

VERIFICATION OF COMPLIANCE

No.: SHES2409018911PV

Applicant: SPITZER ENERGY COMPANY
4295 East Jurupa Street, Suite 103A, Ontario, 91761,
California, United States of America

Manufacturer: SPITZER ENERGY COMPANY
4295 East Jurupa Street, Suite 103A, Ontario, 91761,
California, United States of America

Product Name: ESS Inverter

Product Description: ESS Inverter

Model No.: SPZ 7.5KW-LV, SPZ 9KW-LV, SPZ 12KW-LV-A,
SPZ 12KW-LV-B, SPZ 15KW-LV, SPZ 15KW-LV-B

Trade Mark: 

Rating: See page 2 to 4

Protection against Electric Shock: Class I

Additional Information (if any): Firmware version: 051001

Sufficient samples of the product have been tested and found to be in conformity with

Test Standard: See page 5
as shown in the

Test Report Number(s): SHES240901891101

This Verification of Compliance has been granted to the applicant based on the results of tests, performed by Laboratory of SGS-CSTC Standards Technical Services Co., Ltd. on sample of the above-mentioned product in accordance with the provisions of the relevant specific standards.



Van Hua

Technical Manager

SGS-CSTC Standards Technical Services Co., Ltd.



2024-09-29

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No.:

SHES2409018911PV

Other information added:

Rating:

Model:	SPZ 7.5KW-LV	SPZ 9KW-LV
INPUT RATINGS:		
Maximum input voltage	600V dc	
Range of input operating voltage	70 V dc to 540 V dc	
Range of input operating voltage with full power	200 V dc to 480 V dc	
Maximum input current (dc)	30/22 Adc	
Number of input	2	
OUTPUT RATINGS (Grid terminal, Bi-directional):		
Output power factor rating	default >0.99 (-0.8~+0.8 adjustable)	
Operating voltage range (ac) (L1-L2/L1-N)	0.88Un~1.1Un	
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output current (ac) per line	22.9Arms	27.5Arms
Rated output current (ac) per line	20.9Arms	25Arms
Maximum output apparent power (ac)	5.5 kVA	6.6 kVA
Maximum continuous output power (ac)	5.0 kW	6.0 kW
Maximum output fault current (ac) and duration	494 A _{peak} /18.6ms, 14.09 A _{rms} /cycle	
Trip limit and trip time accuracy - Voltage:	±1% Un	
Utility interconnection voltage and frequency trip limits and trip times	see Note 1 and 2	
Trip limit and trip time accuracy - Frequency:	±0.01 Hz	
Trip limit and trip time accuracy - Time	±1%setting, but not less than 50ms	
Normal operation temperature range	-25°C to 60°C (>45 °C derating)	
Enclosure Rating Type	Type 3R	
Weigh (kg)	40kg	
Dimension (mm)	420*800*240	
OUTPUT RATINGS (BACKUP output terminal):		
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output power (ac)	5.5 kVA	6.6 kVA
Rated output power (ac)	5.0 kW	6.0 kW
Battery terminal, Bi-directional:		
Battery Type	Lithium-ion/Lead-acid	
Range of DC operating voltage (Vdc)	40-64V dc	
Nominal voltage (Vdc)	48V dc	
Max. charging/ discharging current (Adc)	210/130 Arms	210/130 Arms
Max. charging/ discharging power (W)	10000W/5000W	10000W/6000W



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No.: SHES2409018911PV

Other information added:

Rating:

Model:	SPZ 12KW-LV-A	SPZ 12KW-LV-B
INPUT RATINGS:		
Maximum input voltage	600V dc	
Range of input operating voltage	70 V dc to 540 V dc	
Range of input operating voltage with full power	200 V dc to 480 V dc	
Maximum input current (dc)	30/22/22 Adc	
Number of input	3	
OUTPUT RATINGS (Grid terminal, Bi-directional):		
Output power factor rating	default >0.99 (-0.8~+0.8 adjustable)	
Operating voltage range (ac) (L1-L2/L1-N)	0.88Un~1.1Un	
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output current (ac) per line	34.8Arms	36.7Arms
Rated output current (ac) per line	31.7Arms	33.4Arms
Maximum output apparent power (ac)	8.36 kVA	8.8 kVA
Maximum continuous output power (ac)	7.6 kW	8.0 kW
Maximum output fault current (ac) and duration	494 A _{peak} /18.6ms, 14.09 A _{rms} /cycle	
Trip limit and trip time accuracy - Voltage:	±1% Un	
Utility interconnection voltage and frequency trip limits and trip times	see Note 1 and 2	
Trip limit and trip time accuracy - Frequency:	±0.01 Hz	
Trip limit and trip time accuracy - Time	±1%setting, but not less than 50ms	
Normal operation temperature range	-25°C to 60°C (>45 °C derating)	
Enclosure Rating Type	Type 3R	
Weigh (kg)	40kg	
Dimension (mm)	420*800*240	
OUTPUT RATINGS (BACKUP output terminal):		
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output power (ac)	8.36 kVA	8.8 kVA
Rated output power (ac)	7.6 kW	8.0 kW
Battery terminal, Bi-directional:		
Battery Type	Lithium-ion/Lead-acid	
Range of DC operating voltage (Vdc)	40-64V dc	
Nominal voltage (Vdc)	48V dc	
Max. charging/ discharging current (Adc)	210/180 Arms	210/180 Arms
Max. charging/ discharging power (W)	10000W/7600W	10000W/8000W

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Other information added:

Rating:

Model:	SPZ 15KW-LV	SPZ 15KW-LV-B
INPUT RATINGS:		
Maximum input voltage	600V dc	
Range of input operating voltage	70 V dc to 540 V dc	
Range of input operating voltage with full power	200 V dc to 480 V dc	
Maximum input current (dc)	30/22/22 Adc	
Number of input	3	
OUTPUT RATINGS (Grid terminal, Bi-directional):		
Output power factor rating	default >0.99 (-0.8~+0.8 adjustable)	
Operating voltage range (ac) (L1-L2/L1-N)	0.88Un~1.1Un	
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output current (ac) per line	45.8Arms	47.5Arms
Rated output current (ac) per line	41.7Arms	41.7Arms
Maximum output apparent power (ac)	11 kVA	11.4 kVA
Maximum continuous output power (ac)	10 kW	10 kW
Maximum output fault current (ac) and duration	494 A _{peak} /18.6ms, 14.09 A _{rms} /cycle	
Trip limit and trip time accuracy - Voltage:	±1% Un	
Utility interconnection voltage and frequency trip limits and trip times	see Note 1 and 2	
Trip limit and trip time accuracy - Frequency:	±0.01 Hz	
Trip limit and trip time accuracy - Time	±1%setting, but not less than 50ms	
Normal operation temperature range	-25°C to 60°C (>45 °C derating)	
Enclosure Rating Type	Type 3R	
Weigh (kg)	40kg	
Dimension (mm)	420*800*240	
OUTPUT RATINGS (BACKUP output terminal):		
Number of phases	Single phase/Split phase	
Nominal output voltage (ac)	Split phase:120/240Vac; 2/3 phase: 208Vac	
Normal output frequency	60 Hz	
Maximum continuous output power (ac)	11 kVA	11.4 kVA
Rated output power (ac)	10 kW	10 kW
Battery terminal, Bi-directional:		
Battery Type	Lithium-ion/Lead-acid	
Range of DC operating voltage (Vdc)	40-64V dc	
Nominal voltage (Vdc)	48V dc	
Max. charging/ discharging current (Adc)	210/210Arms	210/210Arms
Max. charging/ discharging power (W)	10000W/10000W	10000W/10000W

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Other information added:

As the gateway used by customer is certified by SunSpec, the compatibility testing is as part of IEEE2030.5 conformance testing of the gateway. According to the Resolution E-5000 & E-5036, for inverters that do not directly implement IEEE 2030.5 client functionality, the following five test cases according to SunSpec CSIP test procedures on the gateway while it is connected to the inverter.

- 1) Inverter Status (BASIC-028)
- 2) Inverter Meter Reading (BASIC-029)
- 3) Basic Inverter Control – Volt/Var (BASIC-006)
- 4) Basic Inverter Control – Fixed Power Factor (BASIC-008)
- 5) Basic Inverter Control – Volt-Watt (BASIC-011)

The test was conducted using the QualityLogic IEEE 2030.5 Test Harness which implements the test cases that are described in the CSIP Test Procedures document.

The inverter under test was subjected to testing conditions as follows:

- ✓ The inverter was operating during test harness verification procedure.
- ✓ The gateway was given orders as IEEE 2030.5 commands (Inverter Status, Inverter Meter Reading, Volt/VAR, Fixed Power Factor, and Volt/Watt) sent from an IEEE 2030.5 Client FTS that were subsequently translated to signals understood by the inverter.
- ✓ The inverter parameters were verified:
 - a) to change during the test cases for Volt-VAR, Fixed Power Factor, and Volt-Watt and
 - b) report monitored data during the test cases for Inverter Status and Inverter Meter Reading. Based on this procedure, the requirements from Appendix C of the resolution were verified.

Test Name	Test Description	Result
BASIC-006	Basic Inverter Control (Volt/Var) [C, A, S]	Pass
BASIC-008	Basic Inverter Control (Fixed Power Factor) [C, A, S]	Pass
BASIC-011	Basic Inverter Control (Volt-Watt) [C, A, S]	Pass
BASIC-028	Inverter Status [C, A, S]	Pass
BASIC-029	Inverter Meter Reading [C, A, S]	Pass

Test Standard: California Public Utilities Commission Resolution E-5000 & E-5036
Common Smart Inverter Profile V2.1

Test procedure: Common Smart Inverter Profile (CSIP) Conformance Test Procedures V1.2

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