

CERTIFICATE OF COMPLIANCE

Certificate Number 20220917-E341165
Report Reference E341165-20210317
Date 2022-09-17

Issued to: Enphase Energy Inc.
1420 N. McDowell Blvd. Petaluma, CA 94954-6515

This is to certify that representative samples of Photovoltaic Grid Support Utility Interactive Inverter with Rapid Shutdown Functionality

Models: IQ8-60, IQ8PLUS-72, IQ8M-72, IQ8A-72, IQ8H-208-72, IQ8H-240-72, may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: See Page 2

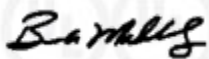
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

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Bruce Mahrenholz, Director North American Certification Program

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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.
Standards for Safety:

UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources, Edition 3, Issue Date 09/28/2021. Including the requirements in UL 1741 Supplements SA and SB.

IEEE 1547, Interconnection and Interoperability of Distributed Energy Resources (DERs) with Associated Electric Power Systems (EPSs) Interfaces, Issue Date 02/15/2018

IEEE 1547.1, IEEE Standard Conformance Test Procedures for Interconnecting Distributed Energy Resources (DERs) with Electric Power Systems (EPSs) Associated Interfaces, Issue Date 03/05/2020.

UL 62109-1, Safety of Converters for Use in Photovoltaic Power Systems - Part 1: General Requirements; IEC 62109-2, Safety of Power Converters for use in Photovoltaic Power Systems - Part 2: Particular Requirements for Inverters.

CAN/CSA C22.2 No. 62109-1, Safety of Power Converters for use in photovoltaic power systems - Part 1: General Requirements, 2016/07

CAN/CSA C22.2 No. 62109-2, Safety of Power Converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters, 2016/07

R21: The evaluation to the Standards above provides evidence of compliance to the intent of the existing California Rule 21 Interconnection (references to the past publication of IEEE 1547 standards) and UL1741 Table SA1.1 option to use the IEEE 1547.1-2020 and UL1741SB test methods in conjunction with using IEEE 1547-2018 as the SRD under which SA11.2 Normal Ramp Rate is not addressed. Additional testing was conducted to confirmed compliance to Normal Ramp Rate SA11.2 . See also Appendix A.

14H (SA): The evaluation to the Standards above provides evidence of compliance to HECO Rule 14H, SRD V1.0, Interconnection Application.

14H (SB): The evaluation to the Standards above provides evidence of compliance to HECO Rule 14H, SRD V2.0, Interconnection Application.



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Inverter Firmware Version:			
Model	UL 1998 (grid support)	Date	Version/Revision
IQ8-60, IQ8PLUS-72, IQ8M-72, IQ8A-72, IQ8H-208-72, IQ8H-240-72	Yes	2022-08-02	2.45.04
	Yes	2022-09-09	2.48.01



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APPENDIX A

As permitted by UL1741, 3rd Edition, Table SA1.1, shown below, allows for the evaluation of products using either the UL 1741 SA tests or alternative testing methods using the requirements of IEEE 1547.1-2020 in accordance with IEEE 1547-2018 and IEEE 1547.1-2020.

UL1741 SA test name	SA test section	Comparable IEEE 1547.1-2020 test section	Subject Inverter complies with UL1741SA
Anti-Islanding Protection	SA8	5.10.2	✓
Low and High Voltage Ride-Through	SA9	5.4.4, 5.4.7	✓
Low and High Frequency Ride-Through	SA10	5.5.3, 5.5.4	✓
Normal Ramp Rates	SA11.2	NA ^a	✓
Soft-Start Ramp Rates	SA11.4	5.6	✓
Specified Power Factor	SA12	5.14.3	✓
Volt/Var Mode	SA13	5.14.4	✓ ^b
Frequency-Watt	SA14	5.15.2	✓
Volt-Watt	SA15	5.14.9	✓
Disable Permit Service	SA17	5.6	✓
Limit Active Power	SA18	5.13	✓

^a IEEE 1547-2018 and IEEE 1547.1-2020 do not have a requirement for, or test equivalent to, the UL 1741 SA Normal Ramp Rate which is presently a local requirement per California Rule 21 and/or Hawaii 14H. This inverter has been additionally tested and is compliance with the Normal Ramp Rate test of SA11.2.

^b - Functional in the following priority modes: [X] active power [X] reactive power



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