6 kW

BRIGGS&STRATTON

SIMPLIPHI™
HYBRID INVERTER

SPECIFICATIONS

OVERVIEW	
Model Designation	SPHI-IN-6
Environmental Protection	IP65
Protective Class	1
Battery Input Data	
Nominal Battery Voltage	48VDC
DC Voltage Range	40~62VDC
Maximum Charging Voltage	62VDC (Configurable)
Maximum Charging Current	120 A
Maximum Discharging Current	120 A
Charging Curve	3 Stages / Float
Charging Strategy for Li-Ion Battery	Self-adaption to BMS
Number of DC Connections	1
PV String Input Data	
Maximum DC Input Power	7,500 W
Nominal DC Voltage	360VDC
Maximum DC Input Voltage	600VDC
MPPT Range	120~550VDC
Start-up Voltage / Initial Feed In Voltage	160VDC / 125VDC
Maximum Input Current per MPPT	15 A
Maximum Isc PV	21 A
Maximum Inverter Back Feed Current to Array	0 A
Number of MPP Trackers	2 with 2 inputs each

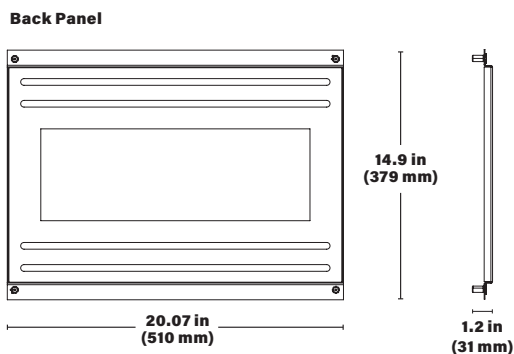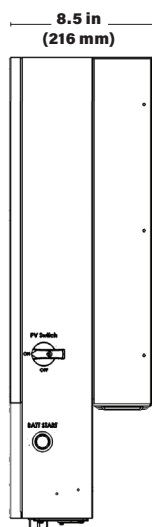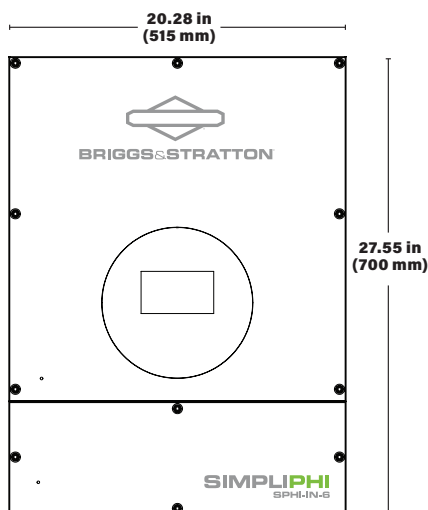| AC Output Data (On-grid)	
Nominal Apparent Power Output to Utility Grid	6,000 VA
Nominal Output Voltage	220VAC / 240VAC L1-L2, 110VAC / 120VAC L-N
Nominal Output Frequency	50 / 60 Hz
Output Frequency Range	47.5~51.5 Hz or 59.3~60.5 Hz
Output Voltage Range	105.5–132VAC per phase
Inrush Current/Duration	30 A per phase / 20 ms
O/P DC Component	<100 mA
Output Power Factor	>0.99 (Adjustable from 0.9 leading to 0.9 lagging)
Output THDi (@Nominal Output)	<3%
Switch Over Time (Grid Down)	<8 ms
AC Output Data (Back-up)	
Maximum Output Apparent Power	6,000VA
Instantaneous Power (10ms)	12,000VA
Surge Power (5 sec)	9,000VA
Maximum Output Active Power	6,000 W
Nominal Output Voltage	220VAC / 240VAC L1-L2, 110VAC / 120VAC L-N
Nominal Output Frequency - Auto Sensing	50/60 (±0.1 Hz)
Output THDv (@Linear Load)	<3%
Output THDv (@PF 0.8 Non-Linear Load)	<5%
Parallel Function	Yes
Parallel Units	9
Automated Generator Start	Included
Efficiency	
Maximum Solar to Utility Efficiency	96.50%
Maximum Battery to Load Efficiency	91.00%
Protection	
Anti-Islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
AFCI (Arc-Fault)	Integrated
Ground Fault Monitoring	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated - 90 A per phase

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Protection	
Output Short Protection	Integrated
Rapid Shut Down Relay	Integrated - AP Smart devices
General Data	
Operating Temperature Range	-13 – 140 °F (-25 – 60 °C)
Transformerless	Yes
Consumption Modes	UPS, Self-Consumption, TOU, Off-Grid Backup, Grid-Tied without Batteries
Relative Humidity	0~90%
Operating Altitude	<13,123 ft (4,000 m)
Cooling	External Force Convection
Noise	<50 dB
Dimensions (W x H x D)	20.28 x 27.55 x 8.5 in (515 x 700 x 216 mm)
Weight	86 lb (39 kg)
Back Panel Dimensions (W x H x D)	20.07 x 14.9 x 1.2 in (510 x 379 x 31 mm)
Communications Interface	
User Interface	LCD / Phone Application (iOS & Android)
Communication with BMS	CANBUS
Communications Between Inverters	CANBUS
Communication with Cloud - API with Grid Services	via EnergyTrak™ Gateway
Communication Port	RS-232
Intelligent Slot	RS232 / USB, BMS, Wi-Fi
Certifications / Standards	
Grid Regulation	UL 1741SA / TR-2020, IEEE1547.1-2020
Safety Regulation	6-1, 6-4 IEC / EN 62109-1&2
EMC	EN 61000-6-2, EN 61000-6-3

20.28 in (515 mm)
8.5 in (216 mm)
Back Panel
27.55 in (700 mm)
14.9 in (379 mm)
20.07 in (510 mm)
1.2 in (31 mm)

SIMPLIPHI
SPHI-IN-6

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