PRIME

HYBRID ENERGY

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A Smart Solution That Can Achieve Grid Neutrality

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Introduction

Prime Hybrid Energy are proud to present to the Renewable Energy Sector, our brand new innovative Prime Hybrid Inverter. Our Prime Hybrid Inverter is technologically advanced, durable, smart and user-friendly.

The Prime Hybrid Inverter charges fast on demand, discharges on demand at a maximum of 2.5kW and comes complete with game changing smart technology.

Simply set preferences through our user-friendly web portal, then relax as the intelligent control unit drives the technology to take care of itself.

It will choose whether generated energy should be stored, consumed, or topped up from the grid, whichever will prove most cost effective.

Revolutionary future-proofed design, the Prime Hybrid Inverter comes well equipped for tomorrow's challenges. When integrated with a smart meter, it has the power to reduce load on the grid by sharing stored energy with the wider community at peak times, ready to be replace in the off-peak period as well as maximizing grid efficiency and reducing reliance on fossil fuels, this 'virtual pooling' may provide an additional income stream for the owner, reducing the system's overall lifetime cost.

Features at a glance:

- Intelligent control unit ensures you are always saving if on-grid
- Minimise Grid Import, Minimise Grid Export, Maximise Self Consumption
- Charge/discharge rate of 2.5kW
- Built in Essential Backup Supply with True Sine Wave Output
- 3.6kW/5.0kW Twin MPPT Hybrid Inverter
- 2.8kWh Modular, Plug & Play Batteries
- G98 Approved, G99 Approved
- 99.5% Efficient (MPPT Efficiency)
- Round Trip Efficiency - 92.5%
- Off Peak Charging
- Export Limitation
- Grid Island Mode
- Demand Side Response
- Peak Shaving
- Integrated MID Apporved Metering
- Supplied With Wi-Fi Or 3G Sim Card Module
- Remote Firmware Upgrades
- Remote Support and Bespoke Monitoring Portal
- Remote Access and Control of Assets
- 10 Year Warranty

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Hybrid Inverter Specification

Model Specifications	HY3.6-20-001	HY5.0-20-001
Input - DC		
Max DC power	4500W	6500W
Max DC voltage	600V	
Start voltage	100V	
DC nominal voltage	360V	
PV voltage range	100-600V	
MPP voltage range	120V-550V	
Max input current per string of tracker A/tracker B	11A/11A	
Number of independent MPP inputs	2	
Output - AC		
Nominal AC output power	3600W	5000W
Max AC apparent power	3600VA	5000VA
Max output current	16.0A	22.0A
AC nominal voltage	220V/230V/240V	
AC voltage range	180V-280V	
AC grid frequency; range	50, 60Hz; ±5Hz	
Power factor at rate power	1	
Power factor	0.9 leading… 0.9 lagging	
THDi	<3%	
AC connection	Single phase	
Backup Output		
Output rate power	3000VA	
Output voltage	230V ±2%, 50Hz (60Hz Optional) ±0.2%,	
THDv <3% (linear load)		
Efficiency		
Max efficiency	97%	97.10%
Euro - eta	96.50%	96.50%
MPPT efficiency	99.50%	99.50%

Protection devices

DC reverse polarity protection, DC switch rating for each MPPT, Output over current protection, Output overvoltage protection-varistor, Ground fault monitoring, Grid monitoring, Integrated all - pole sensitive leakage, current monitoring unit

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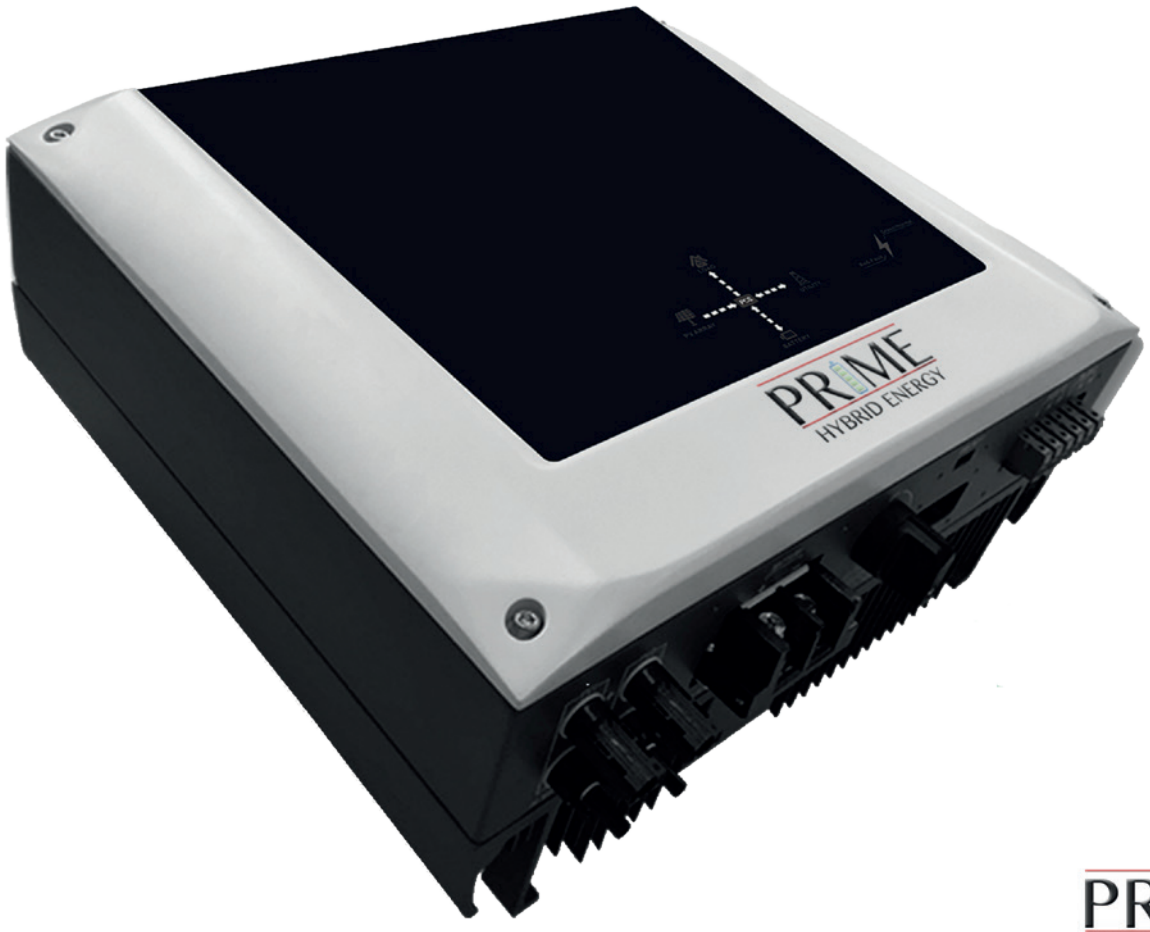
General Data	HY3.6-20-001	HY5.0-20-001
Dimensions	495 * 420 * 165mm	
Weight	24kg	
Operating temperature range	-25…+60°c	
Noise emission (typical)	≤ 69 dB(A)	
Altitude	≤ 2000m without power derating	
Relative humidity	95%	
Consumption: operating (standby) / night	<5W / <0.5W	
Topology	Transformerless	
Cooling concept	Natural	
Environmental protection rating	IP65	

Features

DC connection	H4/MC4
AC connection	Screw terminal
Display	LED
Interfaces: WiFi/USB/3G/RS485	Opt/Yes/Opt/Yes
Warranty	10 years

Certificates and approvals

TüV CE,TüV IEC 62109-1&2, TüV VDE 0126-1-1, TüV 98, TüV G99, TüV AS4777&AS/NZS 3100



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Hybrid Inverter Key Features

Key Features

- Cutting Edge Technology
- 3.6kW/5.0kW Twin MPPT Hybrid Inverter
- G98 Approved, G99 Approved
- 99.5% Efficient
- Charge Rate of 2.5kW
- Discharge Rate of 2.5kW
- Essential Backup Supply with True Sine Wave Output
- Off Peak Charging
- Export Limitation
- Grid Island Mode
- Demand Side Response
- Peak Shaving
- Integrated MID Approved Metering
- Supplied With Wi-Fi Or 3G Sim Card Module
- Remote Firmware Upgrades
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- Remote Access and Control of Assets
- Remote Output
- 10 Year Warranty

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Modular 2.8kWh LiFePO4 Battery

Model Specifications HY-ES-2.8-001 (2x, 3x, 4x)

Nominal Parameters

Voltage	51.2V
Capacity	55Ah (110Ah, 165Ah, 220Ah)
Warranty	10 years or 27.5MWh (10 years or 55MWh, 82.5MWh, 110MWh)
Dimensions	380 * 340 * 191mm
Weight	27.2kg
Life time (25°c / 40°c)	≥15 years
Life cycling (80% DoD, 25°c)	27.5MWh throughput (55MWh, 82.5MWh, 110MWh)
Operation temperature	-10…+50°c
Storage temperature	-30…+60°c
Transport & EMC standard	UN 38.3/IEC 61000

Electrical Parameters

Operation voltage	46.4 - 57.6V
Maximum charging voltage	57.6V
Maximum charging / discharging current	25A/25A (50A/50A, 50A/50A, 50A/50A)
Network interface	RS485
Communication protocols	MODBUS

Key Features

- Modular – simply connect up to 4 batteries together using the provided cables
- Intelligent BMS
- Individual BMS in each battery to allow more control over charge and discharge
- State of charge calibration

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System Modes

DAYTIME MODE

The system optimizes the delivery of generated PV power, prioritizing LOCAL loads then BATTERY if necessary and finally ending excess generated power to the GRID.

NIGHT TIME MODE / ON PEAK EVENING

This is prioritized to discharge the battery ready for the OFF PEAK time to refill if necessary at the cheapest rate or wait until the next PV generation (this can be set via the software). When the battery is depleted automatic switching will occur and GRID power will be used.

EMERGENCY BACK UP AND ISLAND MODE

The system has the ability to be a stand alone system in ISLAND MODE. However cannot be used for OFF GRID applications.

There is also a backup power system available for use when there is a power cut, this is a separate system due to G59/G83 regulations and is designed to operate completely independent to the GRID TIED output.

DEMAND SIDE RESPONSE

There is an option in our software to allow remote data collection/analytics. This gives vital information to utility providers and can allow a high level of indication to when demand will occur.

The system can also be operated remotely via wireless communication and can allow network operators access to balance the community loads at peak times and replace at off peak times, without any user intervention. Our MID approved Class 1 Billing Meters allows providers to effectively pool virtual electricity and maximize the grid efficiency without the need to generate more power.

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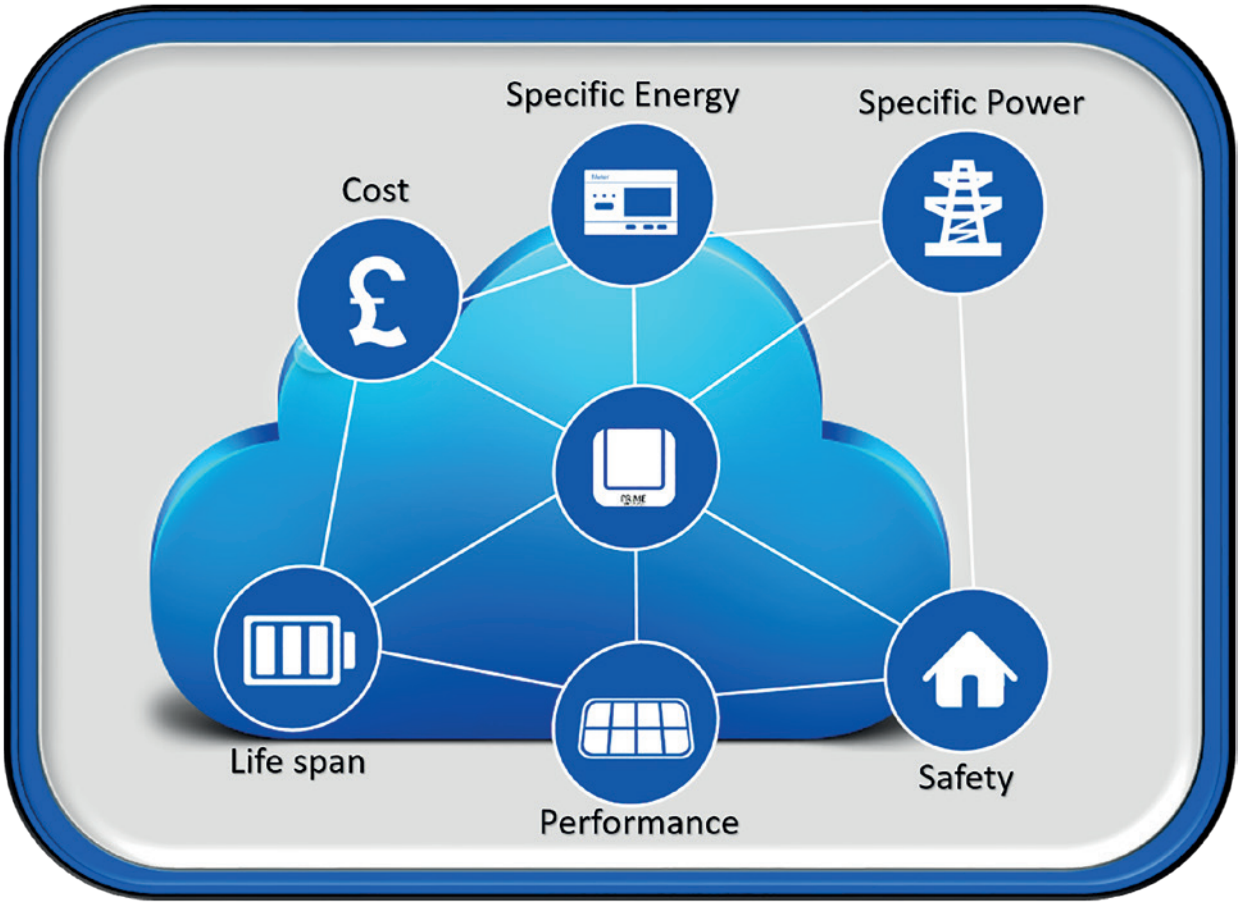

- Real Time Monitoring
- Data packets sent every 5 minutes
- Remote access for charge/discharge
- Can be controlled through Wi-Fi/3G Sim card
- Remote Controllable BMS
- Change country standards/Grid Parameters
- Full technical diagnostic reports & Analyse Data
- Shows import, export, generation and consumption
- Active & Reactive Power Management
- Full UK Technical Backup and support
- Will provide Peak load information for Electricity suppliers and aggregators
- System commissioning software included Monitor PV array parameters
- Alarm notifications
- Auto statistical reporting
- 5 Tier level Access
- Google Maps system tracking

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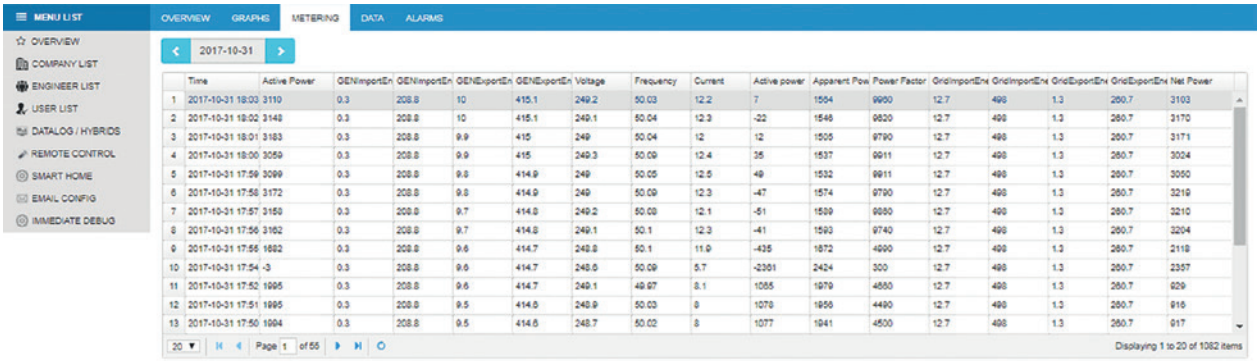
Smart Monitoring Portal

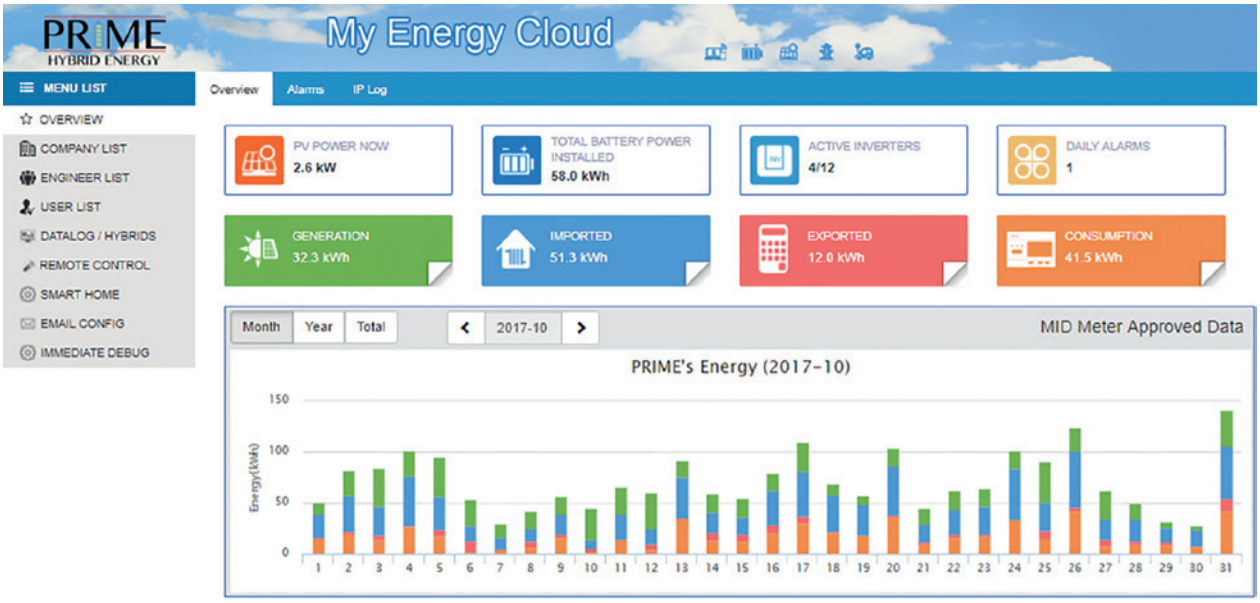
User Friendly Display

Remotely Control Any System

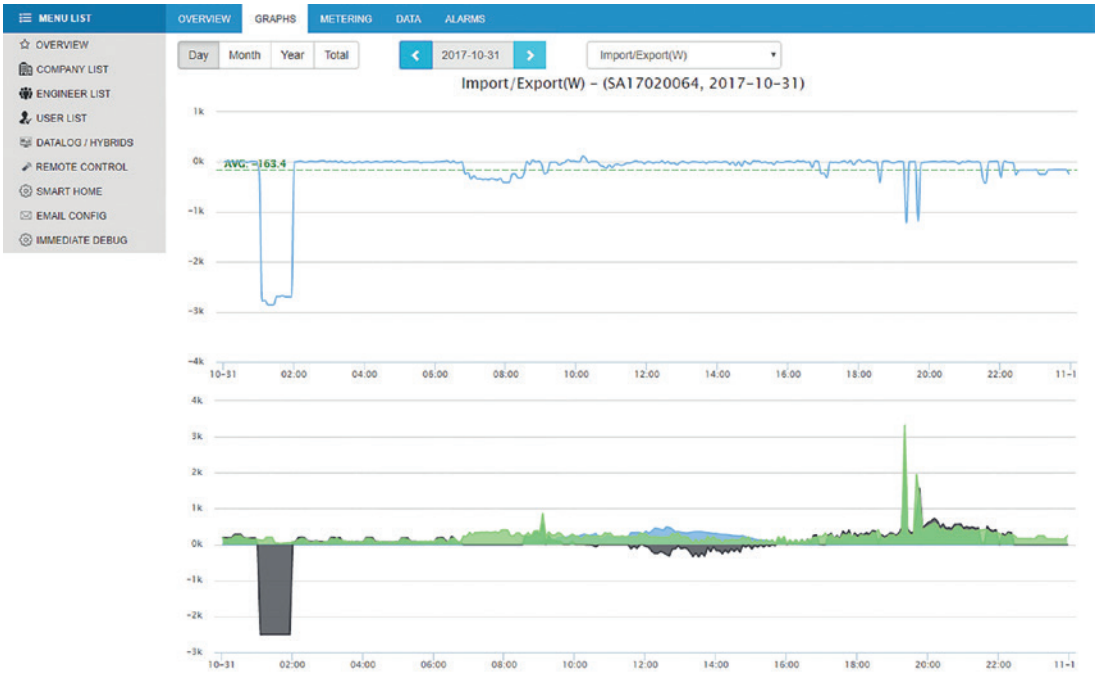
View Accurate Metering and Billing Information



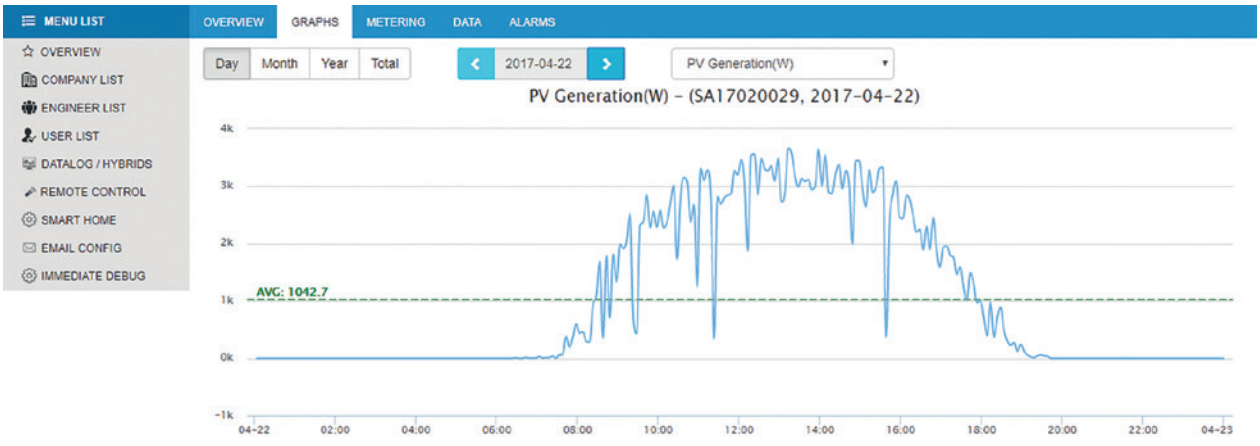
Over View Page



Monitor Imported and Exported Electricity



Monitor PV Generation



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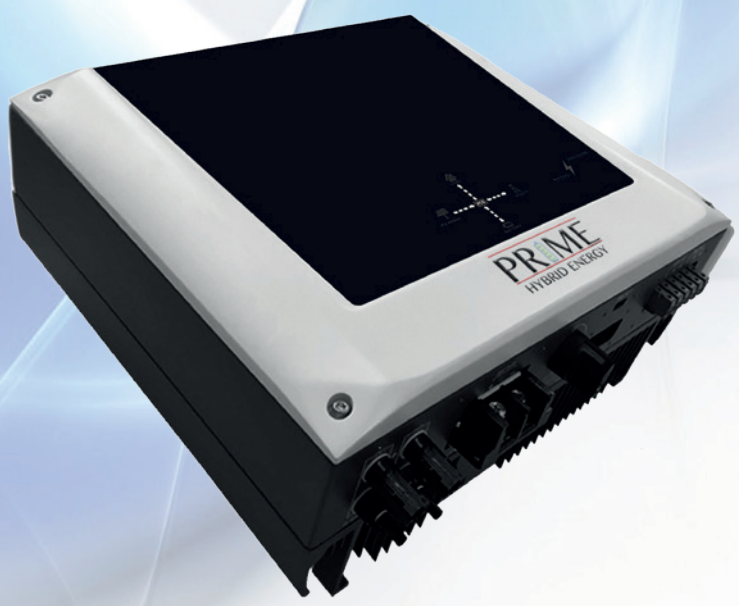
Contact Us

Prime Hybrid Energy
Unit 6 The Maltsters
Wetmore Road
Burton On Trent
DE14 1LS

Tel: 01283 528108
Email: info@primehybridenergy.com
Web: www.primehybridenergy.com



Distribution

Smith Bros. (Caer Conan) Wholesale Ltd.
Sidings Court,
Doncaster,
South Yorkshire,
DN4 5NU

Tel: 01302 366922

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