

Smart Hybrid Systems

Intelligent System

Our unique software ensures the best use of your energy by controlling the inverters response, optimising the battery and directly controlling loads.

Easy Installation

Our pre-wired balance of system and plug and play battery enclosure allows for fast and low-cost installation, including approved DC isolator.

Uninterruptible Power Supply

Experience near instantaneous and automatic back up to selected circuits* when the mains power fails.

* When backup circuit is connected and battery energy is available. Rate as EPS where regulations require.

Indoor/Outdoor Rated

Our systems are IP65 rated and designed for Australian conditions.

Smart Monitoring

Our easy to use portal and apps allow monitoring of PV generation, battery charge levels & household consumption from one convenient location.



Smart Hybrid System SH5000 & BE14000

Smart Three Phase System ST10000 & BE14000-HV

SOLAR ARRAY

Number of MPPT inputs	2	2
Strings per MPPT input	1/1	1/2
Maximum Recommended PV	6.6kW	13kW
Maximum DC open circuit voltage	580V DC	600V DC
MPPT operating range	125 - 550V	200 - 550V
Starting voltage	125V DC	180V DC
Maximum DC input current (for each solar array input)	11A DC	12.5/22A
Maximum short current (for each solar array input)	13.8/13.8A	15.2/27.6A
Solar array switch rating	1000V DC	1100V DC
Input connectors	MC4	MC4
Residual current and insulation monitoring		Integrated

UTILITY INTERFACE

Nominal AC voltage/frequency	230V AC, 50Hz	400V, 50Hz
Continuous AC power rating	5kVA AC	10kVA AC (derate over 45°C ambient)
Maximum AC power to utility grid	5kVA AC (derated over 45°C ambient)	11kVA AC (derate over 45°C ambient)
Maximum AC current to utility grid	21.7A AC	16.5A
Maximum AC current from utility grid	40A AC	22.7A
Nominal AC output range	230/240V 50Hz	400V AC 50Hz
Current THD	Less than 1.5%	Less than 3%
Power factor		0.8 leading to 0.8 lagging (adjustable)
AC overvoltage category		Category III
Anti-islanding and AC overcurrent protection		Integrated
Inverter topology		Transformerless (with HF transformer isolation for battery)

BATTERY INTERFACE

Nominal DC voltage	48V DC	180-600V DC
Battery compatibility	PylonTech US2000 & US3000	PylonTech H48050 or H48074
Maximum charging and discharge power (from battery)	4.6kW DC*	10kW DC*
Maximum charging current	85A DC	25A DC
Maximum discharging current	100A DC	25A DC
Battery charging method		Self-adaption to BMS
Battery disconnect	Integrated 2 pole DC breaker 125A DC per pole	2 pole DC isolator 32A DC per pole

CONTROL INTERFACE

Signal relay outputs	4	3
DRM modes	0-8	0
Remote firmware updates		Supported
Relays	2 x 10A Omron	Optional

BACK UP LOADS OUTPUT

Nominal AC voltage/frequency	230V AC, 50Hz, L/N/PE	400V AC, 50Hz, 3L/N/PE
Continuous AC power rating	4.6kVA AC (derate over 45°C ambient)	10kVA AC (derate over 45°C ambient)
Maximum AC power rating	9.6kVA AC (10 seconds maximum)	16.5kVA AC (60 seconds maximum)
Maximum AC current	21.7A	16.5A
Voltage THD	Less than 4.5% (with linear loads)	Less than 3.0%
Back-up loads AC disconnect / isolator	25A MCB	25A MCB
Manual back-up load AC bypass switch		Integrated

*Dependant on number of batteries installed

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EFFICIENCY

Maximum efficiency (to utility grid)		97.60%
European averaged efficiency	97.00%	96.80%
Maximum power point tracking efficiency		99.90%
Efficiency (powering loads from battery)	90% typical	97.5% typical
Standby losses		Less than 8W AC

BATTERY ENCLOSURE

Compatible Smart Hybrid System	SH5000	ST10000
Number of battery units	2-4 battery modules	4 battery modules
Storage capacity	Standard: 4.8-14.2kWh Expanded: 19.2-28.4kWh	Standard: 9.6 / 14.2kWh Expanded: 19.2 / 28.4kWh
Battery voltage	48V DC nominal	192V DC nominal / 384V DC expanded
Battery chemistry		Lithium-ion Phosphate
Access type		Removable front panels

CABLE SPECIFICATION

Battery cable rating	4 x 65A	25A
Battery cable type		8 AWG (8.36mm ²)
Battery cable termination (battery enclosure)		Surlok Amphenol connector
Battery cable termination (inverter)		Surlok Amphenol connector
BMS cable type		Supplied

VENTILATION SPECIFICATION

Ventilation type		Passive and active cooling
Ventilation control		Smart temperature control
Number of fans		2
Fan power	48V DC / 0.04A per fan	12V DC / 0.13A per fan
Fan activation temperature		Variable depending on charge/discharge
Incoming ventilation aperture		72cm ² with washable filter
Outgoing ventilation aperture		72cm ² with washable filter
Passive airflow rate		30cm ³ /min
Active airflow rate		320cm ³ /min

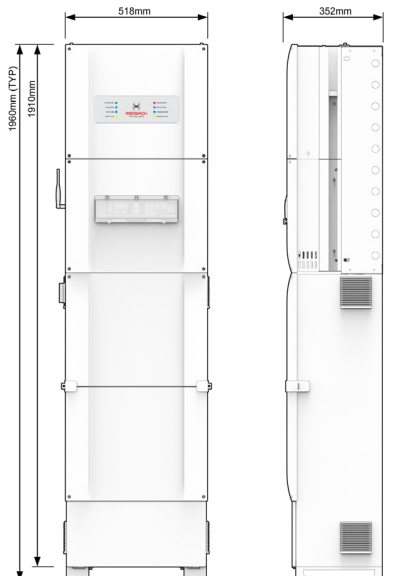
GENERAL DATA

Dimensions (W x H x D)		
Mounting and weight	79kg (Installed, excluding batteries) 175kg (Installed, with 4x US2000) 207kg (Installed, with 4x US3000)	77kg (Installed, excluding batteries) 173kg (Installed, with 4x H48050) 205kg (Installed, with 4x H48074)
Ambient temperature range - Inverter & BoS	-25°C to 60°C Batteries derate below 10°C and over 40°C	-35°C to 60°C Batteries derate below 10°C and over 40°C
Ambient temperature range - Battery Enclosure		Based on battery specification
Relative humidity		0 to 95%
DC overcurrent category		Category II
Moisture location category		4K4H
Environmental protection rating - Hybrid Inverter & BOS	IP65	IP66
Environmental protection rating - Battery Enclosure		IP54
Operating Altitude		<4000m
Inverter Cooling		Natural convection
Battery Enclosure Cooling		Active Cooling
Noise emissions	Less than 25dB	Less than 30dB
Warranty		10 Years
Construction		Battery Cabinet: Steel Chassis Inverter, BoS and Covers: Aluminum
Finish		Sealed and powder coated
Supply		Ships pre-assembled (excluding batteries)
Maintenance		Externally serviceable dust filters

USER INTERFACE

Front panel display	Coded, coloured LEDs
Communications	Bluetooth for onboarding, Wi-Fi or Ethernet for phone and web monitoring
Smartphone App	Android 7 or higher; IOS 12.0 or higher
Portal	Web based; platform independent
Power/energy monitoring	Includes 1 x utility grade meter (class 1)

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