



Certificate of Compliance

Certificate: 2478710

Master Contract: 173688

Project: 2614172

Date Issued: April 8, 2013

Issued to: Power-One, Inc
3201 E Harbour Dr
Phoenix, AZ 85034
USA

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Rob Hempstock

Issued by: Rob Hempstock, AScT.

PRODUCTS

CLASS 5311 09 - POWER SUPPLIES - Distributed Generation Power Systems Equipment

CLASS 5311 89 - POWER SUPPLIES - Distributed Generation - Power Systems Equipment
- Certified to U.S. Standards

Utility Interactive Inverter, Models MICRO-0.3-I-OUTD-US-208/240 and MICRO-0.25-I-OUTD-US-208/240.

For details related to ratings, reference should be made to the CSA Certification Record, Annex 1, and/or the Descriptive Report.

APPLICABLE REQUIREMENTS

C22.2 No. 107.1-01 (R2011) - General Use Power Supplies

UL 1741 Second Edition - Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources

Note: Compliance with UL 1741 includes applicable requirements of IEEE 1547 and IEEE 1547.1.

ANNEX 1 - Ratings for Certificate of Compliance
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Utility Interactive Inverter, Model MICRO-0.3-I-OUTD-US-208/240 and MICRO-0.25-I-OUTD-US-208/240, system ratings as follows:

Model MICRO-0.3-I-OUTD-US-208/240:

Model: MICRO-0.3-I-OUTD-US-208/240	240Vac	208Vac
INPUT RATINGS:		
Maximum input voltage	65 V dc	65 V dc
Range of input operating voltage	12-60 Vdc	12-60 Vdc
Range of input operating voltage at full power	30-50 V dc	30-50 V dc
Maximum input current (dc)	10.5 A	10.5 A
Maximum input short circuit current	12.5 A	12.5 A
Maximum input source backfeed current to input source	0 A	0 A
OUTPUT RATINGS:		
Output power factor rating	0.95 min (0.99 typical)	0.95 min (0.99 typical)
Operating voltage range (ac) (L-L) ¹	211-264 V ac	183-228 V ac
Operating frequency range or single frequency ¹	57 to 59.8 (adjustable) – 60.5 Hz	57 to 59.8 (adjustable) – 60.5 Hz
Number of phases	1 (3W - SPØ)	1 (2W - 1Ø)
Nominal output voltage (ac)	240 V ac	208 V ac
Normal output frequency	60 Hz	60 Hz
Maximum continuous output current (ac)	1.25 A (at nominal)	1.44 A (at nominal)
Maximum continuous output power (ac)	300 W	300 W
Maximum output fault current (ac) and duration	12.4 Arms, over 1 cycle; 7.1 Arms, over 3 cycles; 5.6 Arms, over 5 cycles; 343.6 Apeak	14.3 Arms, over 1 cycle; 8.3 Arms, over 3 cycles; 6.4 Arms, over 5 cycles; 335.4 Apeak
Maximum output overcurrent protection	20 A	20 A
Utility interconnection voltage and frequency trip limits and trip times		
Trip limit and trip time accuracy	Voltage:	+/- 2.0% of Nominal
	Frequency:	+/-0.1 Hz
	Trip Time	+/- 5 %
Normal operation temperature range @ full power	-40°C - +65°C	
Maximum operating ambient (derates)	+75 °C	
Enclosure Rating Type	4X	

ANNEX 1 - Ratings for Certificate of Compliance
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Model MICRO-0.25-I-OUTD-US-208/240:

Model: MICRO-0.25-I-OUTD-US-208/240	240Vac	208Vac
INPUT RATINGS:		
Maximum input voltage	65 V dc	65 V dc
Range of input operating voltage	12-60 Vdc	12-60 Vdc
Range of input operating voltage at full power	30-50 V dc	30-50 V dc
Maximum input current (dc)	10.5 A	10.5 A
Maximum input short circuit current	12.5 A	12.5 A
Maximum input source backfeed current to input source	0 A	0 A
OUTPUT RATINGS:		
Output power factor rating	0.95 min (0.99 typical)	0.95 min (0.99 typical)
Operating voltage range (ac) (L-L) ¹	211-264 V ac	183-228 V ac
Operating frequency range or single frequency ¹	57 to 59.8 (adjustable) – 60.5 Hz	57 to 59.8 (adjustable) – 60.5 Hz
Number of phases	1 (3W - SPØ)	1 (2W - 1Ø)
Nominal output voltage (ac)	240 Vac	208 V ac
Normal output frequency	60 Hz	60 Hz
Maximum continuous output current (ac)	1.04 A (at nominal)	1.2 A (at nominal)
Maximum continuous output power (ac)	250 W	250 W
Maximum output fault current (ac) and duration	12.4 Arms, over 1 cycle; 7.1 Arms, over 3 cycles; 5.6 Arms, over 5 cycles; 343.6 Apeak	14.3 Arms, over 1 cycle; 8.3 Arms, over 3 cycles; 6.4 Arms, over 5 cycles; 335.4 Apeak
Maximum output overcurrent protection	20 A	20 A
Utility interconnection voltage and frequency trip limits and trip times		
Trip limit and trip time accuracy	Voltage:	+/- 2.0% of Nominal
	Frequency:	+/-0.1 Hz
	Trip Time	+/- 5 %
Normal operation temperature range @ full power	-40°C - +65°C	
Maximum operating ambient (derates)	+75°C	
Enclosure Rating Type	4X	

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Notes:

1. Utility Interconnection Voltage and Frequency Trip Limits and Trip Times:

Condition	Simulated utility source		Maximum time (sec) at 60 Hz before cessation of current to the simulated utility
	Voltage (V)	Frequency (Hz)	
A	$V < 50\% V_{nor}$ (Not Adjustable)	Rated	0.16 sec (Not Adjustable)
B	$50\% V_{nor} \leq V < 88\% V_{nor}$ (Adjustable Set Points 55% to 88%)	Rated	2 sec (Default) (Adj. Set Points 0.16 s to 5 s)
C	$110\% V_{nor} \leq V < 120\% V_{nor}$ (Adjustable Set Points 110% to 118%)	Rated	1 sec (Default) (Adj. Set Points 0.16 s to 5 s)
D	$V \geq 120\% V_{nor}$ (Not Adjustable)	Rated	0.16 sec (Not Adjustable)
E	Rated	$f > 60.5$ (Not Adjustable)	0.16 sec (Not Adjustable)
F	Rated	$f < 59.3$ (Default) (Adj. Set Points 59.8 Hz to 57.2 Hz)	0.16 sec (Default) (Adj. Set Points 0.16 s to 5 s)
G	Rated	$f < 57.0$ (Not Adjustable)	0.16 sec (Not Adjustable)

2. Utility interactive evaluations were conducted with the following Software:
Firmware version: (DSP) B1.58; (MICRO) C1.11
Checksum: (DSP) 0x468E; (MICRO) 0x1755
3. Surge Testing for Combination Wave (1.2/50us) was performed at 6 kV/3 kA, 2 ohms effective impedance and Ringwave (0.5us-100kHz) was performed at 6 kV/0.5 kA, 12 ohms effective impedance. Tests were performed using both polarities, for common mode and differential mode coupling, 20 pulses each test. After surge testing the unit was operational with control functionally verified by frequency and voltage disconnect tests.
4. Models MICRO-0.3-I-OUTD-US-208/240 and MICRO-0.25-I-OUTD-US-208/240 are identical in construction except for firmware settings.