

# The Smart Hybrid System



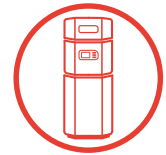
The Smart Hybrid System is your easy to install, all-in-one solution for single phase homes. It combines a 5kVA solar inverter with expandable battery storage of up to 14.2kWh (or 28.4kWh with optional expansion cabinet) and includes integrated isolators and pre-wired BoS for your convenience.



**4.8kWh - 28.4kWh  
Battery Storage  
Capacity**



**Backup Supply in a  
Power Outage\***



**Streamlined  
All-In-One Design**



**Indoor or Outdoor  
Installation**



**Easy Monitoring App  
and Portal**



**Australian-supported  
10-Year Warranty**

\*When backup circuit is connected, and battery energy is available. Appliances selected at the time of install.

V1.23

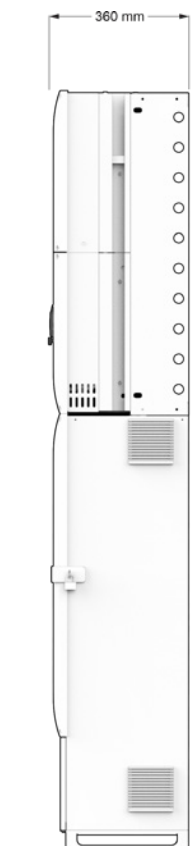
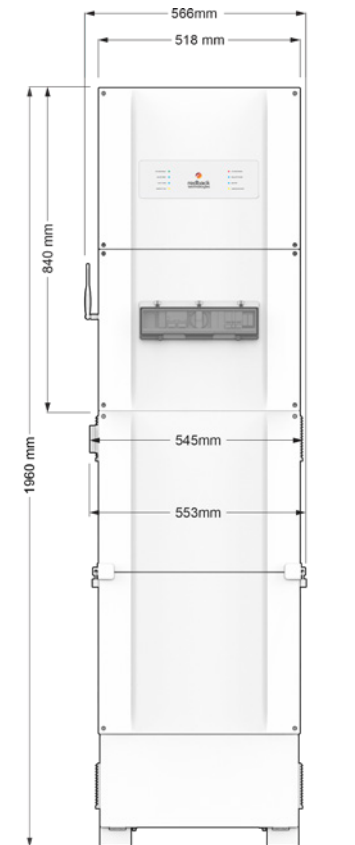
Ensure you are using the latest datasheet by visiting [redbacktech.com](http://redbacktech.com)

# The Smart Hybrid System

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System Information Pack



<b>Product Model</b>	<b>SH5000</b>
<b>PV Port</b>	
Number of MPPTs	2
Strings per MPPT Input	1/1
MPPT Operating Voltage (range) <sup>1</sup>	DC 125 - 550V
Maximum Input Voltage (Vmax)	DC 580V
Maximum Current (Imp) <sup>1</sup>	DC 11/11A
Short Circuit Current (Isc)	DC 18/18A <sup>5</sup>
<b>Grid Interactive Port</b>	
Nominal Output Voltage	AC 230V
Nominal Output Frequency	50 Hz
Max. Output Current	AC 24.5A
Rated Output Apparent Power	5000VA
Rated Input Current	AC 40A
Rated Input Apparent Power	9200VA
Power Factor (range)	0.8 lagging to 0.8 leading
Output Voltage THD	<4.5%
<b>Backup Port</b>	
Nominal Output Voltage	AC 230V
Nominal Output Frequency	50 Hz
Rated Current	AC 20A
Rated Active Power	AC 4600W
Rated Apparent Power	4600VA
Peak Apparent Power	6900VA (10 sec max)
Output Voltage THD	<4.5%
<b>Battery Port</b>	
Voltage (nominal)	DC 40 - 60V
Max. Current (charge)	DC 90 A
Max. Power (charge)	DC 4600W <sup>2</sup>
Max. Current (discharge)	DC 100A
Max. Power (charge)	DC 4600W
Battery Type	Li-ion
Battery Depth of Discharge	90%
<b>General Information</b>	
Operating Temperature	-25°C to 60°C
Operating Temperature Derated Output	Below 10°C and over 45°C
Operating Relative Humidity	0 - 95%
Operating Altitude	0 - 3000m
Protective Class	I
Ingress Protection Rating	IP65
AC Overvoltage Category	OVC III
DC Overvoltage Category	OVC II
Active Anti-islanding Method	Active Frequency Drift
Inverter Topology	Non-isolated
Country of Origin	China
Demand Response Modes	DRM 0
Standby Self-Consumption	<13W
Noise Emissions	<30 dBA
Warranty	10 Years
<b>Efficiency</b>	
Maximum Efficiency	97.60%
Maximum Battery to Load Efficiency	94.00%
European Efficiency	97.00%
<b>Physical Data</b>	
Installed Weight	132-203kg
Material	Aluminium
Finish	Sealed and powder coated
<b>Battery Enclosure Data</b>	
Enclosure Model	BE14000
Name	Smart Hybrid Battery Enclosure
Number of Battery Units	2 - 4 (up to 8 with expansion cabinet)
Storage Capacity	4 x 2.4kWh 4 x 3.55kWh
Battery System Model	US2000B US3000A/B <sup>3</sup>
Maximum Capacity	28.4kWh <sup>4</sup>
Nominal Voltage	DC 48V
Rated Current	DC 100A
Fan Specification	DC 48V / 0.13A x2
Protective Class	I
Ingress Protection Rating	IP54
Dimensions (W x D x H)	518x352x1123 mm
Material	Steel
Finish	Sealed and powder coated
<b>Isolation Devices</b>	
PV Port Isolator Utilisation Category	DC-PV2
Grid Interactive Port Isolator Rated Operational Current	32A
Backup Port Isolator Rated Operational Current	25A
Battery Port Isolator Rated Operational Current	125A
Battery Cabinet Isolator Rated Operational Current	125A
<b>Communications Ports and Protocols</b>	
Relays	RJ45; 4x Digital I/O; +DC5V & GND
<b>User Interface</b>	
Front Panel Display	Coloured LEDs
Communications	Bluetooth for commissioning; Wi-Fi (2.4GHz only) or ethernet for remote access
Remote Access	Web Portal; MyRedback App; Redback Install app
Remote Firmware Updates	Supported
Power/Energy Monitoring	Includes 1 x utility grade energy meter (class 1)
<b>Certifications and Approvals</b>	
	AS/NZS 4777.2:2020
	IEC 62109-1:2010
	IEC62109-2:2011
	IEC 62116:2014
	IEC 62040-1:2017
	IEC 62477-1:2012
	IEC 60529
	EN 61000
	RCM
	CE
<b>Designed with Installation Standards Considered</b>	AS/NZS 3000:2018 AS/NZS 5033:2014 (inc. Amd 1 & 2) AS/NZS 5139:2019



<sup>1</sup> Max PV Input Power is determined by the appropriate selection of panels within the MPPT voltage and current range  
<sup>2</sup> Dependant on number of batteries installed  
<sup>3</sup> Not compatible with US3000C, and cannot be made compatible in the future  
<sup>4</sup> Maximum capacity 14.2kWh with single cabinet, or 28.4kWh with optional expansion cabinet  
<sup>5</sup> Manufacturer's declared and tested Max Short Circuit Current (Isc Max)