

# **Solar inverter creepage distance**





## Overview

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What is the minimum creepage distance required for 250V insulation?

According to IEC 60664-1, for 250V and Material Group II, Pollution Degree 2, the minimum creepage distance required is 2.5 mm. If the same board is used in an industrial environment (Pollution Degree 3), the required creepage distance increases to 5 mm. This difference shows how environmental factors directly influence insulation design.

What is the IEC standard for creepage distance?

The IEC standard for creepage distance ensures that electrical devices remain safe and functional under real-world environmental and operational conditions. Without proper creepage distances, high voltage can track across insulation surfaces, leading to electrical faults, component damage, or even fire hazards.

Which voltage should be used for the selection of Minimum creepage distances?

The voltage to be used for the selection of the minimum creepage distances in Table F.5 shall be in accordance with the rationalized voltages of Table F.3 and Table F.4. They may also be used for the selection of rated insulation voltages.

How do I determine creepage distance?

The IEC 60664-1 provides a method to determine creepage distance using three key steps: Identify the system's rated voltage (rms or DC). Determine the pollution degree and insulation material group. Select the corresponding creepage distance from IEC standard tables.



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