redback technologies

Product Data Sheet

Redback 1-Phase Hybrid Inverter

PV PORT	SH5000-G3/SH5000-G3V2	SH6000-G3/SH6000-G3V2
Number of MPPTs	2	2
Strings per MPPT Input	1/1	1/1
MPPT Operating Voltage (range)	DC 90 - 520V	DC 90 - 520V
Start-up voltage	DC 90V	DC 90V
MPPT Full Load (range)	DC 175 - 520V	DC 210 - 520V
Maximum Input Voltage (Vmax)	DC 600V	DC 600V
Maximum Current (Imp)	DC 16/16A	DC 16/16A
Maximum PV Input Power	8000Wp	9600Wp
Short Circuit Current (Isc)	DC 24/24A	DC 24/24A
Maximum Back Feed Current	0A	0A
Decisive Voltage Class (DVC)	DVC-C	DVC-C
GRID INTERACTIVE PORT	**SH5000-G3/SH5000-G3V2**	**SH6000-G3/SH6000-G3V2**
Nominal Output Voltage	AC 220/230/240V	AC 220/230/240V
Nominal Output Frequency	50Hz	50Hz
Rated Output Current	AC 21.7A	AC 26.1A
Max. Output Current	AC 21.7A	AC 26.1A
Rated Output Active Power	AC 5000W	AC 6000W
Rated/Max Output Apparent Power	5000VA	6000VA
Rated Input Current	AC 32A	AC 40A
Rated Input Apparent Power`	7360VA	9200VA
Power Factor (range)	0.8 lagging to 0.8 leading	0.8 lagging to 0.8 leading
Output Voltage THD	<3%	<3%
Inrush Current	65A, 10 µs	65A, 10 µs
Maximum Output Fault Current	65A, 10 µs	65A, 10 µs
Maximum Output Overcurrent Protection	AC 21.7A	AC 26.1A
Decisive Voltage Class (DVC)	DVC-C	DVC-C
BACKUP PORT	**SH5000-G3/SH5000-G3V2**	**SH6000-G3/SH6000-G3V2**
Nominal Output Voltage	AC 220/230/240V	AC 220/230/240V
Nominal Output Frequency	50 Hz	50 Hz
Max Output Current	AC 21.7A	AC 26.1A
Rated Active Power	AC 5000W	AC 6000W
Rated Apparent Power	5000VA	6000VA
Peak Apparent Power	7000VA (60 sec max)	8000VA (60 sec max)
Output Voltage THD	<3%	<3%
Inrush Current	65A, 10 µs	65A, 10 µs
Maximum Output Fault Current	65A, 10 µs	65A, 10 µs
Maximum Output Overcurrent Protection	AC 21.7A	AC 26.1A
Decisive Voltage Class (DVC)	DVC-C	DVC-C
BATTERY PORT	**SH5000-G3/SH5000-G3V2**	**SH6000-G3/SH6000-G3V2**
Voltage (nominal)	DC 42 - 58V	DC 42 - 58V
Max. Current (charge)	DC 105A	DC 125A
Max. Power (charge)	DC 5000W	DC 6000W
Max. Current (discharge)	DC 105A	DC 125A
Max. Power (discharge)	DC 5000W	DC 6000W
Battery Type	Li-ion	Li-ion
Battery Depth of Discharge	95%	95%
Short Circuit Current	＜8000A/1ms	＜8000A/1ms
Decisive Voltage Class (DVC)	DVC-A	DVC-A

GENERAL INFORMATION	ALL MODELS
Operating Temperature	-25°C to 60°C
Operating Temperature Derated Output	below 10°C and over 45°C
Operating Relative Humidity	0 - 100%
Operating Altitude	2000m
Protective Class	I
Ingress Protection Rating	IP66 (Outdoors)
AC Overvoltage Category	OVC III
DC Overvoltage Category	OVC II
Active Anti-islanding Method	Active Frequency Shifting
Moisture Location Category	4K4H
External Environment Pollution Degree	Grade 1, 2 and 3
Inverter Topology	Non-isolated
Country of Origin	China
Demand Response Modes	DRM 0
Standby Self-Consumption	<20W
Noise Emissions	<35 dBm[1]
Warranty	10 Years
EFFICIENCY	
Maximum Efficiency	97.50%
Maximum Battery to Load Efficiency	93.51%
European Efficiency	96.20%
PHYSICAL DATA	
Installed Weight	63-223kg
Dimensions (W x D x H) (Inverter and Mounting Frame)	540 x 363 x 720mm
Material	Aluminium
Finish	Sealed and powder coated
SH-G3-BE Battery Enclosure Data	**US5000**
Number of Battery Units	4
Storage Capacity	4x 4.8kWh
Maximum Capacity	19.2kWh
Nominal Voltage	DC 48V
Rated Current	DC 120A
Protective Class	I
Ingress Protection Rating	IP54
Dimensions (W x D x H)	540x363x1270 mm
Material	Aluminium
Finish	Sealed and powder coated

1.Measured in Redback laboratory at 1m in front of Battery Enclosure.

ISOLATORS (ALL VERSIONS)	PV PORT	GRID INTERACTIVE PORT	BACKUP PORT	BATTERY PORT
Manufacturer Part Number	NDG3V-50/4/1/01/M/AS	PEM1-63/50A/1/PC	PEM1-63/50A/1/PC	PEBS-L-125/125A/2P/160VC
Rated Insulation Voltage	1500V	440V	440V	500V
Rated Impulse Withstand Voltage	8kV	6kV	6kV	6kV
Suitability for Isolation	C	C	C	B/C
Rated Operational Current	55A	50A	50A	125A
Utilisation Category	DC-PV2	NA	NA	NA
Rated Short-time Withstand Current (Icw)	700A	NA	NA	NA
Rated Short-circuit Making Capacity (Icm)	1400A	NA	NA	NA
Rated Breaking Capacity (Isc)	5kA	7.5kA	7.5kA	7.5kA

COMMUNICATIONS PORTS AND PROTOCOLS.	
Ethernet	RJ45; Straight-thru
BMS	RJ45; Custom configuration
Meter/DRED	Meter: Shared RJ45; RS485 MODBUS
	Relay: One supported; Connected to kWh Meter.
	DRED: Shared RJ45; DRED
Wi-Fi	802.11b/g/n/ac; 2.4GHz

USER INTERFACE	
Front Panel Display	Coded, coloured LEDs
Communications	Bluetooth for commissioning
Remote access	Web Portal or MYRedback app (Android or iOS)
Remote Firmware Updates	Supported
Power/energy monitoring	Includes 1 x utility grade energy meter (class 1)

CERTIFICATIONS, STANDARDS AND APPROVALS			
AS/NZS 4777.2:2020	IEC 62116:2014	IEC 60529	RCM
IEC 62109-1:2010	EC 62040-1:2017	EN 61000	CE Mark (LVD, EMC, RoHS directives)
IEC62109-2:2011	IEC 62477-1:2012		

DESIGNED WITH INSTALLATION STANDARDS CONSIDERED		
AS/NZS 3000:2018	AS/NZS 5139:2019	AS/NZS 5033:2021