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30 August 2023

11:00 am – 12:00 pm | PDT, Los Angeles

2:00 pm – 3:00 pm | EDT, New York City

8:00 pm – 9:00 pm | CEST, Berlin

Ensuring safety under UL3741



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Welcome!

Do you have any questions? ? 

Send them in via the Q&A tab.  We aim to answer as many as we can today!

You can also let us know of any tech problems there.

We are recording this webinar today. 

We'll let you know by email where to find it and the slide deck, so you can re-watch it at your convenience.  

An aerial photograph of a large-scale solar installation on a flat roof. The solar panels are arranged in neat, parallel rows, covering most of the roof area. In the background, there are several large, multi-story buildings and a prominent, reddish-brown mountain range under a clear sky. The image is split vertically into two halves, with the left half being darker and the right half being lighter.

Welcome

Ensuring Safety Under UL3741

PV Rapid Shutdown Equipment and Inverter Placement



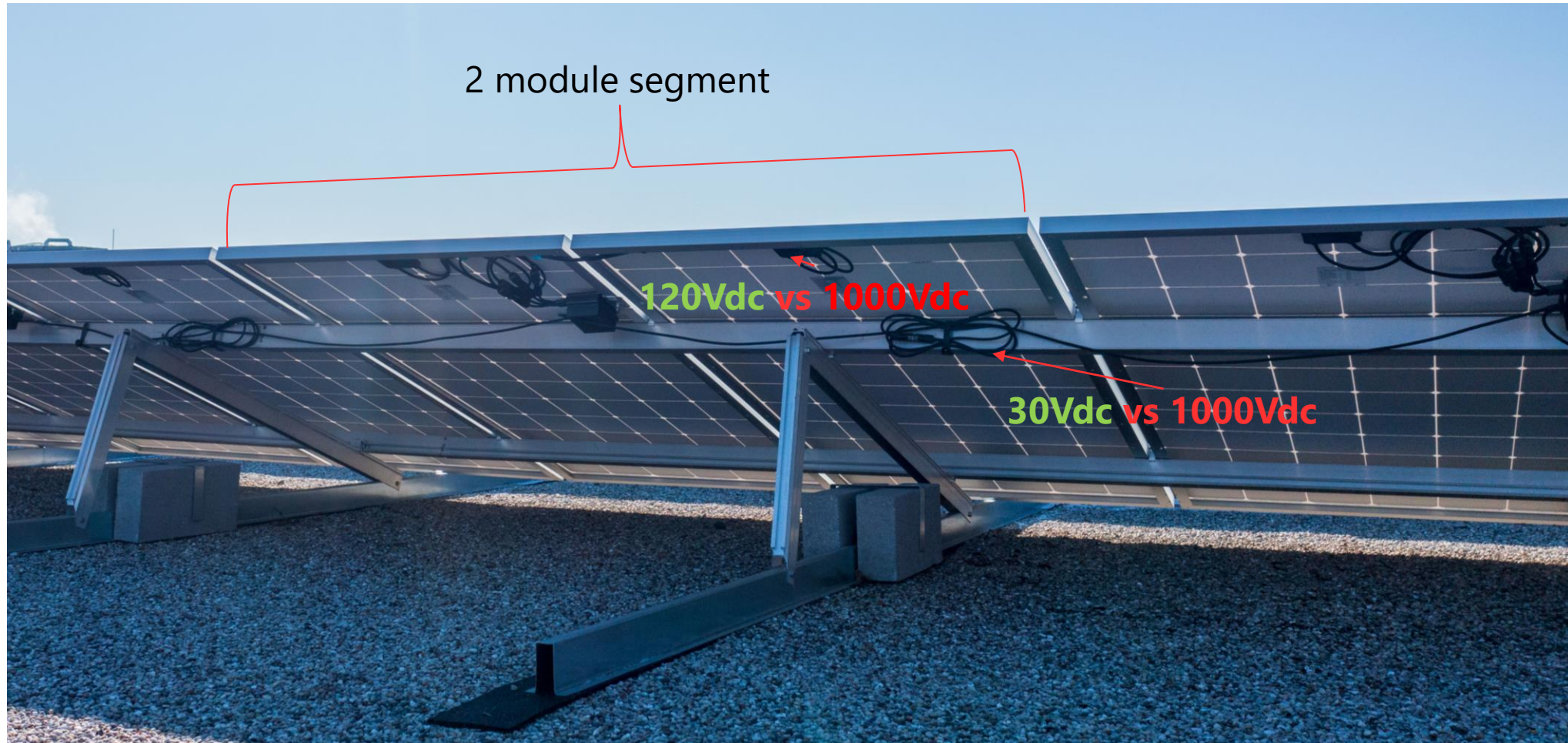
■
String
Inverters

●
PVRSE



■
1000Vdc array
equipment
after rapid
shutdown

Voltage Segmentation vs. Mechanical Means



An aerial photograph of a large commercial building's flat roof, densely packed with solar panels. The panels are arranged in long, parallel rows, tilted at a slight angle. The roof surface is dark, and various rooftop equipment, including HVAC units and electrical boxes, are visible. The surrounding area shows other buildings and trees under a clear sky.

UL3741 Panel Discussion

Resources



solaredge

Safety First with SolarEdge C&I Solutions

Clean Energy. Spotless Record.

Choose a Solution Synonymous with Safety

With a rise in local government incentives and a growing call for renewable energy as a clean, cost-effective alternative, commercial solar is gaining speed. And so is the need for safe solar. Protection of people and assets is your number one concern, and our number one priority. With a robust, secure design – offering resiliency and rapid ROI – our solutions allow stakeholders to sit back, relax, and enjoy the savings for years to come.

SolarEdge Stands Apart

While risk of incidents among most commercial solar systems is relatively low, SolarEdge takes safety further with the ability to track, isolate and mitigate issues at the module-level. This offers a much more comprehensive view than most conventional systems, along with the enhanced ability to resolve issues in a timely manner.

Safety Risks & Solutions in PV Systems for North America

White Paper

Introduction

In traditional photovoltaic (PV) systems, high DC voltages are present and pose risks to installers, maintenance personnel and firefighters. In addition, the possibility of electrical arcs, which can result in a fire, creates a threat to people working or living in the vicinity of a PV system. Safety mechanisms required by the National Electric Code (NEC) and Electrical Safety Authority (ESA) are not sufficient to remove all risks and ensure a safe working environment. The SolarEdge system provides a level of safety beyond that required by code. This document details the safety risks inherent to traditional PV systems and the SolarEdge safety mechanisms which overcome these risks.

Traditional systems


Installation Safety

PV modules typically have an output voltage of 30-60V. Connecting several of these modules serially in a string creates a high voltage which can be dangerous to installers during system installation. Traditional string inverters cannot reduce this DC voltage even if they are turned off.

Maintenance and Firefighting Safety

Once modules are connected in a string, the voltage can reach up to 600Vdc (residential and commercial systems) or up to 1000Vdc (commercial systems). After connecting the strings to an inverter the PV system will operate at these high voltages. Installers, maintenance personnel or firefighters who need to work on or near the system are exposed to these high voltages. Shutting down the main circuit breaker will shut down traditional string inverters but will not shut down the DC voltage, which will remain high as long as the sun is out. Several safety measures can be employed in these cases, but none of them remove the high voltages:

1. Shutdown functions in traditional inverters merely interrupt current flow while voltages remain dangerously high.
2. Automatic DC breakers located on the inverter cannot disconnect the voltage at the modules (only at the inverter), adding cost without decreasing the risk.
3. PV module covering (during firefighting):
 - a. Spray Foam – this approach has proven to be ineffective because the foam evaporates or slides off the modules before the fire is extinguished.
 - b. Covering the module with an opaque material – this approach requires the firefighters to climb onto the burning roof, risking electrocution.




How to simplify module-level rapid shutdown on huge commercial roofs

By Kelsey Misbrener | December 27, 2021

[f](#) [t](#) [i](#) [n](#) [p](#) [+](#)

Adding module-level power electronics (MLPE) to residential rooftop solar projects to comply with the latest rapid shutdown requirements may not typically add too much time or labor to installations. But that rooftop safety requirement isn't just for residential homes – commercial rooftops require the same treatment.



C&I installers these days install rooftop projects in sizes comparable to their ground-


Summit Ridge Energy's 9.2-MW rooftop solar project that was installed by PowerFlex.

Safety a top focus for major solar inverter provider

SolarEdge met with *pv magazine* to discuss the safety features of its products, as well as codes, standards, and workforce training.

JANUARY 7, 2022 RYAN KENNEDY

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SolarEdge inverter solutions on the Radio Flyer toy factory.

Safety Flyer

Safety Whitepaper

Safety Features on Solar Power World and PVMag

Visit <https://www.solaredge.com/us/solutions/commercial> for more resources



Questions?

Contact Us



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An aerial photograph of a large-scale solar farm. The image shows numerous rows of solar panels installed on a flat surface, likely a roof or a dedicated solar field. The panels are arranged in a grid pattern, with some rows appearing to be made of different materials or colors, possibly indicating different phases of installation or different types of panels. The overall scene is a vast expanse of solar technology under a clear sky.

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Thank You

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Q&A



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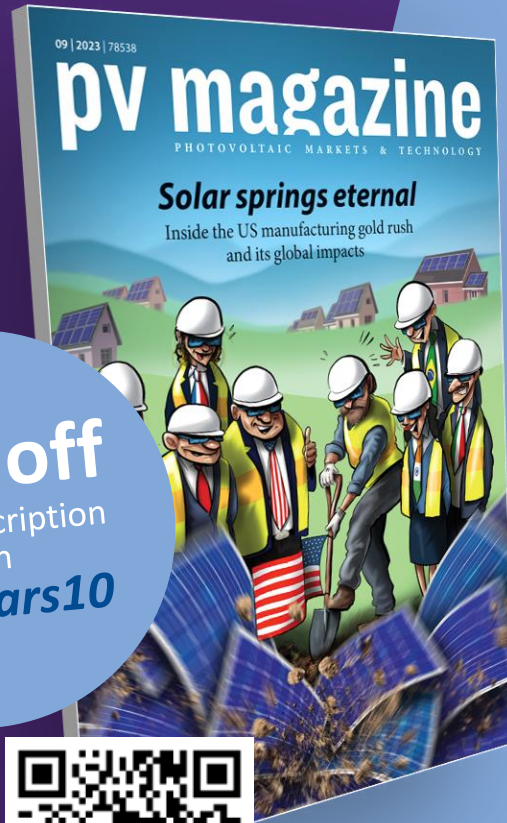
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[Bosch sells new propane heat pumps with PV packages](#)

by Emiliano Bellini



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[KiloVault introduces solar-ready DIY off-grid battery](#)

by Ryan Kennedy



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Monday, 18 September 2023

10:00 am – 11:00 am BST, London

11:00 am – 12:00 pm CEST, Berlin, Paris, Madrid

Wednesday, 20 September 2023

10:00 am – 11:00 am EST, New York City

4:00 pm – 5:00 pm CEST, Berlin, Paris, Madrid

Many more to come!

**Evolution of
the “1+X”
modular
inverter**

**BESS
diagnostics for
holistic
lifecycle
management**

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OCTOBER 12, 2023



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Anne Fischer
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joining today!**