Letter of Attestation

Document: 80258281 **Master Contract:** 261002

Project: 80258281 **Date Issued:** September 18, 2025

Issued to: **Hoymiles Power Electronics Inc.**
No.18 Kangjing Road,
Hangzhou, Zhejiang 310015
China
Attention: Steven Zhang

CSA Group hereby confirms that it has completed an evaluation of:
Grid Support Utility Interactive PV Micro-inverter, high frequency isolated, Model: HMS-2250DW-4T

CSA Group hereby attests that the products identified above and described in test report 80258281 dated September 18, 2025 complies with the following standards/tests, to the extent applicable:
CSA C22.2 No. 107.1:16, Power conversion equipment; UL 1741 - Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources (Third Edition, Revision May 19, 2023); IEEE Std 1547-2003 (R2008); IEEE Std 1547.1-2005(R2011)

TEST PERFORMED	*REFERENCE*	
Spacing, Alternate Spacing and Voltage Measurement Test	*UL 1741/CSA 107.1*	*26, 27, 45/ 4.16, 4.17*
	UL 840(Edition 3, Revision April 19, 2022)/CSA 0.2(Edition 2, Revision September, 2020)	*8, 9/ 4, 5*
Output Ratings	*UL 1741/CSA 107.1*	*48.2/ 6.2*
DC Input Range	*UL 1741*	*48.3*
Temperature Test	*UL 1741/ CSA107.1*	*46 / 6.3*
Dielectric Voltage Withstand Test	*UL 1741/CSA 107.1*	*47 / 6.15.2*
Capacitor Discharge	*UL 1741 /CSA 107.1*	*60 / 6.19*
Maximum-voltage Measurement	*UL 1741*	*45*
Short-Circuit Test	*UL 1741/CSA 107.1*	*50.3 /6.6*
Reverse Polarity Test (DC Miswiring)	*UL 1741/CSA 107.1*	*50.4 /6.6*
Component short- and open- circuit Test	*UL 1741/CSA 107.1*	*50.6 /6.6*
Loss of Control Circuit	*UL 1741/CSA 107.1*	*50.8/14.3.6*

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TEST PERFORMED	*REFERENCE*	
Grounding Impedance Test	*UL 1741/CSA No.0.4(Edition 4, Revision March, 2022)*	*51/5.1*
Strain Relief Test	*UL 1741/CSA 107.1*	*53/6.17*
Static Load Test	*UL 1741*	*62*
Compression Test	*UL 1741/CSA 107.1*	*63/6.9*
Submersion test	*UL 50E(Edition 3, Revision April 30, 2024)/ CSA C22.2 NO. 94.2-20(Edition 3)*	*8.10/8.10*
Array Insulation Resistance Measurement - Functionally Grounded PV Arrays	*UL1741 CRD(Edition 3)*	*97, 97.2*
Response to abnormal frequency conditions	*IEEE 1547.1/1547*	*5.3/5.1.1*
	CSA 107.1-16	*14.3.4*
Test for response to abnormal voltage conditions	*IEEE 1547.1/1547*	*5.2/5.1.1*
	CSA 107.1-16	*14.3.4*
Synchronization	*IEEE 1547.1/1547*	*5.4/5.1.2*
Protection from electromagnetic interference	*IEEE 1547.1/1547*	*5.5.1/5.1.3.1*
Surge withstand performance	*IEEE 1547.1/1547*	*5.5.2/5.1.3.2*
Unintentional islanding	*CSA 107.1-16*	*14.3.5*
	IEEE 1547.1/1547	*5.7/5.1.4*
Limitation of dc injection	*CSA 107.1-16*	*10.5.3*
	IEEE 1547.1/1547	*5.6/5.1.5*
Reconnect following abnormal condition disconnect	*IEEE 1547.1*	*5.10*
Harmonics Distortion	*CSA 107.1-16*	*14.3.3*
	IEEE 1547.1/1547	*5.11/5.1.6*
Open Phase Test	*IEEE 1547.1*	*5.9*

Issued by: *Ethan Jin*
Ethan Jin

CSA Group

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THIS LETTER OF ATTESTATION DOES NOT AUTHORIZE THE USE OF THE CSA MARK ON THE SUBJECT PRODUCTS.
QUOTATIONS FROM THE TEST REPORT OR THE USE OF THE NAME CSA GROUP OR ITS REGISTERED TRADEMARK, IN ANY WAY, IS NOT PERMITTED WITHOUT PRIOR WRITTEN CONSENT OF CSA GROUP TESTING & CERTIFICATION INC.

Descriptive Report

MASTER CONTRACT: 261002
REPORT: 80258281
PROJECT: 80258281

Edition 1: September 18, 2025; Project 80258281 - Kunshan
Prepared By: Ethan Jin
Authorized By: Ethan Jin

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Description and Tests - Pages 1 to 4
Att1 Labels – Pages 1 to 2
Att2 User Manual – Pages 1 to 29

PRODUCTS

Grid Support Utility Interactive PV Micro-inverter, high frequency isolated, Models: HMS-2250DW-4T.
Rack mounted, ratings as follows:

Model:	HMS-2250DW-4T
INPUT RATINGS:	
Maximum input voltage (dc)	65 V
Range of input MPPT operating voltage (dc)	16 to 60 V
Range of input MPPT operating voltage with full power (dc)	33V-48V
Maximum input string (channel)	4
Maximum input current (dc)	18 A
Maximum input short circuit current (dc)	25
Maximum input source backfeed current to input source (peak)	26.8 Apk, 1.21Arms@110.0ms
OUTPUT RATINGS:	
Output power factor rating	>0.99 default (0.8 leading to 0.8 lagging)
Nominal output voltage (ac)	220 V
Normal output frequency	60 Hz
Maximum continuous output current (ac) (Imax)	10.23 A
Maximum continuous output active power (ac)	2250 W
Maximum continuous output Apparent power (ac)	2250 VA
Normal operation temperature range	-40˚C to 65˚C (Derating > 45˚C)
Enclosure Rating Type	Type 6

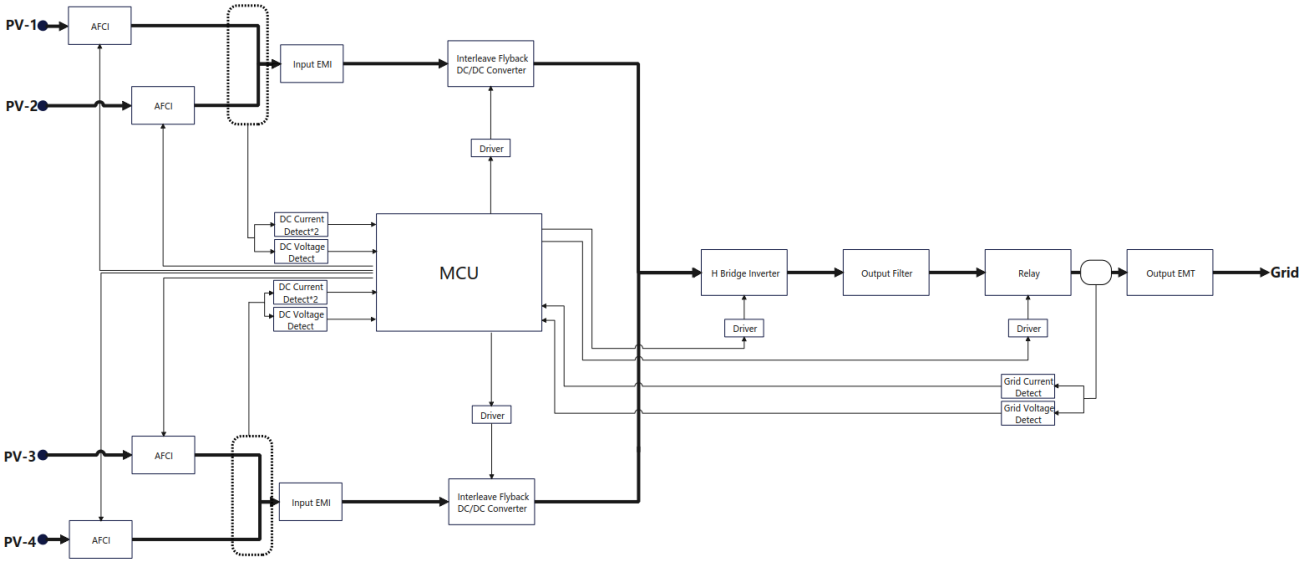
APPLICABLE REQUIREMENTS

CSA-C22.2 No. 107.1-16 - Power Conversion Equipment
*UL Std. No. 1741 - Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources (Third Edition, Revision May 19, 2023)

*Note: Conformity to UL 1741-Third Edition (Revision May 19, 2023) includes compliance with applicable requirements of IEEE 1547-2003(R2008), IEEE 1547.1-2005 (R2011).

DESCRIPTION

Schematic diagram for HMS-2250DW-4T:



TEST HISTORY

Project 80258281

Grid Support Utility Interactive Inverter, Model HMS-2250DW-4T was tested at Hoymiles Power Electronics Inc. Lab and Hangzhou TDT Technologies Co., Ltd. The tests completed at Non-CSA Testing facility were witnessed by CSA representative from Kunshan office.

Following tests were performed according to UL 1741 Third edition, CSA C22.2 No. 107.1-16, IEEE 1547-2003 (R2008) and IEEE 1547.1-2005(R2011) with acceptable result:

TEST PERFORMED	REFERENCE		Pass/Fail / NA
Spacing, Alternate Spacing and Voltage Measurement Test	UL 1741/CSA 107.1	26, 27, 45/ 4.16, 4.17	Pass
	UL 840(Edition 3, Revision April 19, 2022)/CSA 0.2(Edition 2, Revision September, 2020)	8, 9/ 4, 5	
Output Ratings	UL 1741/CSA 107.1	48.2/ 6.2	Pass
DC Input Range	UL 1741	48.3	Pass
Temperature Test	UL 1741/ CSA107.1	46 / 6.3	Pass
Dielectric Voltage Withstand Test	UL 1741/CSA 107.1	47 / 6.15.2	Pass
Capacitor Discharge	UL 1741 /CSA 107.1	60 / 6.19	Pass
Maximum-voltage Measurement	UL 1741	45	Pass
Short-Circuit Test	UL 1741/CSA 107.1	50.3 /6.6	Pass
Reverse Polarity Test (DC Miswiring)	UL 1741/CSA 107.1	50.4 /6.6	Pass
Component short- and open- circuit Test	UL 1741/CSA 107.1	50.6 /6.6	Pass
Loss of Control Circuit	UL 1741	50.8	Pass
Grounding Impedance Test	UL 1741/CSA No.0.4(Edition 4, Revision March, 2022)	51/5.1	Pass
Strain Relief Test	UL 1741/CSA 107.1	53/6.17	Pass
Static Load Test	UL 1741	62	Pass
Compression Test	UL 1741/CSA 107.1	63/6.9	Pass
Submersion test	UL 50E(Edition 3, Revision April 30, 2024)/ CSA C22.2 NO. 94.2-20(Edition 3)	8.10/8.10	Pass
Array Insulation Resistance Measurement - Functionally Grounded PV Arrays	UL1741 CRD(Edition 3)	97, 97.2	Pass
Response to abnormal frequency conditions	IEEE 1547.1/1547	5.3/5.1.1	Pass
	CSA 107.1-16	14.3.4	Pass
	IEEE 1547.1/1547	5.2/5.1.1	Pass

TEST PERFORMED	REFERENCE		Pass/Fail / NA
Test for response to abnormal voltage conditions	CSA 107.1-16	14.3.4	Pass
Synchronization	IEEE 1547.1/1547	5.4/5.1.2	Pass
Protection from electromagnetic interference	IEEE 1547.1/1547	5.5.1/5.1.3.1	Pass
Surge withstand performance	IEEE 1547.1/1547	5.5.2/5.1.3.2	Pass
Unintentional islanding	CSA 107.1-16	14.3.5	Pass
	IEEE 1547.1/1547	5.7/5.1.4	Pass
Limitation of dc injection	CSA 107.1-16	10.5.3	Pass
	IEEE 1547.1/1547	5.6/5.1.5	Pass
Reconnect following abnormal condition disconnect	IEEE 1547.1	5.10	Pass
Harmonics Distortion	CSA 107.1-16	14.3.3	Pass
	IEEE 1547.1/1547	5.11/5.1.6	Pass
Open Phase Test	IEEE 1547.1	5.9	Pass

---End of Report---