b>	5 years full system warranty
<b>Applications</b>	Residential homes, small offices, farms, telecom backup, hybrid off-grid setups