

Product Datasheet

Three Phase Hybrid Storage Inverter 3-15 kW

Description

The VOLTARIX High Voltage Series Three-Phase Storage Inverters are designed to enhance energy independence for both residential and commercial users. With a power range from 3 kW to 15 kW, these inverters are fully compatible with high-voltage (80–600 V) battery systems, delivering flexible and efficient energy storage performance. Featuring advanced energy management, the system operates based on time-of-use and demand charge rate structures — effectively reducing electricity purchases from the public grid and maximizing self-consumption.

Thanks to the UPS function (switching time < 10 ms), critical loads remain powered seamlessly during grid outages. Under backup operation mode, the inverter delivers up to 150% peak output overloading, ensuring reliable power continuity even under heavy demand.

The VOLTARIX Smart Energy Management Platform incorporates Dynamic Electricity Pricing & Automation, a real-time optimization tool that continuously monitors electricity price fluctuations and automatically adjusts inverter operation for maximum efficiency. Operating 24/7 fully autonomously, it enables users to reduce energy costs, optimize power utilization, and achieve greater energy independence — all without manual intervention.



Key Features

- **Wide Power Range:** Available from **3 kW to 15 kW**, ideal for both residential and commercial energy storage systems.
- **High-Voltage Battery Compatibility:** Supports **80 – 600 V** battery voltage range and works seamlessly with **Li-ion, Lead-acid, and Sodium metal chloride** battery types.
- **Advanced Energy Management:** Operates based on *time-of-use* and *demand charge rate* structures to significantly reduce electricity purchased from the public grid.
- **Seamless UPS Function:** With a **< 10 ms switching time**, the inverter ensures uninterrupted power supply to critical loads during outages.
- **High Overload Capability:** Provides up to **150 % peak output overloading** in backup mode, enabling smooth operation of heavy-start appliances.
- **Smart Pricing & Automation:** Integrates the **Voltarix Smart Energy Management System** featuring **Real-Time Electricity Pricing & Automation**, which dynamically adjusts operation to minimize energy cost and maximize efficiency — fully automatic 24/7.
- **High Efficiency:**
 - **Max Efficiency:** up to 98 %
 - **European Efficiency:** 97.5 %
 - **Battery Charge/Discharge Efficiency:** 98 %
 - Ensures outstanding power conversion and lower energy losses.
- **Dual MPPT Design:** Wide **MPPT range (150 – 850 V)** and dual trackers for superior solar utilization under varying light conditions.
- **Pure Sine Wave Output:** Delivers stable and clean AC power — safe for sensitive electronic equipment.
- **Robust Protection Suite:** Includes full protections for reverse polarity, over/under-voltage, over-current, short-circuit, ground fault, leakage current, and anti-islanding; plus **Type II surge** and **IP66 weatherproof** enclosure.
- **Efficient Cooling & Reliability:** **Transformer less topology** with **intelligent fan cooling** or **natural convection** (depending on model) ensures quiet, efficient thermal control and extended lifespan.
- **Smart Monitoring & Connectivity:** Supports **LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G** and **SUNSPEC** for flexible data access and remote monitoring.
- **Compact & Lightweight Design:** Small footprint (**370 × 598.5 × 192 mm**) and **22 kg** weight with **wall-mount bracket** for easy installation.
- **Global Certification:** Fully compliant with **IEC 62109, EN 50549-1, VDE-AR-N4105, AS 4777.2**, and other international safety and grid standards.

Specification

Parameter	V3X-3K-MTH	V3X-4K-MTH	V3X-5K-MTH	V3X-6K-MTH
PV Input				
Max. DC Input Power (kW)	5	6	7.5	9
Max. PV Voltage (V)	1000	1000	1000	1000
Rated DC Input Voltage (V)	620	620	620	620
DC Input Voltage Range (V)	150-1000	150-1000	150-1000	150-1000
MPPT Voltage Range (V)	150-850	150-850	150-850	250-850
Full MPPT Range (V)	200-850	200-850	200-850	250-850
Start-up Voltage (V)	160	160	160	160
Max. DC Input Current (A)	18.5×2	18.5×2	18.5×2	18.5×2
Max. Short Current (A)	25×2	25×2	25×2	25×2
No. of MPPT Tracker / Strings	2/2	2/2	2/2	2/2
Battery Port				
Battery Nominal Voltage (V)	350	350	350	350
Battery Voltage Range (V)	80-600	80-600	80-600	80-600
Max. Charge/Discharge Current (A)	30	30	30	30
Max. Charge/Discharge Power (kW)	3	4	5	6
Charging Curve	3 Stages			
Compatible Battery Type	Li-ion / Lead-acid / Sodium metal chloride battery			
AC Grid				
Nominal AC Output Power (kW)	3	4	5	6
Max. AC Input/Output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Max. AC Output Current (A)	5.3	7	8.5	10.5
Nominal AC Voltage (V)	3P+N+PE/3P+PE 230/400			
Nominal AC Frequency (Hz)	50 / 60			
Power Factor	1 (0.8–0.8 adjustable)			
Current THD (%)	<3%			
AC Load Output (Back-up)				
Nominal Output Power (kW)	3	4	5	6
Nominal Output Voltage (V)	3P+N+PE/3P+PE 230/400			

Parameter	V3X-3K-MTH	V3X-4K-MTH	V3X-5K-MTH	V3X-6K-MTH
Nominal Output Frequency (Hz)	50 / 60			
Nominal Output Current (A)	4.4	5.8	7.3	8.7
Peak Output Power (VA)	3.3kVA, 60s	4.4kVA, 60s	5.5kVA, 60s	6.6kVA, 60s
THDV (with linear load)	<3% <10			
Switching Time (ms)				
Efficiency				
Europe Efficiency (%)	97.50%			
Max. Efficiency (%)	98.00%			
Battery Charge/Discharge Efficiency	98.00%			
Protection				
Reverse Polarity Protection	Yes			
Over Current / Voltage Protection	Yes			
Anti-Islanding Protection	Yes			
AC Short-circuit Protection	Yes			
Leakage Current Detection	Yes			
Ground Fault Monitoring	Yes			
Grid Monitoring	Yes			
Enclosure Protect Level	IP66			
AC/DC Surge Protection	Type II			
General Data				
Dimensions (W x H x D, mm)	370 x 598.5 x 192			
Weight (kg)	22			
Topology	Transformer less			
Cooling Concept	Natural Convection			
Relative Humidity	0 - 100%			
Operating Temperature Range (°C)	-25 to 60			
Operating Altitude (m)	<4000			
Standby Consumption (W)	<5			
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G, Sunspec			
Certification & Approvals	NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2, IEC62477-1			
EMC	EN61000-6-2, EN61000-6-3			