

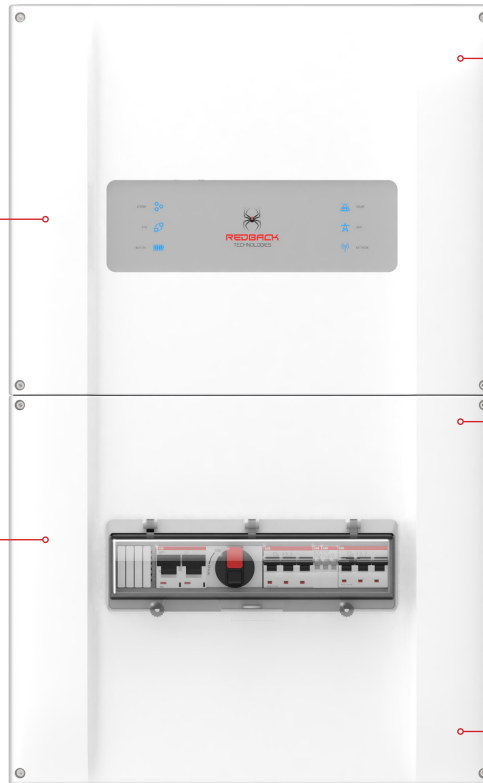
# Smart Three Phase Hybrid Inverter ST10000

## 3 Phase Inverter

Ideal for larger homes and small commercial installations.

## Pre-wired BoS

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



## 3 Phase UPS

Backup all three phases in the event of a power outage.

## Indoor/outdoor rated

Ideal for Australian conditions.

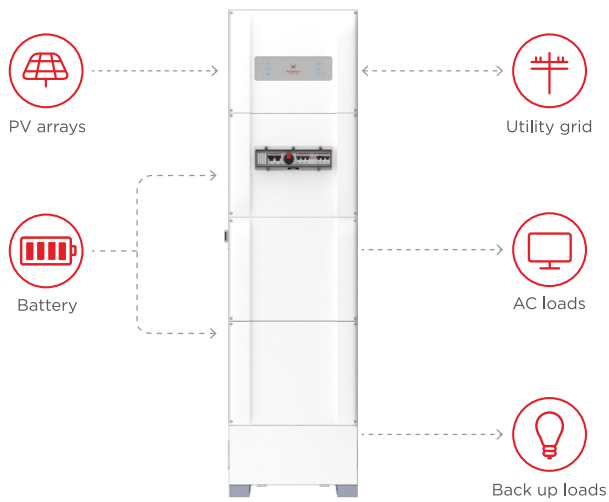
## Simple Commissioning

Our all-in-one system is easy to commission with the RedbackINSTALL app.

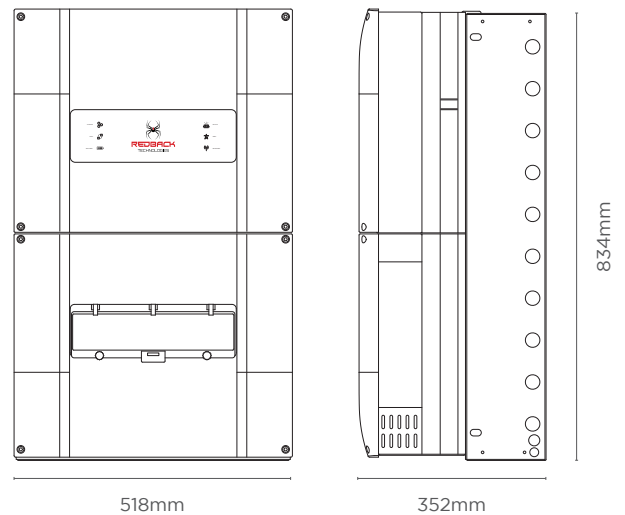
## Energy for the future

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 Three Phase Smart Hybrid System is the platform which facilitates 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.

## Energy flow



## Dimensions



## Specifications

### Inverter & Balance of System

Sold as a component of the Smart Three Phase Hybrid System

#### Solar array

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

#### Utility interface

Nominal AC voltage	400V, 50Hz
Continuous AC power rating	10kVA AC (derate over 45°C ambient)
Maximum AC power to utility grid	11kVA AC (derate over 45°C ambient)
Maximum AC current to utility grid	16.5A
Maximum AC current from utility grid	22.7A
Nominal AC output range	400/380V AC 50Hz
Current THD	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

#### Battery interface

DC voltage	180-600V DC
Battery compatibility	PylonTech H48050 PylonTech H48074
Maximum charging and discharge power (from battery)	10kW DC* *Dependant on number of batteries installed
Maximum charging current	25A DC
Maximum discharging current	25A DC
Battery charging method	Self-adaption to BMS
Battery disconnect	2 pole DC isolator 32A DC per pole

Grid regulation compliance: AS4777.2:2015, AS5033 AMD 2 Safety certification: AS3000:2018, IEC62109-1, IEC62109-2, IEC62040-1, IEC62116

### Control interfaces

Signal relay outputs	4 (requires optional relay kit)
DRM modes	0
Remote firmware updates	Supported
Relays	Optional RK-1 available

### Backup loads output

Nominal AC voltage/frequency	400/380, 3L/N/PE
Continuous AC power rating	10kVA AC (derate over 45°C ambient)
Maximum AC power rating	16.5kVA AC (60s)
Maximum AC current	16.5A
Voltage THD	Less than 3.0%
Back-up circuit AC isolator	25A MCB
Manual back-up load AC bypass switch	Integrated

### Efficiency

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

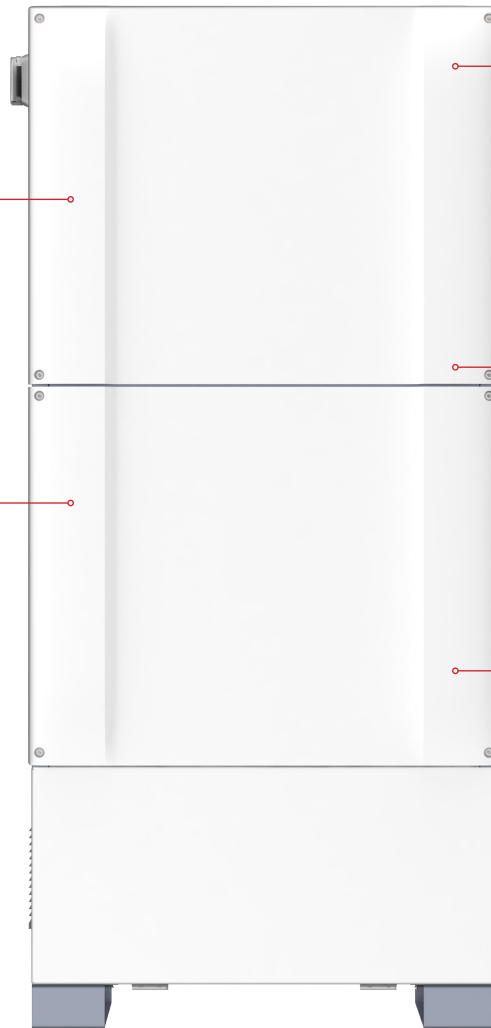
### General data

Dimensions (W x H x D)	518 mm x 834 mm x 352 mm
Mounting and weight	Frame 4.5kg, Inverter 27.5kg, BoS 12.5kg
Ambient temperature range	-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	IP66* *expected rating with certificate to be provided
Cooling	Natural convection
Noise emissions	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 Portal and android/iOS application
Power/energy monitoring	Includes 1 x utility grade 3 Phase (class 1) meter

# Smart Hybrid Battery Enclosure BE14000-HV



## Fan

Dual variable speed fans controlled by charge/discharge rate.

## Front panels

Powder coated, durable and die cast aluminium covers.

## Outdoor rated

IP54 rating for inside or outside install.

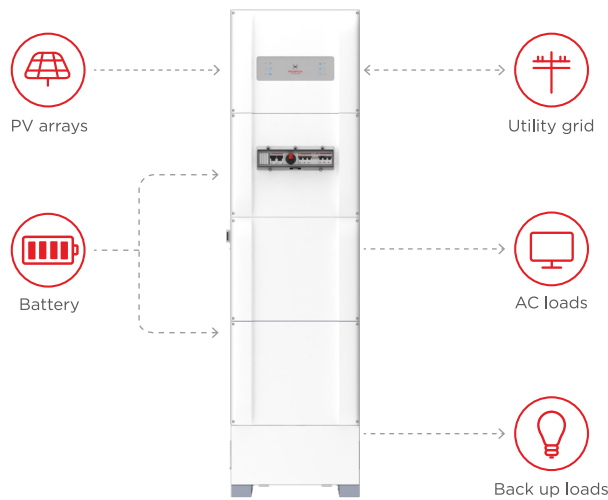
## Prewired

For safe and fast installation.

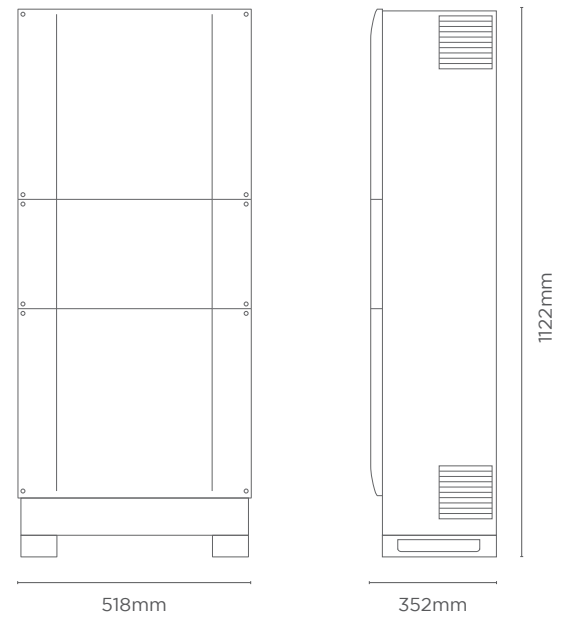
## Capacity

Expandable  
9.6 - 28.4kWh.

## Energy flow



## Dimensions



## Specifications

### Battery enclosure

Number of battery units	4 x 19" rack mountable battery packs
Storage capacity	Expandable from 9.6kWh up to 28.4kWh with expansion pack
Battery compatability	<b>9.6kWh</b> - 4 x PylonTech H48050 2.4kWh <b>or</b> <b>14.2kWh</b> - 4 x PylonTech H48074 3.55kWh batteries
Battery voltage	48V DC nominal per battery therefore 192V - 240V max
Battery chemistry	Lithium-ion Phosphate
Battery breaker	Included
Battery management system	Included with ST10000
Access type	Removable front panels

### Sold as a component of the Smart Three Phase Hybrid System

### Cable specification

Battery cable rating	25A
Battery cable type	8 AWG (8.36mm <sup>2</sup> )
Battery cable termination (battery enclosure)	Surlok Amphenol connector
Battery cable termination (inverter)	Surlok Amphenol connector

### Ventilation specification

Ventilation type	Passive and active cooling
Ventilation control	Smart temperature control
Number of fans	2
Fan power	12V DC / 0.13A per fan
Fan activation temperature	Variable depending on charge/discharge
Incoming ventilation aperture	288cm <sup>2</sup> with washable filter
Outgoing ventilation aperture	288cm <sup>2</sup> with washable filter
Passive airflow rate	30cm <sup>3</sup> /min
Active airflow rate	320cm <sup>3</sup> /min

### General Data

External dimension (W x H x D)	W 518mm x H 1122mm x D 352mm (with feet)
Mounting and weight - empty	32kg rear fixing
Mounting and weight - with batteries	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