

Intelligent System

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

Pre-wired Balance of System

For fast and low-cost installation, including approved DC isolator.

Uninterruptible Power Supply

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

Indoor/Outdoor Rated

IP65 rated and designed for the Australian conditions

Smart Monitoring

Monitoring of PV generation, battery charge & usage made easy with our easy to use portal and apps.

*Back-up circuit wired at the time of install



SH5000



ST10000

Specifications

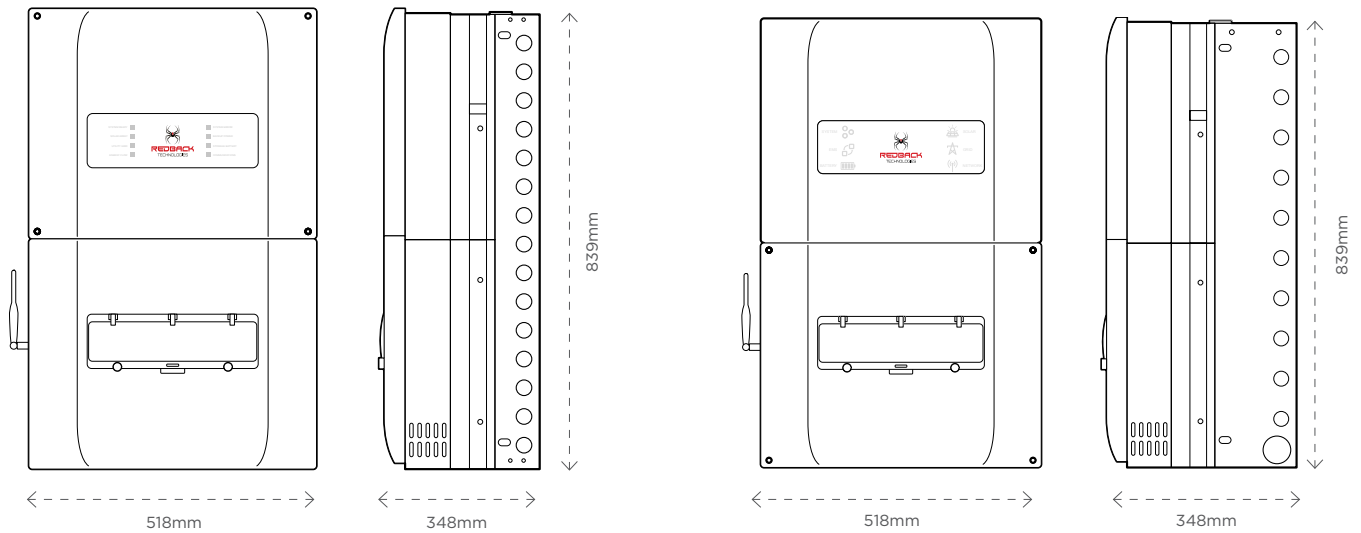
Grid regulation compliance: AS4777.2, AS5033 AMD 2 Safety certification: AS3100, IEC62109-1, IEC62109-2, IEC62040-1

	SH5000 Smart Hybrid System	ST10000 Smart Three Phase System
Compatible Battery Enclosure	BE14000	BE-14000-HV
SOLAR ARRAY		
Number of MPPT inputs	2	2
Strings per MPPT input	1 / 1	1 / 2
Maximum Recommended PV	6.6kW	13.3kW
Maximum DC open circuit voltage	580V DC	600V DC
MPPT operating range	125 - 550V	200 - 550V
Starting voltage	150V 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	5000W AC	10kVA AC (derate over 45°C ambient)
Maximum AC power to utility grid	5000W 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 & H48074
Maximum charging and discharge power (from battery)	4600W 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

*Dependant on number of batteries installed

SH5000

ST10000



Specifications (cont.)

SH5000 Smart Hybrid System

ST10000 Smart Three Phase System

CONTROL INTERFACE

Signal relay outputs	4	3
DRM modes	0-8	0
Remote firmware updates	Supported	
Relays	2 x 10A Omron	Optional RK-1 available

BACK UP LOADS OUTPUT

Nominal AC voltage/frequency	230V AC, 50Hz, L/N/PE	400V AC, 50Hz, 3L/N/PE
Continuous AC power rating	4600W AC (derate over 45°C ambient)	10kVA AC (derate over 45°C ambient)
Maximum AC power rating	6900W 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	

EFFICIENCY

Maximum efficiency (to utility grid)	97.6%	
European averaged efficiency	97.0%	96.8%
Maximum power point tracking efficiency	99.9%	
Efficiency (powering loads from battery)	90% typical	97.5% typical
Standby losses	Less than 8W AC	

GENERAL DATA

Dimensions (W x H x D)	518 mm x 839 mm x 348 mm	
Mounting and weight	Frame 3.5kg + Inverter 30.8kg + BoS 12.3kg = Total 46.6kg	Frame 4.5kg + Inverter 27.5kg + BoS 12.5kg = 44.5kg
Ambient temperature range	-25 to 60°C derate above 45°C	-35 to 60°C derate above 45°C
Relative humidity	0 to 95%	
DC overcurrent category	Category II	
Moisture location category	4K4H	
Environmental protection rating	IP65	IP66
Operating Altitude	<4000m	
Cooling	Natural convection	
Noise emissions	Less than 25dB	Less than 30dB
Warranty	5 years	

USER INTERFACE

Front panel display	Coded, coloured LEDs	
Communications	Bluetooth for onboarding, Wi-Fi or Ethernet for phone and web monitoring	
Remote access	Web and Android/iOS application	
Power/energy monitoring	Includes 1 x 3-Phase (class 1) meter	

BE14000**Capacity**

4.8 - 14.2kWh

BE14000-HV**Capacity**

9.6 - 28.4kWh

Indoor/Outdoor Rated

Designed and tested to endure the harshest weather conditions throughout Australia, rated IP54.

Optimal Cooling

Dual variable speed fans controlled by our intelligent control software.

Plug and Play

For fast, low-cost installation, including approved DC isolator.

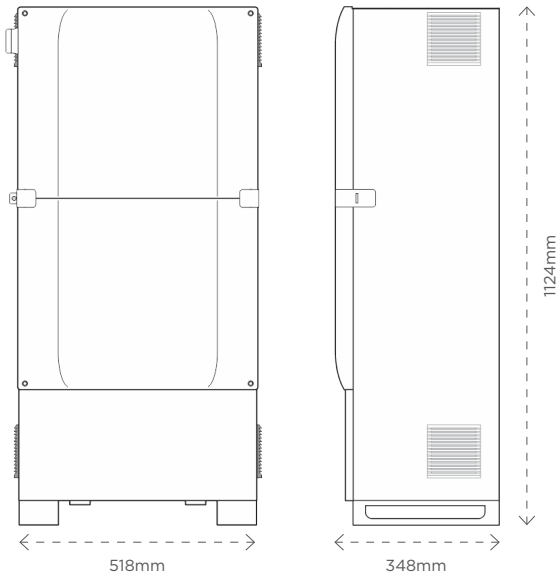
Front Panels

Powder-coated, durable and die-cast aluminium covers.

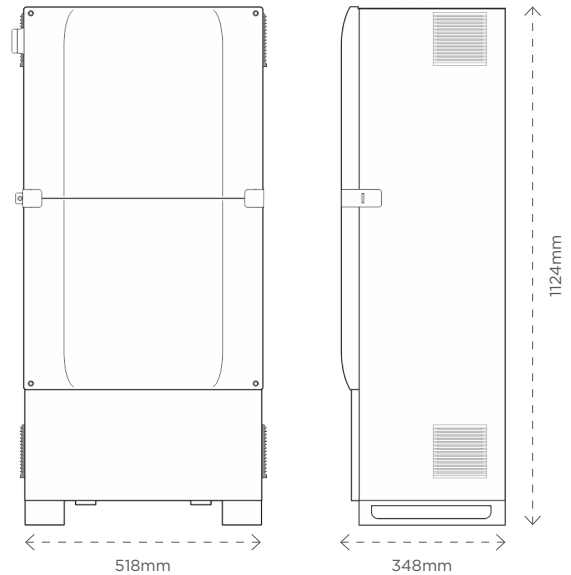
Energy for the future

Redback Technologies has a vision to enable every household and business to be entirely powered by low cost renewable energy all day, every day. The Redback Smart Hybrid System is the platform which facilitates all energy users to participate in the network of the future through clean, efficient and smart energy management. Redback Technologies, helping the world switch on renewable energy today for a cleaner tomorrow.

BE14000



BE14000-HV



Specifications

BATTERY ENCLOSURE

Compatible Smart Hybrid System

BE14000
SH5000

BE14000-HV
ST10000

Number of battery units	2-4 x 19" rack mountable battery packs	4 x 19" rack mountable battery packs
Storage capacity	Up to 14.2kWh (4 x 3.55kWh PylonTech batteries)	Expandable from 9.6kWh up to 28.4kWh with expansion pack
Battery voltage	48V DC nominal	192V DC nominal
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	288cm ² with washable filter	
Outgoing ventilation aperture	288cm ² with washable filter	
Passive airflow rate	30cm ³ /min	
Active airflow rate	320cm ³ /min	

GENERAL DATA

External dimension	W 518mm x H 1124mm x D 348mm (with feet)	W 518mm x H 1124mm x D 348mm (with feet)
Mounting and weight - empty	32kg rear fixing	
Mounting and weight - with batteries	128* - 160kg** *BE14000 + 4 x US2000 **BE14000 + 4 x US3000	128* - 160kg** *BE14000-HV + 4 x H48050, **BE14000-HV + 4 x H48074
Ambient temperature range	Based on battery specification	
Environmental protection rating	IP54 - protected from rain, splashing and spraying	
Noise emissions	Less than 25dB	
Warranty	5 Years	
Construction	Powder coated steel chassis	
Finish	Sealed, powder coated front covers and chassis	
Supply	Ships pre-assembled (excluding batteries)	
Maintenance	Externally serviceable dust filters	