



Redback Smart Hybrid System Technical Specifications

SOLAR ARRAY	SH4600
Recommended Maximum Solar Array DC Power	6000 Watts DC
Number of Solar Array Inputs	2 (individual maximum power point tracking)
Maximum DC Open Circuit Voltage	500 Volts DC
MPPT Operating Range	125-500 Volts DC
Starting Voltage	125 Volts DC
Maximum DC Input Current (for each solar array input)	11 Amps DC
Overcurrent Protection (for each solar array input)	20 Amps DC
Input Connectors	Amphenol H-4
Solar Array Disconnects	2 (Integrated DC breakers)
Residual Current Monitoring	Integrated
Insulation monitoring	Integrated
UTILITY INTERFACE	SH4600
Nominal AC Voltage / Frequency	230 VAC, 50 Hertz, Single Phase
Continuous AC Power Rating	4600 Watts AC (derate over 45°C ambient)
Maximum AC Power to Utility Grid	4600 Watts AC
Maximum AC Current to Utility Grid	20 Amps AC
Maximum AC Current from Utility Grid	40 Amps AC
Nominal AC Output Range	180 to 270 Volts AC, 45 to 55 Hertz (adjustable)
Current THD	Less than 1.5%
Power Factor	0.8 Leading to 0.8 Lagging
AC Overvoltage Category	Category III
Utility Grid AC Disconnect	Integrated (40 Amp AC breaker)
Anti-Islanding Protection	Integrated
AC Overcurrent Protection	Integrated
Inverter Topology	Transformerless (with HF transformer isolation for battery)
Grid Regulation Compliance	AS4777.2, AS4777.3
Safety Certification	AS3100, IEC62109-1, IEC62109-2, IEC62040-1

BATTERY INTERFACE	SH4600
Nominal DC Voltage	48 Volts DC
Battery Compatibility	Lithium Ion or Lead Acid
Battery Capacity (Adjustable)	100 to 10,000 Amp-Hours
Maximum Discharge Power (from battery)	4600 Watts DC
Maximum Charging Power	4600 Watts DC
Maximum Charging Current	85 amps DC
Battery Charging Method	Three Stage (adaptive with maintenance charging)
Typical Charging Voltage (bulk/absorption phase)	57.0 Volts DC
Battery Disconnect	Integrated 125 amp DC breaker (2 pole)
Temperature Compensation	Integrated
Battery Voltage Sensing	Integrated
Battery Current Sensing	Integrated

BACK-UP LOADS OUTPUT	SH4600
Nominal AC Voltage / Frequency	230 VAC, 50 Hertz, Single Phase
Continuous AC Power Rating	4600 Watts AC (derate over 45°C ambient)
Maximum AC Power Rating	6900 Watts AC (10 seconds maximum)
Maximum AC Current	30 Amps AC RMS / 43 Amps Peak
Voltage THD	Less than 3.0% (with linear loads)
Back-Up Loads AC Disconnect	Integrated (32 Amp AC breaker)
Residual Current Leakage Protection	Integrated RCD Disconnect
Manual Back-Up Load AC Bypass Switch	Integrated

EFFICIENCY	SH4600
Maximum Efficiency (to utility grid)	97.6%
European Averaged Efficiency	97.0%
Maximum Power Point Tracking Efficiency	99.9%
Efficiency (powering loads from battery)	90% Typical
Standby Losses	Less than 8 watts AC

GENERAL DATA	SH4600
Dimensions (W x H x D)	516 mm x 950 mm x 278 mm
Mounting	Wall (mounting plate included)
Weight	40 kg
Ambient Temperature Range	-25 to 60°C (derate above 45°C)
Relative Humidity	0 to 100%
DC Overcurrent Category	Category II
Moisture Location Category	4K4H
Maximum Operating Altitude	4000 m
Environmental Protection Rating	IP65
Environmental Category	Outdoor or Indoor
Cooling	Natural Convection
Noise Emissions	Less than 25 dB

USER INTERFACE	SH4600
Front Panel Display	Multi-Colored LED Indicators
Communications	Integrated WiFi Interface for Smartphone and Web Monitoring
Software	Web and Android / iOS Application
Power/Energy Monitoring	Includes Grid Meter with clip-on 120 amp AC sensors