

Balcony power stations: Initial draft for VDE product standard available

- **High electricity prices are making balcony power stations increasingly popular – with around 200,000 devices already installed in Germany.**
- **The available plug-in solar devices, consisting of a solar module, inverter and connection cable, have not yet been certified.**
- **DKE has been promoting their development since 2017 and has drafted a product standard with the aim of allowing safe operation for users.**

(Frankfurt, October 14, 2022) While people in Germany used to speak of “guerrilla photovoltaic systems”, the market for plug-in solar devices is now developing rapidly. According to a study by HTW Berlin, a total of 128,000 new plug-in solar devices were installed in 2020 and 2021, generating a total output of up to 51 megawatts. DKE has presented an initial draft for a VDE product standard, which is now entering the commentary phase. Although the study established that 70 percent of the installed devices use a grounded plug (“Schuko plug”), DKE had already pointed out in its installation standard for plug-in solar devices in 2018 that the mini-photovoltaic systems are not household appliances.

As the electricity is not only received but also fed in, DKE recommends a special plug-and-socket device or comparable concepts. This guarantees the electrical safety of the building installation and ensures that it is not possible to touch the metal plug pins, so protecting users against electric shock. As more devices enter the market, the risk of damage also increases – which is why there is an urgent need for a product standard that covers all the safety aspects.

Aim of the product standard

There are two possible ways of installing a plug-in solar device. It can either be wired directly by a trained professional, or the user can connect it using a plug-and-socket device. The draft of the new product standard takes up the issue of plugs once more and presents various ways of ensuring that this type of connection is safe. In addition, an informative annex examines the

frequently used grounded plug, which is currently neither explicitly allowed nor forbidden, with a view to providing expert advice and resolving this gray area in the commentary phase.

The aim is to deliver a comprehensive description of the technical safety requirements in order to make them accessible to the manufacturers and suppliers of such devices, who purchase individual components and market them as a plug-in solar device. The annex also gives crucial pointers about the electrical safety of building installations. The standard covers not only models that are sold pre-assembled and can be mounted directly, but also the large number of products that consist of one or two modules, an inverter and several cables.

In addition to the safety requirements, it describes inspection criteria specifying how devices can be tested in order to demonstrate electrical safety with a declaration of conformity. This provides end customers with transparent evidence of the technical safety and quality of the product they have purchased. Finally, the standard provides details of what should be noted during registration and assembly and what information should be made available to the end customer in the product documentation.

Commentary phase and next steps

In view of the great relevance of the topic, DKE is actively drawing people's attention to the beginning of the commentary phase. What is referred to as the "energy transition for everyone" is subject to extremely intensive debate in some places, and DKE would like to see objective discussion here. "We have a topical issue that is important for citizens' personal energy transition. We want to reliably shape and promote this transition, with maximum transparency in the standardization process. We therefore hope to see active participation on the part of the general public," states Alexander Nollau, Head of Energy at DKE. At the same time, DKE has a considerable interest in speeding up the process.

Following the commentary phase, where every citizen can take part, all the comments will be processed. Depending on the circumstances, this may then be followed by an arbitration procedure. The current aim is to finalize the product standard by the end of 2023 – assuming that no unplanned delays arise in the meantime. "And don't worry: Any devices that are marketed up to then will not be affected by the product standard and can continue to be operated," says Nollau.

About DKE

The DKE German Commission for Electrical, Electronic & Information Technologies of DIN and VDE as a joint organization of VDE and DIN (DKE) is the national platform for about 9000

experts from industry, science and public administration to elaborate standards and safety specifications for electrical engineering, electronics and information technology. Standards support global trade and, among other things, the safety, interoperability and functionality of products and systems. As a competence centre for electrotechnical standardization, the DKE represents the interests of German industry in European (CENELEC, ETSI) and international standardization organizations (IEC). In addition, the DKE provides comprehensive services in the field of standardization and VDE specifications.

For more information, visit www.dke.de

About VDE:

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 125 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical. Shaping the e-dialistic future.

The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit www.vde.com

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