

DIZ Doepke-Info-Zeitung

The free customer newsletter by Doepke Schaltgeräte GmbH



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Doepke Digital

Virtual online platform is new part of the digital offering

The coronavirus pandemic has probably done more for digitalisation in Germany than many other measures. Doepke also saw a wealth of new ideas emerging in this area during 2020. And digital growth also looks set to be a firm fixture on the agenda for 2021, too.

Alongside the now established online seminar series, Doepke Academy, the new multimedia and interactive platform Doepke Digital was launched in March. In this virtual program, visitors can find information on a wide range of subjects relating to the safe use of electricity. As well as conventional flyers and brochures, there are also videos and online seminars available at different themed stands.

There is a wide range of topics covered. These include both new and proven products, such as the test-proof DFS ISΩ HD residual current circuit-breaker, the DFS EV for electromobility and the DFS F Audio residual current circuit-breaker for high-quality music systems.



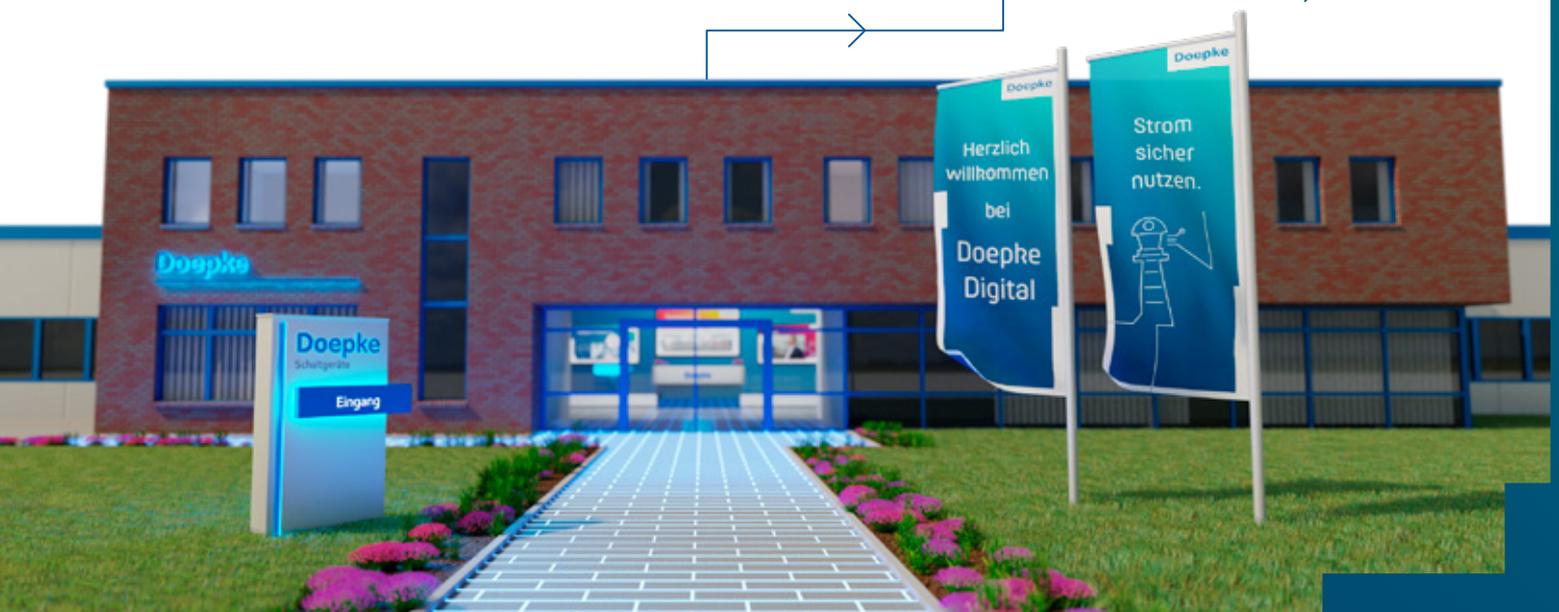
However, it also covers current topics such as innovations in the area of standards, existing protection issues, or preventive maintenance in the industry.

As with a 'real' conference, the focus of Doepke Digital will be on personal contact. All too often during this time, it has not been possible to exchange ideas and hold discussions with customers, interested parties and experts.

In order to address this, visitors to Doepke Digital can chat with Doepke-experts via video call, attend live consultations or take part in interactive expert talks and live seminars. ■

Why not come and have a look?

 doepke-digital.expo-ip.com



Latest on the standard – DIN 18015-1

The standard DIN 18015 'Electrical installations in residential buildings – Part 1: Planning principles' was published in May 2020, replacing the previous version from 2013. It applies for residential buildings such as detached houses, terraced houses or apartment buildings, including those partially used for commercial purposes; however, it does not apply for the industrial sector.

The new publication of DIN 18015-1 has updated normative references, extended requirements and recommendations on the documentation, and included information on the integration of energy storage systems. References to the selection of residual current operated protective devices and on increasing the system availability have also been revised.

An overview of some key changes:

- Protective devices such as residual current and miniature circuit-breakers should be installed in such a way as to minimise the size of the section of the electrical system that is shut down in the event of a fault. The aim is to achieve the maximum possible availability of the system.
- Specifically, this means that: A maximum of two single-phase final circuits should be assigned to a two-pole residual current circuit-breaker, and a maximum of six final circuits to a four-pole RCCB. This should increase the availability and avoid an overload. Residual current operated circuit-breakers with integral overcurrent protection are recommended as an alternative.

- Lighting and socket outlet circuits should be protected with overcurrent protection equipment such as miniature circuit-breakers or residual current operated circuit-breakers with integral overcurrent protection.
- Spare space must be planned in for future changes or extensions to the electrical systems. The standard recommends a spare space of 20%.
- Sockets up to 32 A and lighting circuits should be protected with residual current operated protective devices with a rated residual current of max. 30 mA.
- In addition to the installation plan, the documentation also includes a list of maintenance and testing intervals of installation devices such as residual current circuit-breakers, smoke detectors and surge protection. The documentation must be updated if there are any additions/changes to the electrical system.



A detailed explanation of the updated DIN 18015-1 with practical information on its application can be found in the recording of our online seminar. You will find this on our website www.akademie.doepke.de.

Individual points of the updated standard were fiercely debated for a long time beforehand. We are also looking critically at certain points here at Doepke – read the comments of our expert Günter Grünebast to find out about this. ■

Comments on the updated DIN 18015-1

May is a time of new beginnings. And May 2020 was no different with the publication of DIN 18015-1. But does new always mean better?

For example, there is more than a little uncertainty as to whether the envisaged regulation for final circuits assigned to a residual current circuit-breaker actually increases system availability. After all, limiting final circuits does not mean that the electrical consumers, and therefore the operational protective conductor current, are also limited at the same time. Theoretically, it is already possible to achieve a total operational protective conductor current of 17.5 mA with a conventional five-way multiple socket outlet (capacitive leakage current), assuming a maximum permissible leakage current of 3.5 mA per consumer.

This can cause an upstream residual current circuit-breaker or also residual current circuit-breaker with integral overcurrent protection to trip as these cannot distinguish between an operational capacitive leakage current and an ohmic residual current.

In contrast to two-pole residual current circuit-breakers or residual current circuit-breakers with integral overcurrent protection, the operational leakage currents from all external conductors for a four-pole residual current circuit-breaker can, according to Kirchhoff's law, even add up to zero in the summation current transformer, which increases the availability of the electrical system. It should also be borne in mind that the consumers usually used in residential buildings generally generate operational protective conductor currents far below 3.5 mA and only if a protective conductor connection is available. Most devices belong to protection class 2 and do not have 'Schuko' plugs, and therefore cannot generate leakage currents.

In the past, simultaneity factors have been proven when dimensioning distribution installations in relation to possible thermal overloads, particularly in the household sector.

It should also be assumed that, in future, it will not be possible to operate all protected final circuits at their permissible continuous current and over an extended period. What's more, the power consumption of many household appliances has significantly decreased in recent years (e.g. vacuum cleaners and lights with LEDs).

In all critical analyses, however, it should be ascertained whether DIN 18015-1 is a contractual component and whether one or two seemingly nonsensical requirements may therefore need to be complied with. Nonetheless, the question remains: why not make a row of a distribution board 'full' with a four-pole residual current circuit-breaker and eight assigned miniature circuit-breakers, as was the case previously, and where does it say that the residual current circuit-breaker always has to have a rated current of just 40 A? ■

Building-site distribution board already switched to AC-DC sensitive?

Don't forget: The transition period for DIN VDE 0100-704 ends on 18 May.

More information in the next issue of DIZ. ■



Günter Grünebast
Head of Standardisation/
Testing/Certification



Monitoring instead of insulation testing

Smart transformers for preventive maintenance

The preventive maintenance is a maintenance method, which is easy to implement with the right tools and saves both time and costs.

Planned and unplanned outages of the electrical system are problematic in the industrial production sector, IT infrastructure and also in modern agriculture.

Residual current monitoring provides information about the system's insulation resistance. This not only makes it possible, as per DIN VDE 0105-100/A 1, to forego regular insulation checking. Permanent monitoring of residual currents also enables the operator of a system to identify faults or only slight deviations early on. This enables them to prevent unplanned system failures, to plan required downtimes and perform necessary measures in a targeted and bundled manner.

The DCTR B-X Hz-PoE residual current transformer from Doepke is a smart tool for permanent residual current monitoring of electrical systems. The devices are AC-DC sensitive. They identify and evaluate residual currents at frequencies from 0 to 100 kHz. They also display the captured data in the DCTR Manager software via their Ethernet interface. Thanks to individually adjustable parameters, the protection concept can be easily adjusted to the respective system. There are also two signal contacts that can be freely configured to react



as required: For certain individually adjustable residual currents, you can, for example, trigger a visual or acoustic alarm or switch off the system.

The DCTR B-X Hz-PoE smart transformer and the DCTR Manager software are easy to implement. For precise, error-free measurement results, Doepke offers the DCTR B-X Hz-PoE with various internal diameters. The DCTR Manager is used to manage all residual current transformers within the network, to set the alarm thresholds for configuring the protection concept and for visualising and documenting the captured residual currents. In long-term monitoring, the collected data can be used to

form a comprehensive picture of the system status, which can be used to predict system behaviour and therefore identify maintenance and repair requirements at an early stage.

The DCTR B-X Hz-PoE and DCTR Manager will also be part of the new and comprehensive monitoring system, which will be available from the summer as part of a collaboration between Doepke and twingz development GmbH (see our report in the 4/2020 issue).

With this individually usable system, you have a reliable overview of the residual currents and your system is fully protected. ■





INDIVIDUAL



INTELLIGENT



EASY



VISUAL

Comprehensive on-site consultation

Industry sales promotion receives a boost

Preventive maintenance is still a very new subject in industry and one which requires much consultation.

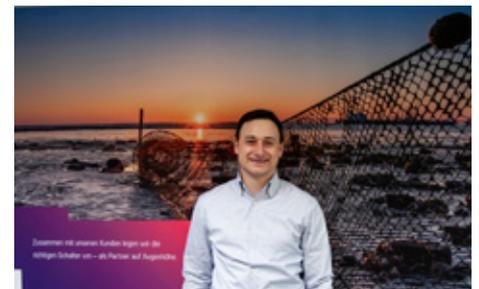
In order to provide industry customers with individual and on-site monitoring and predictive maintenance, Doepke is currently putting together its new sales promotion team. We introduced Mario Sembritzki as team leader and contact person for the north of Germany in the first DIZ of 2021.



Since February, he has had support for the south of Germany in the form of Andreas Fries, a trained electronic technician for energy and building technology who brings a wealth of experience and motivation with him.

Before working for Doepke, he was responsible for helicopter maintenance in the avionics division of the German Armed Forces, where he was responsible for the electronics on board army helicopters, from radio to radar through to navigation equipment. After qualifying as a certified electrical engineer, he worked as an EMC technician for EPA.

Now, having completed his studies in electrical engineering and IT, Andreas has joined Team Doepke and is looking forward to tackling his new role: "The industrial sector is always fascinating because every system is different and a completely new challenge. I enjoy actively collaborating with the customer and working together to find the optimal solution."

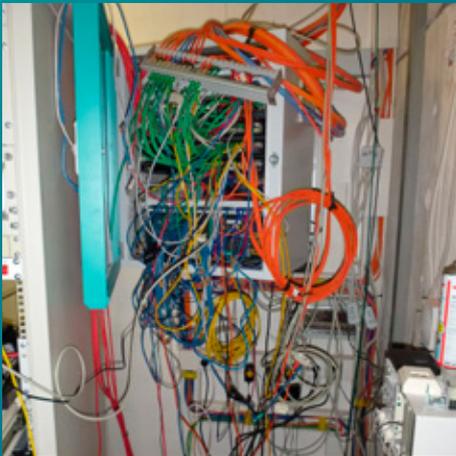


In his free time, Andreas has retained an interest in the armed forces, and is still very enthusiastic about aviation. His other hobby is rather more down-to-earth: he grows over 20 different varieties of tomatoes in his vegetable garden. ■

Our electrical finds

Be it cable chaos, a curious installation or even 'chindogu' – the electrical curiosities we encounter have one thing in common: they are out of the ordinary and catch our eye. Chindogu, by the way, is Japanese and means 'unusual tool'. The term refers to inventions that the world doesn't really need but finds very amusing. We want to make you stare in amazement, shake your head or laugh out loud by sharing our favourite electrical finds with you in this regular feature.

No, this isn't an explosion in a wool shop, or a Jackson Pollock painting! This is the network engineering for a large car dealership. Respect to anyone who can find their way around that! Many thanks to Stefan Lauterbach for the photo.



Do you have an entertaining electrical find to show us? If so, please take a photo of it and send it to us at: kommunikation@doepke.de
Important: We can only consider photos that you have taken yourself. ■

Sabiene is all heart

International Women's Day was on 8 March. To celebrate the event, our field sales representative Sabiene flew in to our main plant in Norden to help prepare some small gifts for all our female employees at Norden and Bickenriede.

International Women's Day was established in 1911, and since then it has increasingly established itself as a day promoting women's rights to education and equal opportunities. It is a public holiday in numerous countries, but in Germany only in Berlin.



In total, there are 140 women working at Doepke, a ratio of 43.8%. ■

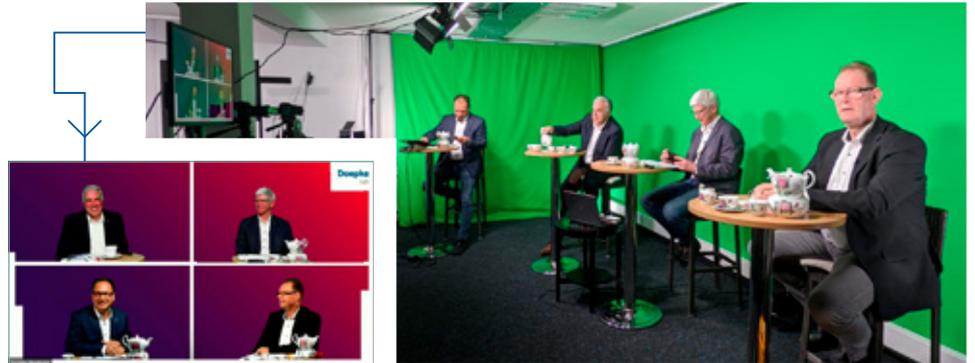
Total success: Doepke talk events series launched

Our experts were admittedly a little nervous beforehand, but that didn't hurt: Our first Doepke talk at the end of February was a great new experience for all those involved and a real success.

In total, over 130 people from all over Germany took part online in the first Doepke talk. And it wasn't just a passive listening/watching exercise: exactly as we had hoped, the attendees asked questions in the live chat, provided some food for thought, and actively took part in discussions. Our experts Stefan Davids, Johann Meints (both from Doepke), Axel Kampf (Industrievertretung

Mike Klaiber) and Reinhard Soboll (BFE Oldenburg) ensured the day ran smoothly and was an enjoyable experience for all those involved. Topics covered included electromobility, insulation testing and monitoring in stationary systems, the safe use of electricity on construction sites, updating standards and a live demonstration with information on how to test RCDs correctly.

The Doepke talk events series is still running. Upcoming dates can be found on our website at www.akademie.doepke.de. You will also find upcoming dates for our Doepke Academy there. ■



Doepke now on Instagram

We have had a presence on Facebook for many years now. We also like to update our followers on LinkedIn and Xing with the latest about us, our products and all important news relating to the safe use of electricity. From the spring onwards, we will now also

be represented on another social network: visit us on Instagram, follow Doepke and leave us a couple of hearts or comments. We look forward to seeing you! ■

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QUOTE OF THE QUARTER

*What we know is a drop.
What we don't know
is an ocean.*

Isaac Newton

DATES/NOTES

Doepke Academy

Interactive webinars on our new products and latest topics.

All the dates and additional information can be found at

www.akademie.doepke.de