

Application Note: Rapid Shutdown Solution upon AC disconnection

Revision History

Version 1.0, May 2022 – Initial release

Introduction

This document, describes how to comply with Rapid Shutdown requirement from *Thai Electrical Code : Solar Rooftop Power Supply Installations 2022* for SolarEdge inverters below:

Product	Solar Inverter
Brand	SolarEdge
Inverter	<p>Single phase inverter model with PN SE*H-xxRxxxxxx:</p> <p>SE3000H, SE5000H</p> <p>Three phase inverter model with PN SE*K-xxRxxxxxx:</p> <p>SE30K, SE33.3K, SE40K</p> <p>Three phase inverters with synergy technology, with Synergy unit PN SESUK-RWR0INNN4:</p> <p>SE66.6K, SE90K, SE100K, SE120K</p> <p>Inverter part numbers may be followed by a different suffix which represents the market in which that inverter is sold in and adjusted parameters in light of local grid codes. In example, SE*KUS and SE*KTH are intended for USA and Thailand, respectively</p>

The Rapid Shutdown "RSD" function for SolarEdge inverters mentioned above can be initiated by one of the following methods:

- When the inverter AC breaker is turned OFF, or AC to the inverter is disconnected by another method.
- The DC switch is turned Off. (Applicable only to inverters with internal or external DC switch.)

Enabling Rapid Shutdown upon AC Disconnection for sites with multiple inverters

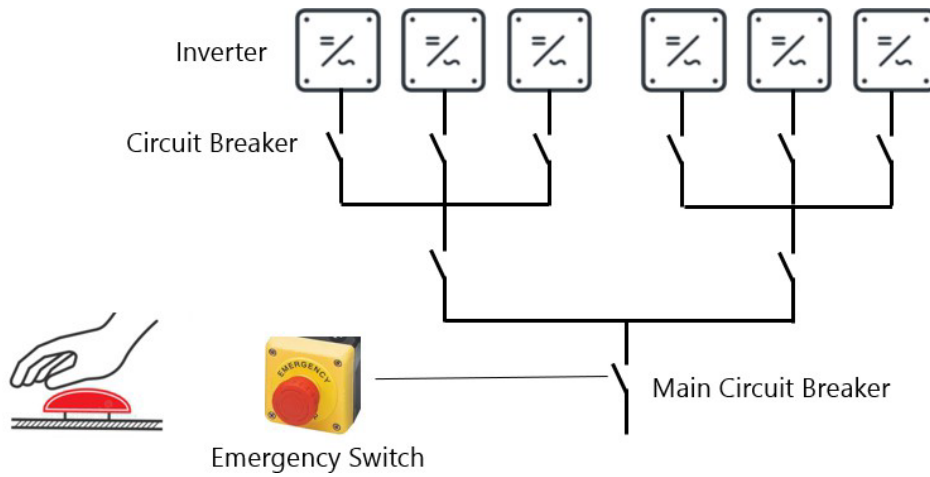
Rapid shutdown upon AC disconnection is recommended for SolarEdge sites with multiple inverters as it is simple to place single initiator to trigger all inverters.

For sites with single AC coupling point, the main AC breaker can serve as RSD initiator as long as it can be accessed easily by fire fighters.

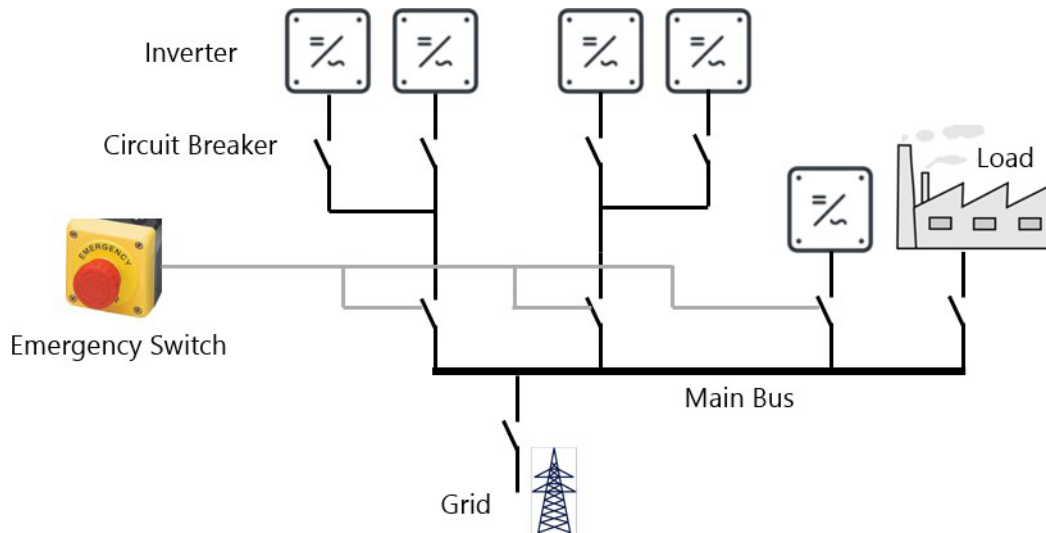
For sites where the main breaker is not accessible, RSD initiator can be extended by using circuit breaker with shunt trip release linked to an emergency switch. This emergency switch must be installed in an easy to reach, readily accessible, unrestricted location, and clearly marked for the fire fighters.

When a fire fighter presses the emergency switch, the main circuit breaker will trip.

All SolarEdge inverters loose AC power, and rapid shutdown will initiate.



For site with multiple AC coupling points, multiple breakers linked to a single emergency switch, as illustrated below, should be used. This is to ensure that once fire fighter press the emergency switch all breakers will trip simultaneously and initiate rapid shutdown for the whole system



To view YouTube videos for installing, wiring, and commissioning SolarEdge Inverters please click the links or scan the following QR codes:

For more information on Installation:

<https://youtu.be/pjuo7KjRHxc>



For more information on Wiring:

https://youtu.be/o_EgCnL_r38



For more information on Commissioning:

https://youtu.be/_JoiC4_H8sk

