

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20231220-E341165  
**Report Reference** E341165-20231220  
**Date** 2023-12-20

**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-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.

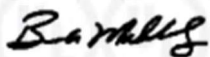
**Standard(s) for Safety:** See Page 2

**Additional Information:** See the UL Online Certifications Directory at <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 05/19/2023. 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.

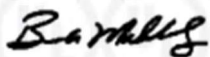
CSA C22.2 No. 62109-2, Safety of Power Converters for Use in Photovoltaic Power Systems – Part 2: Particular Requirements for Inverters, Edition 1, Issue Date 07/2016.

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.



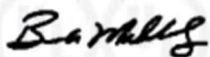
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Inverter Firmware Version:			
Models	UL 1998 (grid support)	Date	Version/Revision
IQ8P-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b - NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.	Yes	2023-09-11	7.04.01



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## Appendix A

As permitted by UL1741, 3<sup>rd</sup> 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	<a href="#">SA8</a>	5.10.2	Pass
Low and High Voltage Ride-Through	<a href="#">SA9</a>	5.4.4, 5.4.7	Pass
Low and High Frequency Ride-Through	<a href="#">SA10</a>	5.5.3, 5.5.4	Pass
Normal Ramp Rates	<a href="#">SA11.2</a>	N/A <sup>b</sup>	N/A <sup>b</sup>
Soft-Start Ramp Rates	<a href="#">SA11.4</a>	5.6	Pass
Specified Power Factor	<a href="#">SA12</a>	5.14.3	Pass
Volt/Var Mode	<a href="#">SA13</a>	5.14.4	Pass
Frequency-Watt	<a href="#">SA14</a>	5.15.2	Pass
Volt-Watt	<a href="#">SA15</a>	5.14.9	Pass
Disable Permit Service	<a href="#">SA17</a>	5.6	Pass
Limit Active Power	<a href="#">SA18</a>	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.

<sup>a</sup> 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. <sup>b</sup> 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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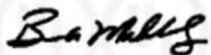


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**For Volt/Var Mode (clause 5.14.4 of IEEE 1547.1-2020):**

Functional in the following priority modes: ☐ active power ☒ reactive power



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