

Powerstar

POWERFUL. SMART. ROBUST

The Powerstar inverter range is designed to be a robust & reliable hybrid energy storage platform. It is ideal for applications as varied as off-grid farms and lodges to urban houses and factories. It provides a smart & seamless interface between the grid, generators, renewable energy and storage.

The Powerstar is unique in the storage inverter market for its ability to clean incoming power & regulate the output voltage.

- ✓ Designed for harsh environments
- ✓ 6 to 24 kVA units, able to parallel up to 96kVA
- ✓ 1 and 3-phase transformer-based
- ✓ Low-voltage DC (36 & 48 V)



Features

Voltage & Power Quality Regulation

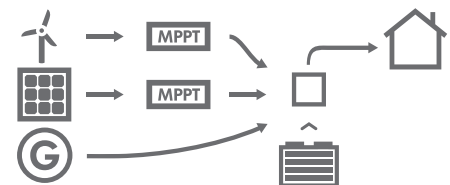
The Powerstar inverter can optionally “clean” the incoming grid/generator voltage of any distortion to ensure that the output voltage is a pure, voltage-regulated sine wave.



Automatic Generator Start
In off-grid systems, the Powerstar will automatically start the generator when the battery voltage is low. The inverter synchronises with the generator and connects seamlessly. When the charge cycle is complete the inverter will turn off the generator and transition back to stand-alone mode with no power interruption to the load.

Source Monitoring

The Powerstar will monitor the available power sources (e.g. grid, generator, solar PV, or wind) and the rate at which they charge your batteries. The inverter dynamically adjusts the rate of charge to ensure that the batteries are protected and are never overcharged.



Export Power Control
The Powerstar has advanced export power control that prevents power from flowing back into the grid and tripping pre-paid meters.

SmartLoad Load Prioritization

The Powerstar features SmartLoad, a programmable three priority level load-shedding system. The inverter will automatically connect/disconnect user-defined loads based on the current state of charge of your batteries. For example, SmartLoad can allow non-critical loads such as air-con systems to run when the batteries are full and grid power is available but to shed these loads when running off batteries so that critical loads such as fridges & lights can be powered for longer.



Specifications

SYSTEM RATINGS

	Powerstar 6/8	Powerstar 12 /16	Powerstar 18 / 24
Phases / Rated Voltage / Frequency	1 ϕ / 230 V / 50 Hz, 1 ϕ / 277V / 60Hz (VRB ¹)	1 ϕ , 230 V / 50 Hz	1 ϕ / 230 V / 50 Hz or 3 ϕ / 400 V / 50 Hz, 3 ϕ / 480V / 60Hz (VRB ¹)
Input Voltage Range	+/- 19% of nominal V	+/- 19% of nominal V	+/- 19% of nominal V
Input Frequency Range	48..58 Hz, 58..68 Hz (VRB)	48..58 Hz	48..58 Hz, 58..68 Hz (VRB)
Rated Input Power	6 / 8 kVA, 16 kVA (VRB)	12 / 16 kVA	18 / 24 kVA, 48kVA (VRB)
Rated Output Power	6 / 8 kVA	12 / 16 kVA	18 / 24 kVA
Maximum Input Current per 6 / 8kVA module ²	26 / 35 A, 70A (VRB)	26 / 35 A	26 / 35 A, 70A (VRB)
Maximum Output Current per 6 / 8kVA module ²	40 / 52 A (for 30s), 52 / 70 A (for 5s), 70A (VRB)	40 / 52 A (for 30s), 52 / 70 A (for 5s)	40 / 52 A (for 30s), 52 / 70 A (for 5s), 70A (VRB)
THD I (at rated power)	< 3%		
Protection	Overload, Overcurrent, Short Circuit, Over Temperature, Under/Over Voltage, Under/Over Frequency		

1. VRB model is available in 8 kVA / 1 ϕ & 24 kVA / 3 ϕ

2. Current decreases by 17% for 277V models

BATTERY INPUT

Nominal Battery Voltage	48 V (36 kVA / 6 kVA on request)	48 V	48 V
Maximum Battery Charge Current (Adj.)	100 / 150 A	200 / 300 A	300 / 450 A
Recommended Minimum Battery Size	200 Ah	350 Ah	500 Ah
Battery Technology	Lead Acid / Vanadium Redox (VRB) / LiFePO4		

EFFICIENCY

Efficiency (peak)	Up to 92% stand-alone, Up to 95% with source connected		
Tare Losses in Standby (Night)	< 40W / 50 W	< 70W / 90 W	< 105 W / 140 W
Standby Losses (Load Sensing)	< 8 W		

CONNECTORS

DC Input	50 mm ² Cable Included	50 mm ² Cable Included	50 mm ² Cable Included
AC	10/16 mm ² Terminal Blocks	10/16 mm ² Terminal Blocks	10/16 mm ² Terminal Blocks

GENERAL SPECIFICATIONS

Mounting Method	Floor Standing		
Dimensions (W x H x D)	550 x 550 x 510 mm	550 x 930 x 510 mm	550 x 1200 x 510 mm
Weight	85 / 95 kg	170 / 190 kg	250 / 280 kg
IP/NEMA Rating	IP30 / NEMA1		
Colour	RAL7032		
Cooling Method	Forced Air		
Standards	NRS097-2-1, G83/1-1		

CLIMATIC CONDITIONS

Ambient Temperature / Relative Humidity	-5..45 °C (40 °C Max Ambient for Rated Power) / 5..85 %
Maximum Altitude for Rated Power	1000 m above sea level (Power derated for Higher Altitudes)

OPERATOR PANEL

Display Type	40 x 4 LCD with membrane keypad
Communications	RS232 MODBUS RTU Slave (Ethernet / GPRS optional)

Accessories:

- Battery temperature sensors
- Remote monitoring & control
- Dual DC monitoring inputs
- Load shedding contactors
- Grid loss siren
- Installation kit
- Lead-acid battery enclosure

Distributor / Installer
Contact Details



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