

CERTIFICATE OF COMPLIANCE

Certificate Number 20231010-E341165
Report Reference E341165-20210607
Date 2023-10-10

Issued to: ENPHASE ENERGY INC.
1420 N McDowell Blvd Petaluma, CA 94954-6515
United States

This is to certify that representative samples of Permanently-Connected, Grid Support Interactive Microinverter

Models: IQ8P-3P-72 may be f/b -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

IQ8H-3P-72 may be f/b -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 <https://iq.ulprospector.com> 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.



Bruce Mahrenholz,
Director North American Certification Program
UL LLC



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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, Revision date 5/19/2023. Including the requirements in UL 1741 Supplement A (SA) and B (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, Edition 1, Revision Date 04/30/2019.

IEC 62109-2, Safety of Power Converters for use in Photovoltaic Power Systems – Part 2: Particular Requirements for Inverters, Edition 1, Issue Date 06/2011.

CSA C22.2 No. 62109-2, Safety of Power Converters for Use in Photovoltaic Power Systems – Part 2: Particular Requirements for Inverters, Edition 1, Issue Date 07/2016.

CSA C22.2 No. 62109-1, Safety of Power Converters for Use in Photovoltaic Power Systems – Part 1: General Requirements, Edition 1, Issue Date 07/2016.

R21: The evaluation to the Standards above provides evidence of compliance to the intent of the existing California Rule 21 Interconnection. See Appendix A (Method SA and SB).

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: | | | |
|--|---------------------------|------------|------------------|
| Models | UL 1998 (grid support) | Date | Version/Revision |
| IQ8P-3P-72 may be f/b -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 | Yes | 2023-09-20 | 2.57.03 |
| IQ8H-3P-72 may be f/b -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. | | | |



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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 1547a-2020.

| UL1741 SA Test Name | SA Test Section | Comparable IEEE 1547.1-2020 and UL1741 SB Test Section | Subject Inverter complies with SA/IEEE 1547.1-2005 |
|-------------------------------------|------------------------|--|--|
| Anti-Islanding Protection | SA8 | 5.10.2 | Pass |
| Low and High Voltage Ride-Through | SA9 | 5.4.4, 5.4.7 | Pass |
| Low and High Frequency Ride-Through | SA10 | 5.5.3, 5.5.4 | Pass |
| Normal Ramp Rates | SA11.2 | NA ^b | NA ^b |
| Soft-Start Ramp Rates | SA11.4 | 5.6 | Pass |
| Specified Power Factor | SA12 | 5.14.3 | Pass |
| Volt/Var Mode | SA13 | 5.14.4 | Pass |
| Frequency-Watt | SA14 | 5.15.2 | Pass |
| Volt-Watt | SA15 | 5.14.9 | Pass |
| Disable Permit Service | SA17 | 5.6 | Pass |
| Limit Active Power | SA18 | 5.13 | Pass |

For the purpose of Grid Support Interactive evaluations, this table provides options to use tests from either the UL 1741 SA or IEEE 1547.1 2020 and UL1741SB.

^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 which both require compliance with the Normal Ramp Rate test of SA11.2. Additional testing to SA11.2 Normal Ramp Rate has been conducted to demonstrate compliance on this DER.

^b Additional testing to SA11.2 Normal Ramp Rate has not been conducted to demonstrate compliance on this DER. 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 which both require compliance with the Normal Ramp Rate test of SA11.2.



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For Volt/Var Mode (clause 5.14.4 of IEEE 1547.1-2020):

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



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