



BRIGGS & STRATTON

SIMPLIPHI
SPHI-IN-6

6kW



Approved Battery List & Operating Parameters

SimpliPHI 6kW™ Hybrid Inverter

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Warranty Statement

Failure to adhere to the Warranty and Installation Manual requirements will Violate the terms of the Warranty. Read the SimpliPhi ESS Warranty prior to installation and register the inverter or ESS system according to the form found at the bottom of the same web page address: <https://simpliphipower.com/wp-content/uploads/re/products/ess-6-kw-inverter/warranty/briggs-%26-stratton-limited-warranty-for-simpliphi-ess.pdf>

1.0 – Introduction

1.1 – Online Resources

The Product Documentation section of SimpliPhi’s web site (<https://simpliphipower.com/product-documentation/>) includes Specification Sheets, Warranties, Installation & Operator’s Manuals, and Integration Guides for all SimpliPhi’s current and legacy products.

SimpliPhi’s YouTube channel (https://www.youtube.com/channel/UCcuCaLT_G3Hhumteh-pl5yg/videos) has instructional videos showing various steps of the battery installation process in detail.

1.2 – Technical Support

SimpliPhi Technical Support (805-640-6700 x 1, ESSTech@basco.com) is available to take any questions regarding this manual or general installation questions. For assistance with battery system commissioning, SimpliPhi asks that a commissioning call be **scheduled ahead of time** with Technical Support.

We encourage you or your installer to contact SimpliPhi with any questions. We are committed to working with you and your installation team to achieve a safe, reliable storage system that will provide years of maintenance-free service that is covered by our Warranty terms & conditions.

2.0 – Approved Battery List

Battery Brand	Model	Voltage
SimpliPHI	SPHI-B-4.9	48V
SimpliPHI	APHI-B-3.8	48V
SimpliPHI	PHI-B-3.8	48V

2.1 – Adding Batteries to the List

If you are interested in having SimpliPHI evaluate compatibility of a different battery, please reach out to our engineering team directly.

[SimpliPHI Engineering](#)

3.0 – Specific Operating Parameters

3.1 – Operating Parameters for PHI Batteries Related to Cycle Life

To maintain optimal PHI Battery health and longevity, adhere to the operating parameters outlined in Tables 3.1 and 3.2 below. This is specific to integration with the SimpliPHI 6 kW Inverter only.

Table 3.1 – Optimal Operation Parameters

Recommended Operating Conditions for 10 Year Warranty on PHI Batteries			
Equivalent to 80% Retained Capacity	10,000 Cycles	5,000 Cycles	3,500 Cycles
Depth of Discharge (DoD)	80%	90%	100%
Operating Temperature °F (°C)	32 to 120 (0 to 49)		
Low Battery Cut-Off Voltage (V)	50.2	49.6	48
Bulk Charge Voltage (V)	56	56	56

Table 3.2 – Operating Limitations

Notes/Operating Limitations for PHI 48V Batteries	
Continuous Discharge (ADC)	37.5
Surge Discharge Rate (ADC) 10 minutes maximum	80
Continuous Charge Rate (ADC)	37.5

- Levels are typically @ 25°C and may need adjusting at temperature extremes.
- When performing rapid deep charge/discharge cycles, the PHI Battery should be allowed to “rest” 15 mins in between. Although the PHI battery charges to the voltages outlined above, the battery “rests” at approximately 53.3V. Refer to Table 3.3 below for a complete Battery Voltage versus State of Charge (SOC) gauge.

Table 3.3 – Optimal Operation Parameters

SOC	48V
100%	>52.5VDC
95%	51.7 VDC
90%	51.65 VDC
75%	51.4 VDC
50%	51.0 VDC
20%	50.2 VDC
10%	49.5 VDC
0%	48.0 VDC