

# ***PV rapid shutdown and energy storage system disconnect in the Enphase Energy System***

## Contents

<b>Overview</b> .....	<b>2</b>
<b>Disconnecting means and rapid shutdown options</b> .....	<b>3</b>
Grid-interactive (grid-tied) systems.....	3
Grid-forming systems.....	4
<b>Revision history</b> .....	<b>4</b>

## Overview

This technical brief is intended to supplement the information available in the Enphase datasheets and installation guides. The brief clarifies specific details of system behavior when using the Enphase System Shutdown Switch (EP200G-NA-02-RSD). The brief can be shared with Authorities Having Jurisdiction (AHJs) to enable ease of permitting.

The System Shutdown Switch (EP200G-NA-02-RSD) is an accessory for the Enphase IQ System Controller 2 (EP200G101-M240US01), IQ System Controller 3 (SC200D111C240US01), and IQ System Controller 3G (SC200G111C240US01). The switch is wired to the IQ System Controller 2 and IQ System Controller 3/3G as per the instructions in the installation guide provided with the switch and also available at the [accessories link](#).



**NOTE:** The circuit diagrams in the document only show system components relevant to rapid shutdown or energy storage system disconnect. For complete single-line diagrams, refer to the [Enphase System planning guide](#).



**NOTE:** The circuit diagrams in the document only show IQ Combiner 5/5C, IQ System Controller 3, and IQ Battery 5P. However, the notes are applicable to systems with IQ Combiner 4/4C, IQ System Controller 2, IQ System Controller 3G, and IQ Battery 3T/10T. Refer to the [Compatibility matrix](#) and [Enphase System planning tech brief](#) for details on product interoperability.



**NOTE:** Enphase Energy System (EES) disconnecting means may need to be mounted in a readily accessible location, within sight of equipment or outside.



**NOTE:** To meet additional requirements of the NEC, the rapid shutdown device may need to be mounted in a readily accessible location or outside.

## Disconnecting means and rapid shutdown options

### Grid-interactive (grid-tied) systems

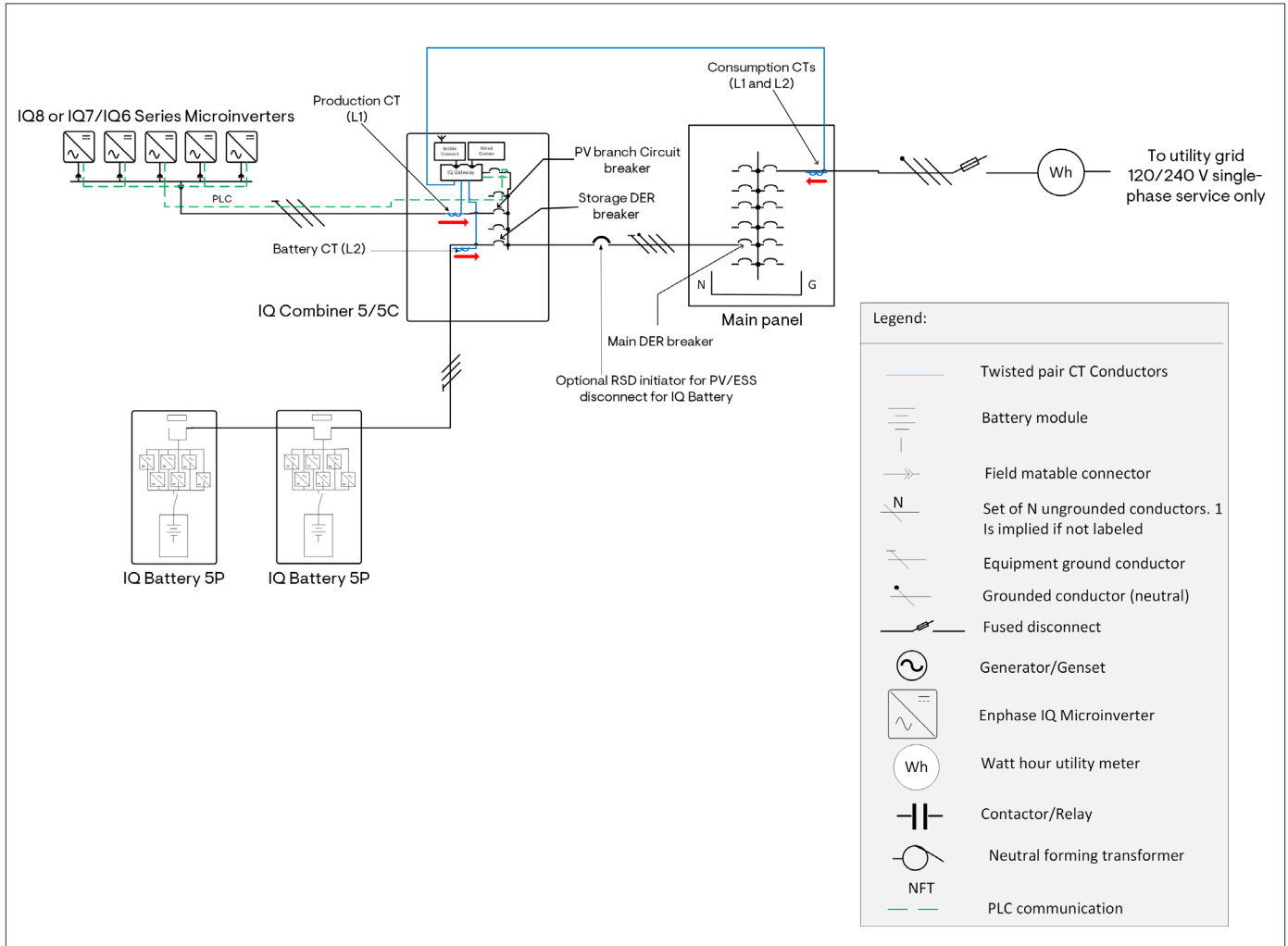


Figure 1: Grid-interactive (grid-tied system)

If the IQ Combiner is readily accessible,

1. The PV branch circuit breaker inside the IQ Combiner can act as the PV rapid shutdown device (RSD) as specified in 2023 NEC 690.12.
2. The storage DER breaker can act as the Enphase Energy System (ESS) disconnecting means as specified in 2023 NEC 706.15.

If the IQ Combiner is not readily accessible, the main DER breaker in the main panel can also act as the rapid shutdown device, and the ESS disconnecting means that the main panel is readily accessible.

If the IQ Combiner and the main panel are not readily accessible, an additional disconnect may need to be installed as the RSD device and ESS disconnecting means.

**Grid-forming systems**

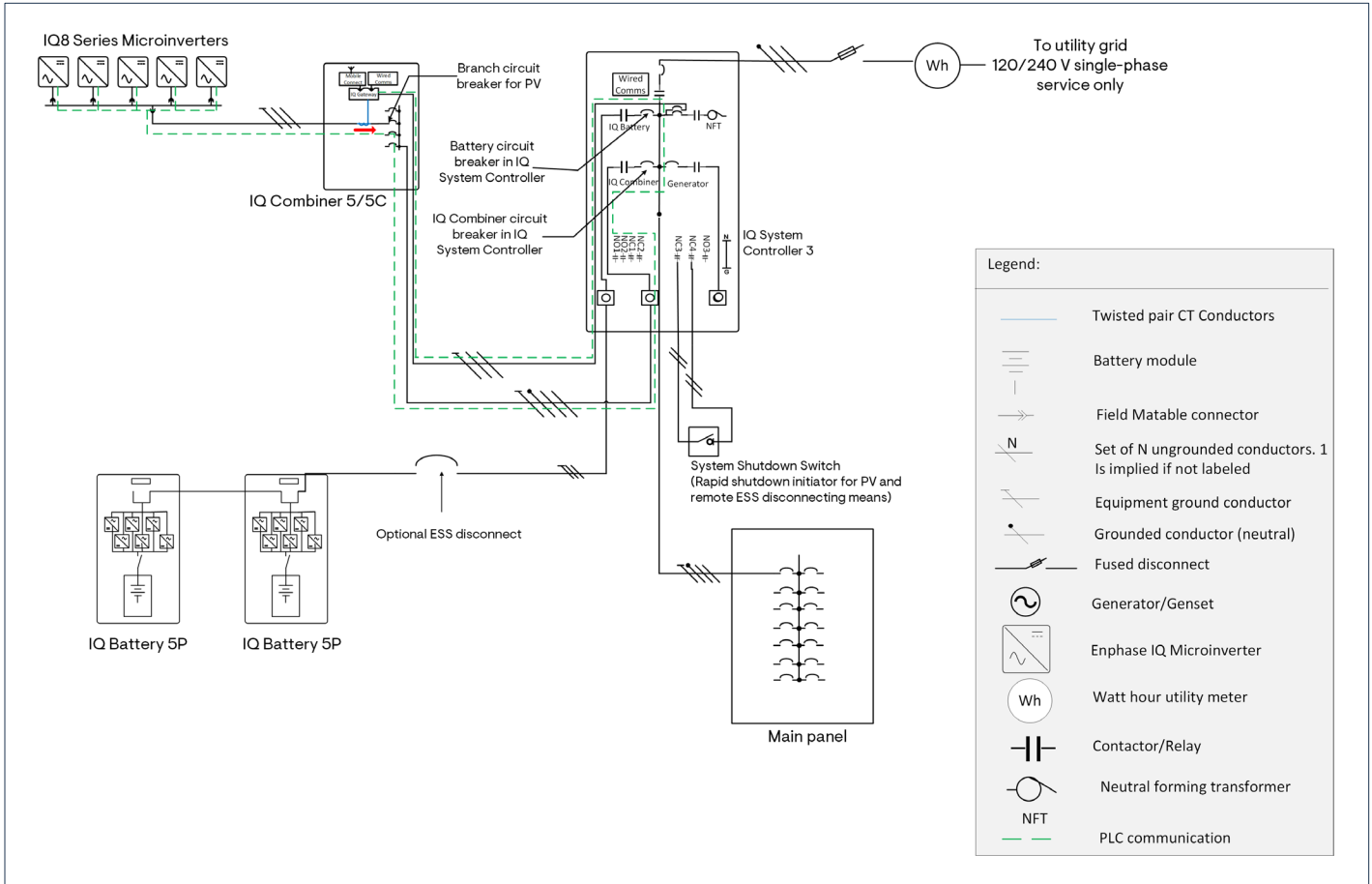


Figure 2: Grid-forming system

1. The System Shutdown Switch is a rapid shutdown switch for IQ8 rapid shutdown requirements in 690.12.
2. The System Shutdown Switch is the initiation device for 2023 706.15B emergency shutdown function requirements.
3. The System Shutdown Switch may be considered the ESS disconnecting or remote actuation means for code cycles prior to 2023.
4. Battery circuit breakers in the IQ System Controller can also be the disconnecting means. The IQ System Controller enclosure provides a means for locking.

**Revision history**

Revision	Date	Description
TEB-00052-1.0	July 2023	Initial release

© 2023 Enphase Energy. All rights reserved. Enphase, the e and CC logos, IQ, and certain other marks listed at <https://enphase.com/trademark-usage-guidelines> are trademarks of Enphase Energy, Inc. in the US, and other countries. Data subject to change.