

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. Necessary, as without adequate precautions, a high DC voltage can lead to electrocution and burn hazards for these individuals.

The Health and Safety Executive Electricity at Work Regulations 1989, UK, Third Edition published 2015, provides guidance on the nature of the precautions to be taken around electrical equipment in general terms, and is designed to help duty holders achieve high standards of electrical safety in compliance with the duties imposed.

Health and safety matters

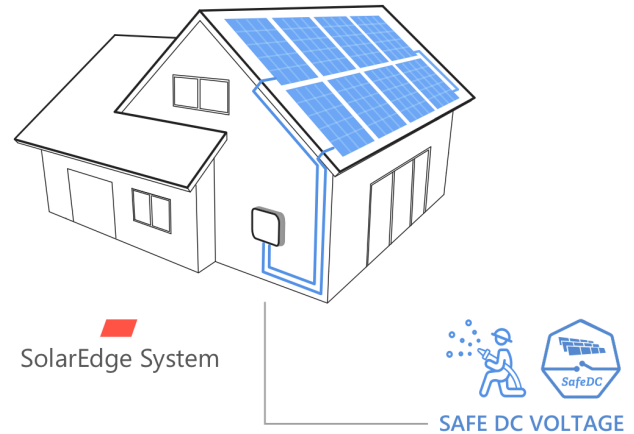
In a recent BRE report titled: 'Fire and Solar PV Systems – Investigations and Evidence' prepared on 17 July, 2017 for the Department for Business, Energy & Industrial Strategy (BEIS), it was recognised that with a growing number of UK PV installations, there has to be a wider focus on the danger of system faults causing arcing, which can inadvertently lead to fires.

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, which 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.*

Furthermore, SolarEdge has yet another product that is designed with the safety of firefighters in mind. Called the 'SolarEdge Firefighter Gateway' it provides manual and automatic system DC shutdown and a real-time indication of system DC voltage for safety assurance.



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 optimiser, the default output voltage of each power optimiser 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 energised 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

Mike Turner, Managing Director at Solar Voltaics, had this to say about the SolarEdge SafeDC™ feature:

"I believe the SolarEdge DC optimised solution is the most advanced and reliable solution for the safe installation of solar PV. Our customers especially value the fire safety features and the remote monitoring capability, all of which help to protect their assets and investment in solar energy."

A sentiment echoed by Riccardo Betti, CEO of All Energy & Architecture, who said:

"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 optimised 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.

- SolarEdge
- @SolarEdgePV
- @SolarEdgePV
- SolarEdgePV
- SolarEdge
- infoUK@solaredge.com

solaredge

solaredge.com

©SolarEdge Technologies, Ltd.
All rights reserved.
Rv: 03/2020/V01/ENG UK
Subject to change without notice