

SolarEdge Always Puts Safety First



With millions of installations worldwide, solar energy is designed to be safe and reliable. However, as the industry grows and matures and installations increase, stricter safety standards and regulations are becoming more commonplace, much the same as they are across many other industries. These outline that should a fire break out, installers, maintenance personnel and fire fighters must be able to reduce DC to a safe voltage whenever AC power is off.

Without adequate precautions, a high DC voltage can lead to electrocution and burn hazards for these individuals. Due to increasing awareness, fire brigades and insurance companies are requesting stricter safety standards.

SolarEdge offers enhanced safety with two embedded features, SafeDC™ and arc fault detection and interruption to reduce the risk of electrocution and fires.

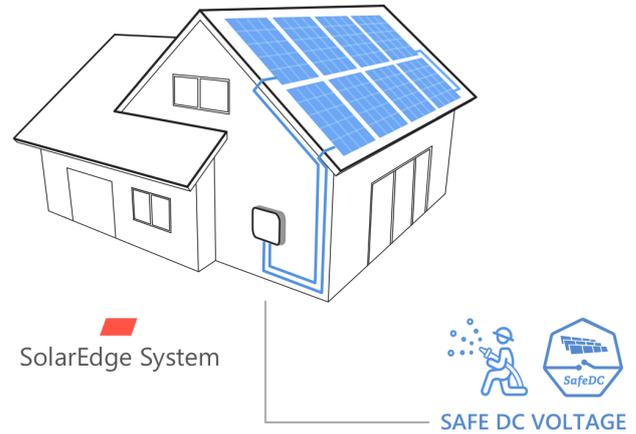
Arcing can happen when connectors and/or cables in a PV system are damaged or improperly connected, when PV systems age and connectors and cables degrade, or, when animals chew the cables.

When connectors or cables are damaged, it may result in an electric arc. Arcing generates heat, which could lead to fires. Additionally, arcs can electrify the installation, causing the mounting system to become charged, which can potentially result in electric shocks for anyone touching the system.

In compliance with the UL1699B arc detection standard, SolarEdge inverters have built-in protection designed to mitigate the effects of some arcing faults that may pose a risk of fire. SolarEdge is compliant with this requirement that defines automatic shutdown of inverters until necessary checks can be undertaken and manual restart where the inverter remains in standby/night mode pending a status change. This helps to increase personal safety, protect equipment and prevent structural damage.

SafeDC™ reduces the risk of working around damaged cables

To decrease DC voltage to a safe level, SolarEdge inverters are designed to automatically switch into safety mode when AC is shutdown. This built-in SafeDC™ feature ensures that the output voltage of each module is reduced to a touch-safe 1V whenever AC power is off.*



Why SolarEdge PV systems compare more favorably against traditional inverters

SolarEdge System	Traditional Inverters
SafeDC™ is always on and embedded in the technology.	Even when the inverter is shutdown, there is still high voltage in the wiring, making it unsafe to the touch.
When there is no communication between the inverter and power optimizer, the default output voltage of each power optimizer is 1V per module.	Rooftop array disconnect switches only terminate the flow of current from the roof to the inverter. The modules on the roof, their cabling, and the cabling all the way to the inverter remain energized and dangerous while there is daylight.
SolarEdge inverters are designed to identify arc detections and subsequently shut down, in compliance with UL1699B arc detection standard.	Third-party arc fault detectors are usually required, adding further costs and installation effort.

Don't just take our word for it

Riccardo Betti, CEO of All Energy & Architecture, had this to say about SolarEdge's SafeDC™ feature:

"Because of the high fire risk at the fuel deposit, we chose a technology that would allow the customer to go about their business with total peace of mind. We proposed SolarEdge DC optimized inverters due to its positive safety record, embedded SafeDC™, and arc fault detection technology. This PV solution allows the customer to work safely during normal operations and even during potential emergencies."

For more information on SolarEdge's enhanced safety features, see this [white paper](#).

*Certified in Europe as a DC disconnect According to IEC/EN 60947-1 and IEC/EN 60947-3, VDE AR 2100-712, and OVE R-11-1.



About SolarEdge

SolarEdge is a global leader in smart energy technology. By deploying world-class engineering capabilities and a relentless focus on innovation, we create smart energy products and solutions that power our lives and drive future progress.

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