

IQ Battery 3T/10T IQ8X-BAT NB Microinverter Replacement Instructions

Overview

This document is intended for qualified service personnel and explains how to replace the IQ8X-BAT NB microinverter on the IQ Battery 3T or IQ Battery 10T all-in-one AC-coupled storage system (Models ENCHARGE-3T-1P-NA and ENCHARGE-10T-1P-NA).

Always read and follow all safety warnings and instructions in the IQ Battery Storage System [Quick Install Guide](#).

IQ Battery 10T products will require two persons to replace the IQ8X-BAT microinverters on the two left base units. The IQ Battery base unit will have to be removed from the mounting bracket so there is room to remove and replace a microinverter.

Background

The IQ Battery storage system includes modular IQ Battery(ies) with integrated Enphase IQ Microinverters. An IQ Battery 3T contains one IQ Battery base unit with four IQ8X-BAT NB microinverters.

An IQ Battery 10T contains three IQ Battery base units with each four IQ8X-BAT NB microinverters, or a total of twelve IQ8X-BAT NB microinverters.

Required Tools

- Lock out kit
- A #2 Phillips bit to remove and fasten the brackets holding the IQ8X-BAT NB microinverters
- A long skinny 10" bit extender
- Torque driver 1 to 3 N•m or equivalent for bit extender / #2 Phillips bit
- A multi meter that can measure AC and DC voltages

Replacing IQ8X-BAT NB Microinverter

WARNING: Don't replace an IQ8X-BAT NB microinverter when the IQ Battery DC switch is in the ON position. Ensure that the DC switch on each IQ Battery base unit being serviced has been in the off position for more than 15 minutes.

WARNING: Make sure that the AC source circuits are powered off. Never attempt to remove or replace an IQ8X-BAT NB microinverter with DC or AC powered ON. This could damage the IQ Battery, which will require replacement of the entire IQ Battery unit.

1. Remove the IQ Battery cover(s). Follow [Quick Install Guide](#) for instructions to remove cover.
2. Power OFF the DC switches on ALL IQ Battery units on site to prevent black start. Lockout DC switches if not within sight.
3. Power OFF and lockout the AC source circuits to the IQ Battery unit(s). It can take up to 10 seconds for the IQ Battery LED indicator to turn OFF.

4. Wait for 5 minutes before proceeding.
5. Using the #2 Phillips bit and driver, loosen four (4) Captive screws, see Figures 1, 2, 3 and 4 (Screw Loosening sequence, Screw #1 - #2 - #3 - #4), to remove the PCU protector Bracket and Inverter Lock Plate Screws. Apply 1.2 N•m (~11 in•lbs) minimum Torque to loosen the screws.



Figure 1: Screw #1



Figure 2: Screw #2



Figure 3: Screw #3



Figure 4: Screw #4

Note: Loosen only 4 Screws shown in the Figure 1 to 4 Do not loosen the 5th Screw between PCU Protector & Inverter Lock plate

6. PCU protector Bracket and Inverter Lock Plate shall be removed together by pulling them towards the front of the unit in the direction of arrow (See Figure 5)

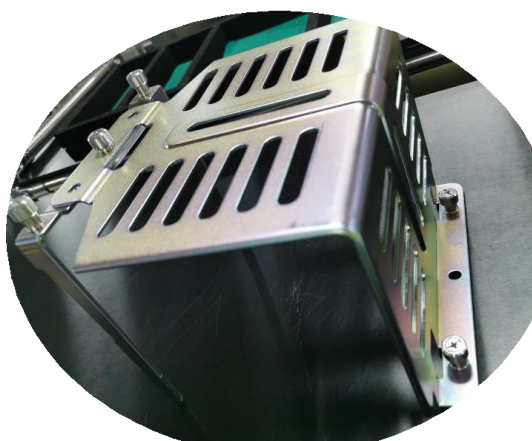


Figure 5: PCU Potector & Inverter Lock Plate Direction of pull. PCU Potector & Inverter Lock Plate removed together

7. Identify the IQ8X-BAT NB microinverter that is required to be replaced, by the serial number found on the top of the microinverter.

8. ONLY AFTER 15 minutes from the time, the DC and AC power was turned OFF, remove the IQ8X-BAT NB microinverter. Remove them by pulling the PCUs in the direction of arrow (See Figure 6).



Figure 6: PCU pulling Direction

9. Lightly touching the meter probe pins to the connector pins, measure the DC voltage at terminals as shown in Figure 7 to ensure that voltage is less than 1 Vdc. The DC connector is the bottom connector.
If the DC voltage is greater than 1 Vdc, wait for 5 minutes and measure again. Continue until the DC voltage is less than 1 Vdc.

WARNING: To eliminate DC connector damage, do not use any force on the connector pins when measuring voltage. Do not short-circuit the two probes when measuring. This could create damage inside the IQ Battery, which will require replacement of the entire IQ Battery unit.



Figure 7: DC Measurement must be below 1 Vdc before connecting IQ8X-BAT NB microinverter

10. Only if the DC voltage is less than 1 Vdc, insert the replacement IQ8X-BAT NB microinverter into the connectors.
11. Replace the PCU protector & inverter lockplate (together, as shown Figure 5) and fasten four captive screws, See Figure 1, 2, 3 & 4 (Screw fastening sequence, Screw #1 - #2 - #3 - #4), and tighten the screw to 1.2 N•m (~11 in•lbs) if using motorized torque tool or a manual torque tool.

12. WARNING: AC breaker MUST be ON before turning DC switch ON

WARNING: Be aware of the circuit connected to this IQ Battery that is powered ON.

- a. Turn ON the AC breaker and wait for 15 seconds. Ensure that LED on IQ Battery is ON (Any color LED is ON)
- b. Turn ON the DC switch and wait for 20 seconds
- c. Turn OFF the DC switch and wait for 10 seconds
- d. Turn OFF the AC switch and wait for 10 seconds
- e. Turn ON the AC switch again and wait for 15 seconds
- f. Turn ON DC switch



Figure 8: IQ8X-BAT microinverter indicator LED location

13. Document the new replacement IQ8X-BAT NB microinverter serial number and the associated IQ Battery serial number for each IQ8X-BAT NB microinverter being replaced.
14. Retire the removed IQ8X-BAT microinverters from Enphase App database by contacting Enphase [customer support](#)