



VIRTUS XII-IP65

Features



PV Oversizing

Support up to 200% oversizing ratio



Parallel Connection

Support parallel connection up to 9 units



High-Temperature Adaptability

Allow full-power input and output under high temperature



Three MPPTs

Three MPPTs for efficient power tracking, supporting max. 27A per MPPT



Overload Capacity

2 times the rated power for 10s



Seamless Switchover

UPS-level switching time ≤4ms



Touch Screen

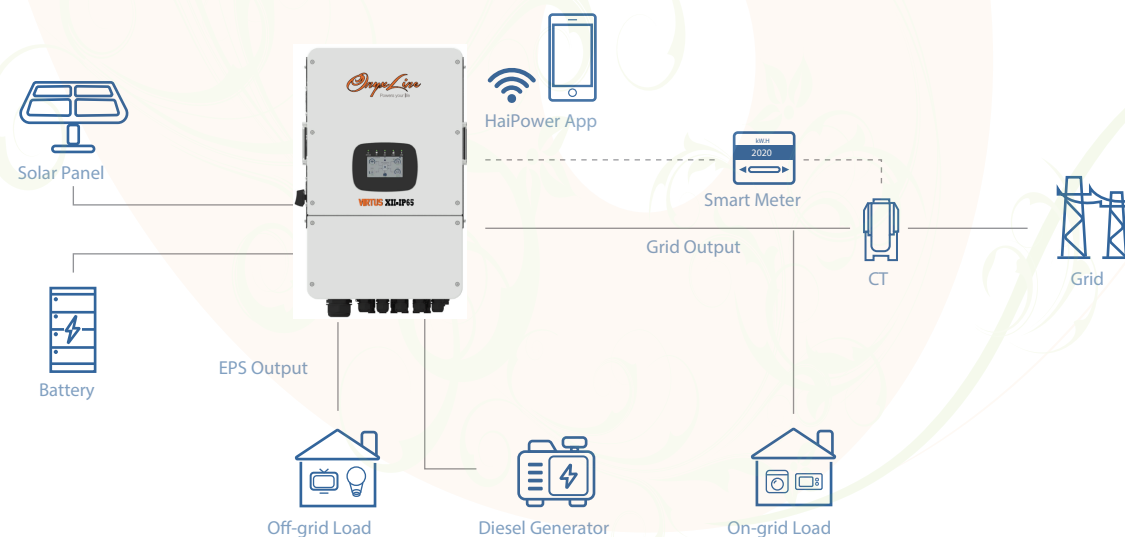
4.3" 800 x 480 interactive display without physical keys



Flexible Connection

- GEN port for generator input
- Dual AC outputs for smart load management
- AC coupling function

Energy Storage Solution



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Specifications

Model

HSA-12K1P-BL

Technical Data

Recommended Max. PV Array Size (Wp)	24000
Max. PV Input Power (W)	18000
Max. Input Voltage (V)	500
Start-up Voltage (V)	120
Rated Input Voltage (V)	370
MPPT Operating Voltage Range (V)	120~425
MPPT Voltage Range (full load) (V)	150~500
Max. Input Current per MPPT (A)	27+27+27
Max. Short Circuit Current per MPPT (A)	44+44+44
Number of MPPTs	3
Number of Strings per MPPT	2+2+2
Max. Inverter Backfeed Current to The Array (A)	0

Battery Data

Battery Type	Lead-acid or Lithium-ion
Rated Battery Voltage (V)	48
Battery Voltage Range (V)	40~60
Max. Charge / Discharge Current (A)	250
Max. Charge / Discharge Power (W)	12000
Battery Communication	CAN / RS485
Number of Battery Input	2 (in parallel)

AC Input / Output Data (Grid, Load & Generator)

Rated AC Input / Output Active Power(W)	12000
Max. AC Input / Output Apparent Power (VA)	13200
Peak Apparent Power (off-grid)	2 times of rated power, 10s
Rated AC Input / Output Current (A)	54.6 / 52.2 / 50
Max. AC Input/Output Current (A)	57.4
Max. Continuous AC Passthrough (grid to load) (A)	60
Max. Output Fault Current (A)	100
Max. Output Over Current Protection (A)	150
Rated Input / Output Voltage (V)	220 / 230 / 240
Input / Output Voltage Range (V)	0.85Un~1.1Un
Grid Connection Form	L+N+PE
Rated Grid Frequency / Range (Hz)	50 / 45~55, 60 / 55~65
Power Factor	0.8 leading~0.8 lagging
THDi (nominal power)	<3%
DC Injection Current	<0.5%In
Switch time (ms) (Typ)	4

Efficiency

Max. Efficiency	97.60%
European Efficiency	96.50%
MPPT Efficiency	>99.9%

Protection

PV Reverse Polarity Protection	yes
Anti-Islanding Protection	yes
Output Short Protection	yes
Ground Fault Monitoring	yes
Insulation Resistance Monitoring	yes
Over-current Protection	yes
Over-temperature Protection	yes
AC / DC Surge Protection	TYPE II (DC), TYPE II (AC)
AFCI Protection	Optional
DC Switch	yes
Residual Current Monitoring	yes
Grid Monitoring	yes

General Data

Dimension (W*H*D) (mm)	420 x 680 x 252.5 (Excluding connectors)
Weight (kg)	37
Relative Humidity	0~100%
Operating Temperature Range ()	-40 to +60, >45 Derating
Storage Temperature ()	-45 to +85
Noise Emission (dB)	<45
Altitude (m)	2000
Cooling Method	Intelligent Air Cooling
Ingress Protection	IP66
Over Voltage Category	OVC II(DC), OVC III(AC)
Topology	Non-Isolated
Protective Class	I
Communication Interface	RS485 / CAN / Bluetooth / WIFI, LAN / 4G / GPRS (optional)
Power Grid Side Energy Detection Method	1CT, Meter (optional)
Display	LCD & APP
Standby / Internal Consumption (W)	<25 (night)
PV Connector	MC4 compatible connector
Battery Connector	Connector
AC Connector	Connector

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