Application Note: SolarEdge ONE Controller for C&I with integrated firefighting gateway

Contents

Revision history

Version	Date	Description
1.0	January 2026	Initial release

Related documents

- Quick Installation Guide (QIG): Provides detailed step-by-step instructions for installing and setting up the controller.
- Declaration of Conformity: Contains official compliance statements, standards, and certifications applicable to the SolarEdge ONE Controller for C&I.
- One Controller for C&I Datasheet: Lists the full technical specifications and electrical characteristics of the controller.

About

This technical note provides full description of the Firefighting Gateway (FFG), which is managed internally by the ONE Controller for C&I. It includes the following:

- FFG overview and general details
- FFG component list and system requirements
- Details on connecting the FFG components to the ONE Controller
- Walkthrough procedure for pairing the FFG components using the SolarEdge Go application

Firefighting gateway overview

The ONE Controller for C&I includes Firefighting Gateway (FFG) monitoring and management, providing centralized safety control and rapid-shutdown capabilities for the PV installations to ensure the safety of emergency responders during fires or other incidents. Its capabilities include:

- Compatibility with fire alarm panels or emergency push buttons that trigger automatic or manual DC shutdown via SolarEdge's SafeDC™ mechanism
- Seamless integration with the SolarEdge ONE for C&I platform, including system-shutdown notifications.
- Visual confirmation of safe voltage levels and site status through an HDMI to connect external display (optional)

Figure 1: FFG attached to the ONE Controller C&I diagram

Firefighting components requirements

The table below lists the supported Firefighting getaway components by the ONE Controller and details their basic requirements.

Firefighting Component	Description	Notes
Emergency Button	Connected to the ONE Controller via a Volt-free relay signal wire, normally closed (NC). We recommend using a normally closed button with a locking feature that remains mechanically locked in the OFF position until it is released by turning it a quarter turn clockwise.	Not provided (must be sourced locally)
Fire Alarm Control Panel	Connected to the ONE Controller via a Volt-free relay signal wire, normally closed.	See connectivity illustration below.
Firefighting Monitor Display (Optional)	Connected via HDMI Cable.	Not provided (must be sourced locally).
AC/DC Power Supply	DC output 24V (current rating above 1A) for Digital Inputs logic voltage levels.	Not provided (must be sourced locally).

NOTES

- All supported SolarEdge inverters (SE20K to SE100K) on-site must be running firmware version 4.24.5xx or newer. Configuration of advanced features, including the Firefighter Gateway, is not possible until all inverters meet this requirement.
- When connecting an external display, use an HDMI cable version 1.0 or above, with a maximum length of 10 meters.
- For distances over 10 meters, external solutions such as 'HDMI to Ethernet' converters or repeaters can be considered.
- ONE Controller for C&I supports the following display resolutions: 1024×768 @ 70 Hz, 1366×768 @ 52 Hz, 720×480 @ 60 Hz, 1280×720 @ 60 Hz, 1920×1080 @ 60 Hz.

Connecting the firefighting components to ONE Controller For C&I

Figure 2 includes a conceptual connection diagram detailing how to connect the Firefighting components to the ONE Controller. However, consider the following:

- Input ports **IN0** and **IN2** are designated for the firefighting component signal wires. The actual connectivity design shall be determined in accordance with the full configuration of devices and sensors at the site.
- If not provided otherwise (by another device or in parallel to another configuration), 24V DC power supply must be applied to the 24V_IN pin of the Industrial I/O connector (pin #19 or #20), using the ground pins (pins #21 or #22) for the return current connection.

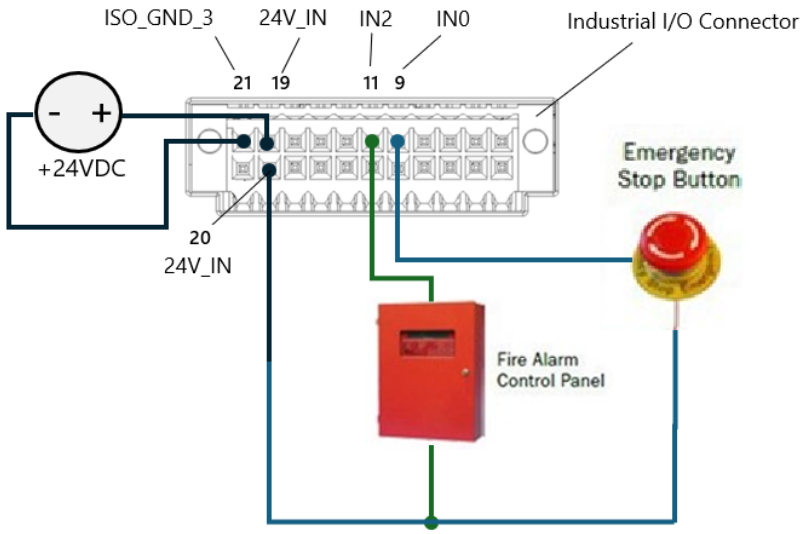

Figure 2: Connecting firefighting Components to the ONE Controller

- Refer to Figure 3 or the recommended maximum cable length per interface:

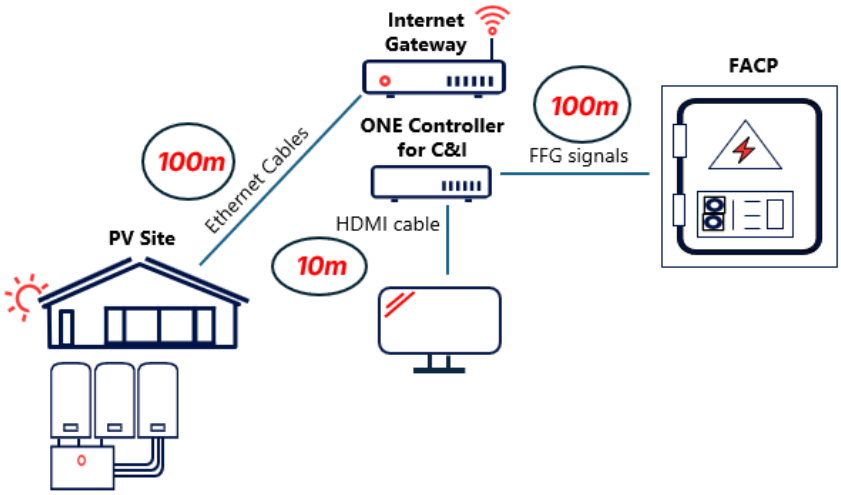

Figure 3: recommended maximum interface cable length

Pairing the FFG via SolarEdge Go application

To pair the Firefighting Gateway with the ONE Controller, follow the walkthrough procedure below:

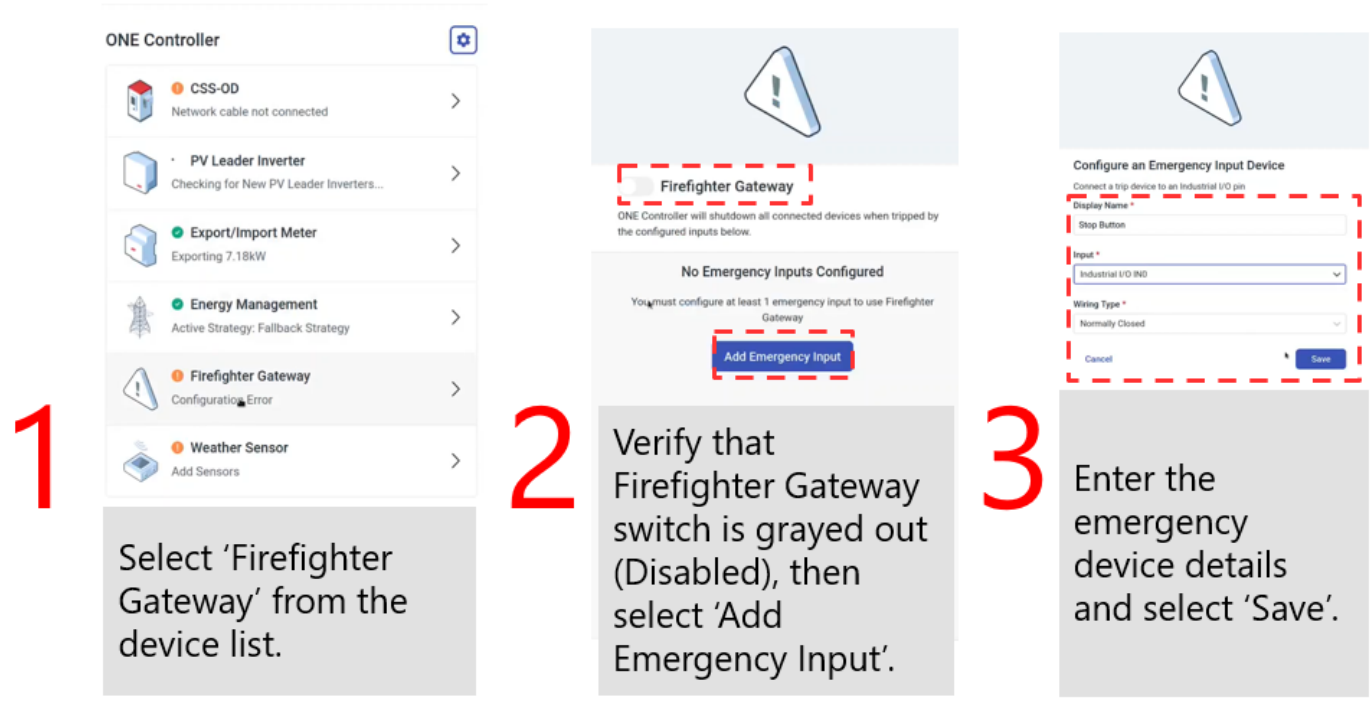

Figure 4: Pairing Firefighting Gateway Steps 1-3

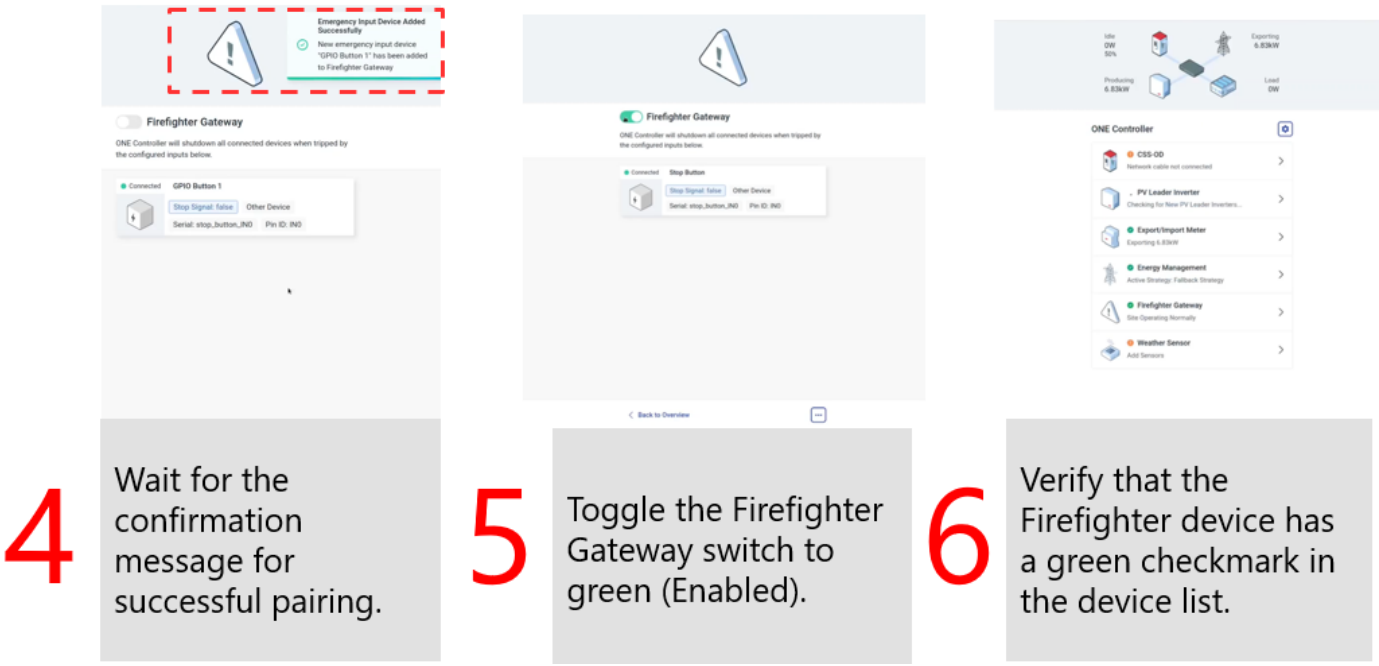

Figure 5: Pairing Firefighting Gateway Steps 4-6