

48V System | 20kWh LiFePO₄ Battery | 9.28kWp Solar Array With approximately 46.4 kWh of daily power generation| Three Phase

Engineered for **commercial buildings, small industries, farms, and large residential properties**, it offers reliable, efficient, and sustainable energy both **on-grid and off-grid**. Operating at **48 V DC**, the system ensures optimal energy balance between solar generation, grid input, and battery storage. With approximately **46.4 kWh of daily power generation** under **5 peak sun hours**, the Voltarix system significantly reduces grid dependency while maintaining seamless backup power for critical loads. Its **modular battery design, three-phase balanced output, and smart monitoring capabilities** make it an ideal solution for users requiring energy reliability, scalability, and long-term savings.

Key Features:

- **Three-Phase Hybrid System:** 10 kW continuous output power for balanced and stable energy supply.
- **High-Capacity Energy Storage:** 20 kWh LiFePO₄ battery (48 V, 200 Ah × 2 modules) with 90% DOD and >6000 cycles.
- **Efficient Solar Harvesting:** 9.28 kWp PV array producing ~46.4 kWh/day (under 5 sun hours).
- **Advanced LiFePO₄ Battery Technology:** Superior safety, long lifespan, and deep discharge capability.
- **Smart Energy Management:** Automatically switches between solar, grid, and battery modes for optimized efficiency.
- **Seamless Backup Power:** <10 ms transfer time ensures continuous operation during outages.
- **Robust Construction:** IP65-rated protection with aluminum roof-mount structures and corrosion resistance.
- **Modular & Scalable Design:** Expandable storage and solar capacity to meet future energy demands.
- **Comprehensive Monitoring:** Supports RS485, CAN, and Wi-Fi for intelligent control and remote tracking.
- **Long-Term Reliability:** 10-year battery warranty, 5-year system warranty, and 10-year solar panel coverage.

Component	Specification
System Type	Three-phase hybrid solar energy storage system
Rated Power Output	10 kW
System Voltage	48 V DC
PV Capacity	9.28 kWp (16 × 580 W panels)
Solar Panel Type	N-Type Double Crystal Silicon
PV Configuration	8 panels in series × 2 strings in parallel (8S × 2P)
Estimated Daily Generation	≈ 46.4 kWh/day (5 hours of peak sunlight)
Inverter Model	Voltarix GST48-10K-P3
PV Input Voltage Range	125 – 425 V DC
Output Voltage / Frequency	380 – 400 V AC / 50 – 60 Hz
Inverter Dimensions (W×H×D)	130 × 445 × 630 mm
Inverter Weight	27 kg
Battery Type	LiFePO ₄ (Lithium Iron Phosphate)
Battery Capacity	20 kWh (2 × 10 kWh modules, 48 V / 200 Ah each)
Depth of Discharge / Cycle Life	90% DOD / >6000 cycles
Battery Warranty	10 years
Protection Level	IP65
Operating Temperature	-20°C ~ +55°C
Communication Interface	RS485 / CAN / Wi-Fi
Mounting Type	Wall or floor for battery / Aluminum roof brackets for panels
Accessories	PV cables (4 mm ²), MC4 connectors (1000 VDC)
System Warranty	5 years full system warranty
Applications	Commercial, industrial, agricultural, and large residential hybrid/off-grid systems