

# The Smart 3-Phase Hybrid System



Redback's Smart 3-Phase Hybrid System is a robust hybrid solution designed for three-phase homes or light commercial installations.

The system combines a 10kVA solar inverter with two standard battery storage capacity options of either 9.6 or 14.2kWh and an option for an extended capacity of 19.2 or 28.4kWh. Site Manager allows installation of multiple systems at a single site to operate as a single system. The Smart 3-Phase Hybrid System also includes a pre-wired BoS and integrated isolators to ensure a fast and easy installation.



Image shown with extended battery cabinet BE14000-HV



9.6kWh, 14.2kWh,  
19.2kWh or 28.4kWh  
battery storage capacity



3-phase backup supply in  
a power outage\*



Streamlined  
all-in-one design



Site Manager  
functionality



Indoor or outdoor  
installation



Easy monitoring app  
and portal



Australian-supported  
10-year warranty

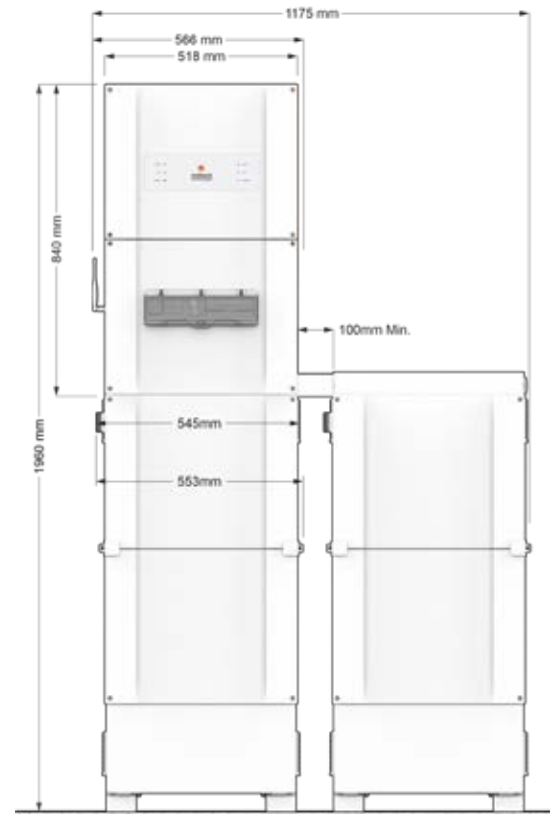
\*When backup circuit is connected, and battery energy is available. Appliances selected at the time of install.

# The Smart 3-Phase Hybrid System

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System Information Pack



|  |  |
|--|--|
| <b>Product Model</b>                                     | <b>ST10000</b>   |
| <b>PV Port</b>   |  |
| Maximum Recommended PV Input Power <sup>1</sup>          | 16000Wp  |
| Number of MPPTs  | 2  |
| Strings per MPPT Input                                   | 1/2  |
| MPPT Operating Voltage (range) <sup>1</sup>              | DC 200 - 850V <sup>2</sup>   |
| Maximum Input Voltage (Vmax)                             | DC 1000V <sup>2</sup>  |
| Maximum Current (Imp) <sup>1</sup>                       | DC 12.5/22A  |
| Short Circuit Current (Isc)                              | DC 17.5/36A <sup>6</sup>   |
| <b>Grid Interactive Port</b>                             |  |
| Nominal Output Voltage                                   | AC 400/380V  |
| Nominal Output Frequency                                 | 50 Hz  |
| Max. Output Current                                      | AC 16.5A / phase   |
| Rated Output Apparent Power                              | 10000VA  |
| Rated Input Current                                      | AC 22.7 A/phase  |
| Rated Input Apparent Power                               | 15000VA  |
| Power Factor (range)                                     | 0.8 lagging to 0.8 leading   |
| Output Voltage THD                                       | <3%  |
| <b>Backup Port</b>                                       |  |
| Nominal Output Voltage                                   | AC 380/400,3L/N/PE   |
| Nominal Output Frequency                                 | 50 Hz  |
| Rated Current  | AC 16.5A / phase   |
| Rated Active Power                                       | AC 10000W  |
| Rated Apparent Power                                     | 10000VA <sup>5</sup>   |
| Peak Apparent Power                                      | 16500VA (60 sec max)   |
| Output Voltage THD                                       | <3%  |
| <b>Battery Port</b>                                      |  |
| Voltage (nominal)  | DC 180 - 600V  |
| Max. Current (charge)                                    | DC 25 A  |
| Max. Power (charge)                                      | DC 10000W <sup>3</sup>   |
| Max. Current (discharge)                                 | DC 25 A  |
| Max. Power (discharge)                                   | DC 10000W  |
| Battery Type   | Li-ion   |
| Battery Depth of Discharge                               | 90%  |
| <b>General Information</b>                               |  |
| Operating Temperature                                    | -35°C to 60°C  |
| Operating Temperature Derated Output                     | Below 10°C and over 45°C   |
| Operating Relative Humidity                              | 0 - 95%  |
| Operating Altitude                                       | 0 - 4000m  |
| Protective Class   | I  |
| Ingress Protection Rating                                | IP66   |
| 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                                 | <15W   |
| Noise Emissions  | <30 dBA  |
| Warranty   | 10 Years   |
| <b>Efficiency</b>  |  |
| Maximum Efficiency                                       | 97.60%   |
| Maximum Battery to Load Efficiency                       | 97.50%   |
| European Efficiency                                      | 96.80%   |
| <b>Physical Data</b>                                     |  |
| Installed Weight   | 127-210kg  |
| Material   | Aluminium  |
| Finish   | Sealed and powder coated   |
| <b>Battery Enclosure Data</b>                            |  |
| Enclosure Model  | BE14000-HV   |
| Name   | Smart Hybrid Battery Enclosure   |
| Chemistry (label only)                                   |  |
| Number of Battery Units                                  | 4 or 8   |
| Storage Capacity   | N x 2.4kWh<br>N x 3.55kWh  |
| Battery System Model                                     | RB-HVS-Nx48-50<br>RB-HVS-Nx48-74   |
| Maximum Capacity   | 28.4kWh <sup>4</sup>   |
| Nominal Voltage  | DC N X 48V   |
| Rated Current  | DC 25A   |
| Fan Specification  | DC 12V / 0.3A x2   |
| Protective Class   | I  |
| Ingress Protection Rating                                | IP54   |
| 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 | 40A  |
| Backup Port Isolator Rated Operational Current           | 25A  |
| Battery Port Isolator Rated Operational Current          | 32A  |
| Battery Cabinet Isolator Rated Operational Current       | 32A  |
| <b>Communications Ports and Protocols</b>                |  |
| Relays   | RJ45; 3x Digital I/O; +DC5V & GND  |
| <b>User Interface</b>                                    |  |
| Front Panel Display                                      | Coloured LEDs  |
| Communications   | Bluetooth for commissioning;<br>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<br>IEC 62109-1:2010<br>IEC62109-2:2011<br>IEC 62116:2014<br>IEC 62040-1:2017<br>IEC 62477-1:2012<br>IEC 60529<br>EN 61000<br>RCM<br>CE<br>AS/NZS 3000:2018<br>AS/NZS 5033:2014 (inc. Amd 1 & 2)<br>AS/NZS 5139:2019 |



**Designed with Installation Standards Considered**

<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> 600 V maximum voltage for PV arrays on domestic dwellings N = number of battery modules

<sup>3</sup> Dependant on number of batteries installed

<sup>4</sup> Maximum capacity 14.2kWh with single cabinet, or 28.4kWh with optional expansion cabinet

<sup>5</sup> 9.6kWh & 14.2kWh systems = 5000VA or 19.2kWh & 28.4kWh systems = 10000VA

<sup>6</sup> Manufacturer's declared and tested Max Short Circuit Current (Isc Max)

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