



PCS Certificate of Compliance

April 12, 2024

Project #Y0072
Report #LIT11240072

Sangam Baligar
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Subject: UL3141 PCS Load Control for EV Charging systems

Dear Mr. Baligar

This test report represents the results of our evaluation/testing of the Electric Vehicle Charging system to the requirements contained in following standards:

UL3141 Outline of Investigation for Power Control Systems (PCS), Issue 1, dated January 11th, 2024

Compliance includes controlling and limiting the per-phase current imported from the Point of Common Coupling (PCC) to the grid (or) Point of Connection (PoC) like the input to a subpanel by controlling the Electric Vehicle charging system.

The PCS evaluation was conducted on a representative Enphase IQ EVSE System and the certification applies to the following configurations which were part of the tested system in the PCS modes defined below.

PCS Modes	EV Charging Model	Max EV Charger Ratings	Additional Devices needed for PCS Functionality	Optional Devices	Maximum breaker rating for PCS- LC limiting	Measured Average/ Maximum OLRT
PCS Load Control for EV Charging systems ¹	IQ EVSE	64A/ 15.36kVA	IQ Gateway/ CT's	Any UL-listed PV/ESS system, IQ System Controller ²	240A ³	16s/20.8s

¹ Tested with PCS FW v1.2.0 and EVSE FW v0.04.29.

² For full list of SKUs, please see table in the next page.

³ Breaker rating for PCS-LC cannot be lower than the IQ EVSE Nameplate breaker.

PCS Load Control for EV Charging systems:

This is a PCS mode where the system was evaluated for its ability to control currents being drawn by the EV charging system by monitoring the current imported at the PCC like the grid (or) PoC like the input to a subpanel. The testing verified that when system load levels were subjected to step changes, the total current being drawn by the EV charging system did not exceed the limit set beyond the response time mentioned in the table. In the event of a failure, the EV charging system will limit itself to 25% of the rated nameplate capacity.



The table below describes the System configuration and SKUs associated with tested PCS mode(s)

System Component	Product SKUs	Equipment required in PCS mode?
Enphase IQ EVSE	IQ-EVSE-NA-1040-0100-0100 IQ-EVSE-NA-1040-0101-0100 IQ-EVSE-NA-1040-0110-0100 IQ-EVSE-NA-1040-0120-0100 IQ-EVSE-NA-1050-0100-0100 IQ-EVSE-NA-1050-0101-0100 IQ-EVSE-NA-1050-0110-0100 IQ-EVSE-NA-1050-0120-0100 IQ-EVSE-NA-1060-0100-0100 IQ-EVSE-NA-1060-0101-0100 IQ-EVSE-NA-1080-0100-0100 IQ-EVSE-NA-1080-0101-0100	Required
Enphase IQ Gateway	X-IQ-AM1-240-5, X-IQ-AM1-240-5C, ENV-IQ-AM1-240, ENV2-IQ-AM1-240, ENV-S-AM1-120, X-IQ-AM1-240-3, X-IQ-AM1-240-3C, X-IQ-AM1-240-3-ES, X-IQ-AM1-240-3C-ES, X-IQ-AM1-240-4, X-IQ-AM1-240-4C, X2-IQ-AM1-240-4, X2-IQ-AM1-240-4C	Required
CTs	For monitoring: At least 2 units of CT-200-SPLIT or CT- 200-CLAMP	Required

*Other components like PV, ESS, and IQ System Controller may be optionally present but are not required for operation.

If there are any questions regarding the results contained in this report, please contact me or any Bureau Veritas CPS customer service representative.

Sincerely,

Dishant Patel
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Reviewed by,

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Reviewer
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