

[EN] Application Note - Clearance Guidelines for Mounting Three Phase Inverters

Introduction

SolarEdge inverters can be installed indoors or outdoors, side by side, one above the other, or in a diagonal layout. To allow proper heat dissipation and prevent power reduction due to excessive temperature, ensure sufficient air circulation and maintain minimum clearance areas between the inverter and other objects, as described in this document.

This application note provides graphical clearance guidelines for single and multiple inverter installations, for the following inverters:

- Three phase inverters with Synergy technology
- Three phase inverters

For other inverter models, refer to their applicable installation guides. These guidelines should be followed in addition to the installation instructions provided in the *Inverter Installation Guide*.

CAUTION

When selecting an installation location, it is recommended to avoid areas frequently used for public gatherings and within reach of children.



For enhanced safety, consider choosing a spot that is not easily accessible, such as a locked utility room. A garage or other secured location away from high-traffic areas is ideal for public settings.

If installing the inverter outdoors, choose a location that is out of public reach. Select areas such as a locked utility zone or a locked rooftop, to secure the equipment and use signs to prevent unauthorized access.

Be sure to check local regulations for any requirements pertaining to inverter placement.

CAUTION

To prevent damage and maintain optimal inverter performance:



Keep the inverter shaded and out of direct sunlight to prevent overheating. Overheating causes a reduction in power output, premature wear of electrical components, and faster degradation of mechanical components which degrades the lifespan.

To allow heat dissipation and maintain safe operating temperatures, look for shaded spots or walls that are not sun-facing. Allow air circulation around the inverter to dissipate heat between the inverter and any nearby heat-conducting surfaces.

If shaded areas are unavailable, build a simple shade structure above the inverter to shield it from direct overhead sunlight.

In case any type of metal fencing is required, it is strongly recommended to use a mesh fence or metal beam construction that will allow proper airflow and heat dissipation.

If a metal back sheet is used under conditions of direct sunlight, it is recommended to leave 30 cm of clearance between the sheet and the inverter. A clearance of under 30 cm may cause the inverter to start de-rating earlier than expected.

For installation on internal walls with no exposure to sunlight, no special clearance is required.

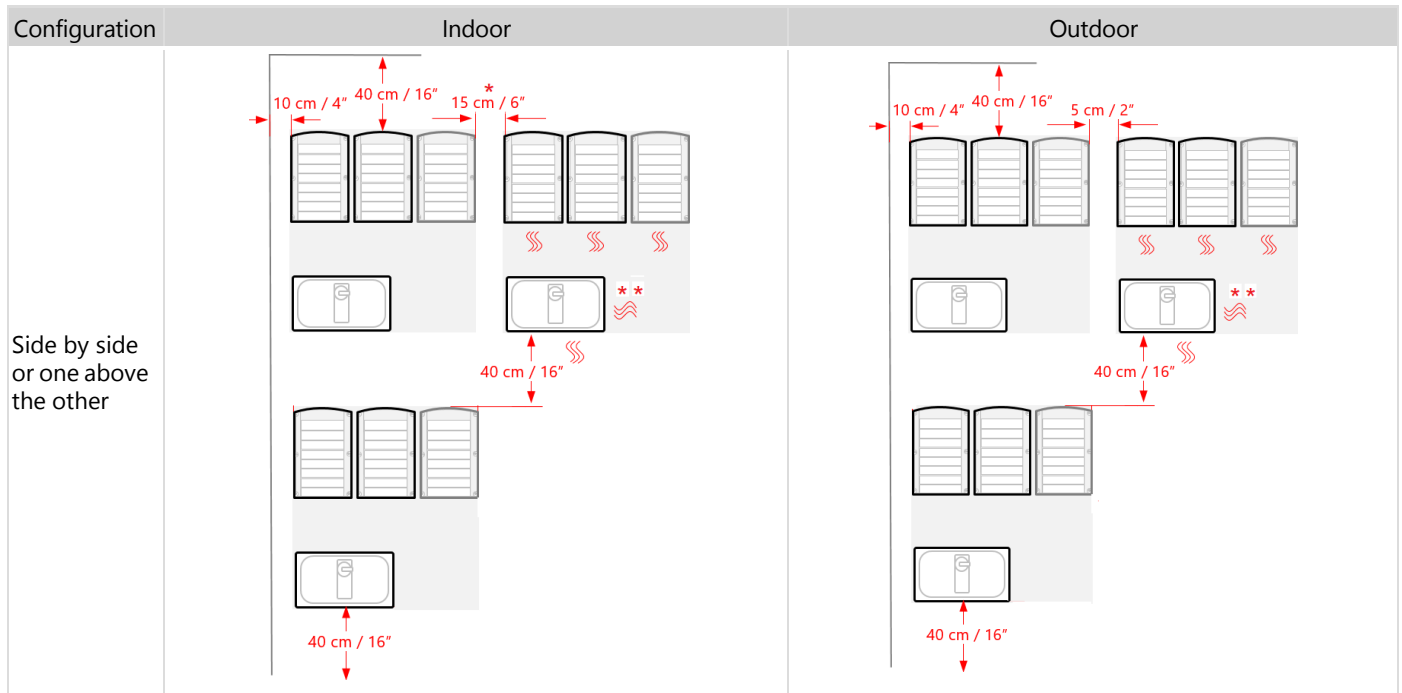
Clearance Guidelines

Three Phase Inverter with Synergy Technology

Configuration	Indoor	Outdoor
Side by side or one above the other		
Diagonal layout		

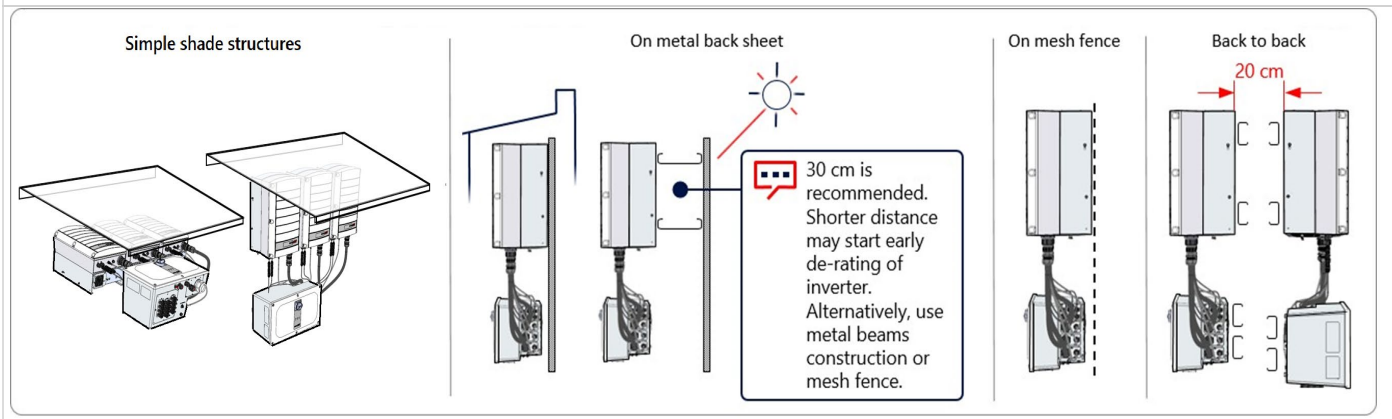
- * 20 cm / 8" at locations where the annual average high temperature is equal to or above 25 °C / 77 °F
- ** 51.5 cm / 20.3" at locations where the annual average high temperature is equal to or above 25 °C / 77 °F
- *** CAUTION! Do not block airflow behind the DC safety unit

Three Phase Inverter with Synergy Technology SExxK-xxxxlxxx



* 20 cm / 8" at locations where the annual average high temperature is equal to or above 25 °C / 77 °F

**CAUTION! Do not block airflow



Three Phase Inverter

The same clearance areas apply to inverters with or without a DC Safety Switch.

Configuration	Indoor	Outdoor
Side by side or one above the other		
Diagonal layout		

* 20 cm / 8" at locations where the annual average high temperature is equal to or above 25 °C / 77 °F

** CAUTION! Do not block airflow behind the DC safety unit

Simple shade structures

On metal back sheet

30 cm is recommended. Shorter distance may start early de-rating of inverter. Alternatively, use metal beams construction or mesh fence.

On mesh fence

Back to back