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Certificate of Conformity

Certificate No.: **COCP2019082707**

Report Reference: **P2019082707**

Issued to: Enphase Energy

Whose Address is: 47281 Bayside Pkwy, Fremont, CA 94538, USA

This is to certify that representative samples: IQ7PLUS-72-X-Y-Z, IQ7-60-X-Y-Z, IQ7X-96-X-Y-Z, Q-RELAY-1P-INT and Q-RELAY-3P-INT
where X = blank or ACM. Y = 2, 5 or B. Z = Country code

Standard(s): **EN 50549-1:2019**
Requirements for generating plants to be connected in parallel with distribution networks
- Part 1: Connection to a LV Distribution network
- Generating plants up to and including Type B

Additional Information: This certificate of conformity refers to the above mentioned product(s). This is to certify that the specimen is in conformity with the above mentioned standard(s). This certificate does not imply assessment of the production of the product.

Issue Date: 30 August 2019

For and on behalf of **EnTEST Laboratories**

ilac-MRA IANZ ACCREDITED LABORATORY

Test indicated as traceable only are outside of the Laboratory's scope of accreditation.
Accreditation number: 1273

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Certificate of Conformity

Certificate No.: **COCP2020051601**

Report Reference: **P2020051601**

Issued to: Enphase Energy

Whose Address is: 47281 Bayside Pkwy, Fremont, CA 94538, USA

This is to certify that representative samples: IQ7A-72-X-Y-Z, Q-RELAY-1P-INT and Q-RELAY-3P-INT where X = blank or ACM. Y = 2, 5 or B. Z = Country code

Standard(s): **EN 50549-1:2019 / AC:2019-04**
Requirements for generating plants to be connected in parallel with distribution networks
- Part 1: Connection to a LV Distribution network
- Generating plants up to and including Type B

Additional Information: This certificate of conformity refers to the above mentioned product(s). This is to certify that the specimen is in conformity with the above mentioned standard(s). This certificate does not imply assessment of the production of the product.

Issue Date: 26 June 2020

For and on behalf of **EnTEST Laboratories**

ilac-MRA IANZ ACCREDITED LABORATORY

Test indicated as traceable only are outside of the Laboratory's scope of accreditation.
Accreditation number: 1273

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Enphase 6mA Declaration

Per the regulation *NEN 1010:2015, 712.530.3.4 Devices for earth leakage protection*, it is mandatory for a PV solar system that *where a residual current device is used for the protection of the PV-AC supply chain, this device for earth leakage protection must be of type B according to NEN-EN-IEC 62423, unless:*
- the inverter provides at least a single separation between the AC side and the DC side,
- the installation provides at least a single separation between the inverter and the earth leakage protection device by means of separate windings of a transformer or
- according to a manufacturer's declaration, the inverter does not need a type B residual-current device.

The Enphase Microinverters to which this declaration applies use a triple insulated High Frequency (HF) isolation transformer between the AC and DC circuits. This HF transformer effectively provides galvanic isolation between the DC stored energy and the AC output stage. When the AC semiconductors open, the DC is isolated from AC. The HF transformer is also triple insulated providing reinforced isolation

Apart from the internal HF transformer, which inherently eliminates DC leakage current, the Enphase system is also designed with fully double insulated chassis. This means DC and AC leakage is absent, creating a much safer situation, and removing the need for grounding within the Enphase system.

Additionally, the Q-Relay provides a second level protection by continuously monitoring DC Current Injection (DCI). The relay will trip if DCI crosses the threshold programmed into it. Enphase microinverters are designed, and type tested, to ensure DCI is never an issue.

This declaration applies to all Enphase Microinverters that are part of the IQ-Series. The IQ-Series includes but is not limited to the IQ6-Series, IQ7-Series and the future IQ8-Series Microinverters. This includes future "Encharge" storage solutions that have integrated IQ8-Series Microinverters, and AC-Modules integrated with IQ-Series Microinverters.

Daniel Keis
Staff Engineer, Automation and test
19 October 2020

's-Hertogenbosch, Netherlands 10/16/2020