

DIZ

DOEPKE INFO MAGAZINE

FREE CUSTOMER NEWSLETTER BY DOEPKE SCHALTGERÄTE GMBH

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Eagerly anticipated

Doepke's fire protection switch: our DAFDD

Since February 2016, demand for fire protection switches has grown considerably. This is due to requirements stipulated by DIN VDE 0100-420: 'Setting up low voltage installations. Protective measures – protection against thermal effects'.

Since 1984 the VDE's experts have been focusing their efforts on reducing the thermal effects on and arising from electrical installations. The particular standard in question defines material characteristics, factors to be considered during construction such as spacing between potential ignition sources

and combustible materials, as well as environmental influences.

The current edition published in February requires an AFD (Arc Fault Detection) to be used in certain areas. As is also the case with many other standards, there is no general mandatory rule in 0100-420 for the retrofitting of protective devices. Moreover, the previous version from 2013 still applies during the current transition period, which ends on 18/12/2017.

In accordance with the relevant device standard (DIN EN 62606:2014-08 'General requirements with regard to arc fault protection equipment'), an AFD should "limit the risk of a fire in consumer circuits belonging to a stationary system resulting from arc current faults that present the risk of a fire being ignited under certain circumstances in the case of a continuous arc." The more commonly used term 'fire protection switch' was derived from this definition.

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Doepke's fire protection switch: our DAFDD

However, the technically correct term for a device that can recognise and switch off an arc fault is the more descriptive 'arc fault protection equipment'.

As specialists in residual current technology, we use a combination of an RCBO and an additional AFD item. The main advantage of this solution is that individual electric circuits can be comprehensively protected through just one device. The RCBO submultiple is not voltage

dependent, conforms to the provisions of EN 61009 and is proven to protect against fault currents (personal protection), short-circuits and overloads (system protection). The new additional module now also offers protection against high-frequency arc faults in accordance with the requirements of DIN EN 62606.

In order to enable quick troubleshooting when the device is tripped, separate indications for fault current, overcurrent protection and AFD

items are available. An LED blinking sequence shows when the AFD item has been tripped and the display changes depending on whether a serial or parallel arc fault or a dimming fault has occurred. The DAFDDs are also kitted out with internal over-voltage protection (270 V AC) and a temperature monitor.

The AFD item constantly checks that the device is functioning correctly. If it detects an error, the switch will be triggered. In order to still maintain high system availability, the DAFDDs can be restarted during a period of 24 hours. The RCBO is then fully functional. A continuously blinking red-yellow sequence warns of a failed AFD item. ■

BACKGROUND INFORMATION

Arcs also occur for operational reasons, e.g. when opening and closing mechanical contacts. Arcs are known to occur in this context and can be managed.

If they occur unintentionally, they are referred to as 'arc faults'. AFDDs have the task of protecting electrical installations from fires caused by arc faults.

They provide support and additional protection alongside residual current circuit-breakers and miniature circuit-breakers, which are proven protective devices. They close a previously unnoticed gap in the security of our fixed electrical installations.

DCTR used in endurance testing for cable winches

MEB operates a test rig for cable winches that must undergo testing annually.

The test cycle begins with a mechanical check followed by an electrical inspection. Once this stage is complete, endurance testing can commence. The winches are loaded with weights

on a test rig and subjected to an endurance test. During the process, various movements and loads are applied.

These types of endurance test used to be carried out manually: the winch was moved to a point where the current, voltage and leakage current were recorded and noted in a protocol by hand.

The implementation of the DCTR 35 A has now made it possible to continuously record and save leakage current readings across the entire range of movement. Connection of the transformer is established via an SPS data logger that includes a visualisation function.

The endurance test can now also be carried out by individuals who have not received electrical training. As the device automatically logs measurements, it enables the error ratio to be considerably reduced.

The DCTR 35 A's externally operated test key allows for the automatic self-testing of the test facility as an active test current is generated in the transformer.

The winches are recorded in a database, selected for testing and later stored in the same database together with their test results.

Until now, each cable winch manufacturer has used their own method for testing. This new technology could allow a standard procedure to be developed. The test rig is the first of two prototypes. In order to also be able to test cable winches with frequency converters, the next test rig generation will also feature a Type B DCTR. ■



Melanie Brandes
Product Management



Test rig and visualisation function:
cable winch testing with DCTR support

Photos: MEB Services GmbH & Co. KG

STANDARDISATION

DIN VDE 0100-722

Construction of low voltage installations – Part 722: supplying power to electric vehicles

The new edition of these installation regulations (DIN VDE 0100-722:2016-10) stipulates that for each terminal (so for every vehicle charged) a separate residual current device (RCD) must be used. The device must be Type A as a minimum and must exhibit a rated residual current ≤ 30 mA. If the protective separation measure (with an isolating transformer) is being used, a residual current operated protective device is no longer required.

In the case of a fault, smooth DC residual currents may occur during the charging of electric vehicles. If the charging station is equipped with an electrical socket or a portable socket-outlet in line with the DIN EN 62196 series of standards (in Europe: Type 2 plug or portable socket-outlet) safety precautions need to be taken against smooth DC residual currents. These precautionary measures can be integrated into either the fixed installation or the charging station. Here either Type B or B+ residual current operated protective devices can be used.

Alternatively, a Type A device can be used in combination with a device with the means to switch off when smooth direct residual currents > 6 mA occur. The compact Type A DFS 4 A EV residual current circuit-breaker with an integrated additional device to detect smooth DC residual currents and an isolation function when currents exceed 6 mA is the perfect device for charging stations or wall boxes. ■



Holger Freese
Product Management



Günter Grünebast
Head of
Standardisation/
Testing/Certification

Low-emission travel for Doepke and guests all thanks to electric power

Doepke's visitor car parks will now offer charging stations for electric vehicles

As part of a redesign of Doepke's main entrance, the company's visitor car parks are also set for a new look. Among the latest additions: two charging points for electric cars.

Even if fewer people than predicted have taken advantage of the German government's financial incentive schemes for electric cars, for many, these vehicles still represent the future of mobility. There have been significant developments in recent years in terms of both vehicle technology and infrastructure – and yet the supporting electricity grid is still sparse, particularly when it comes to rapid charging points. Depending on the model and its battery life, electric car owners sometimes have to plan their trips very carefully.

As a member of the electrical industry and a company situated in a rural area, Doepke has decided it's time it played its part. As part of the renovation work currently being carried out on the company's main entrance,

two rapid charging stations have been installed in the redesigned visitor car park so that guests can top up their vehicles.

In 2017 two further stations are planned for the visitor car parks near the Blaufärberstraße building so that electric car drivers also have the option of charging their vehicles right by Doepke's training facilities.

Service for visitors

Charging stations will be made available to guests free of charge. An ID card can be acquired from reception which can be used to activate the charging stations. Vehicles are charged via Type 2 terminals, which means visitors can give their cars' batteries a substantial top-up during a single plant visit.

Doepke goes electric

Last November an electric vehicle also joined the Doepke fleet. Fully charged, the vehicle is able to travel just under 200 km and is thus mainly



The latest addition to the Doepke vehicle fleet parked in its designated charging spot

intended for use in cities and within the region. Although there may not be a lack of parking spaces in East Frisia and traffic jams are relatively rare, this compact car will certainly be an asset at the site.

Technical features

Depending on the terminal used, a range of power options will be avail-

able at each charging station. Each station features two charging points with Type 2 plugs supplying 22 kW, as well as two Schuko charging points where vehicles can be 'refuelled' on a lower charge. Most visits to the Doepke site last several hours, which equals plenty of extra miles on the road for our visitors with electric cars.

GET Nord 2016: success across the board

With top marks from visitors and exhibitors, GET Nord is now a firm fixture on the industry calendar

Over 500 national and international exhibitors, booked out halls and a total of 41,152 satisfied visitors – the fifth edition of GET Nord was a resounding success.

From 17 to 19 November, the sector's only joint specialist trade fair in north Germany for electrics, plumbing, heating and air conditioning showcased the entire spectrum of building technology industries all under one roof. With a broad range of exhibitors, world-class special exhibits and a comprehensive programme of events, GET Nord has now firmly established itself as the sector's leading show in northern Germany.

"We are delighted that everything went so well. With its unique concept of rigorously networking different branches, trades and products, GET Nord reflects market developments in the field of technical building equip-



Visitor turnout was high at the event and at Doepke's stand in Hall B5: the GET Nord was a resounding success

ment. Growing interest on the part of exhibitors and increasing visitor numbers are signs that our approach is precisely what the market needs," says Bernd Aufderheide, Chairman of the Board at Hamburg Messe und Congress GmbH.

High satisfaction levels among visitors and exhibitors

Once again, visitors gave the trade show top marks: around 90 percent rated the GET Nord as 'good' or 'very good'; and roughly the same number said they would recommend the event. Exhibitors appeared equally satisfied, praising the highly-qualified

attendees along with the frequency of visitors to stands.

Doepke also gave positive feedback and is already looking forward to November 2018 when the next GET Nord is set to take place. Our team will, of course, be making an appearance.



Photos: HMC/Stephan Wallocha

Doepke welcomes a new department

Everyone's talking about digitalisation. Buzzwords such as 'Industry 4.0', the 'Internet of Things' (IoT) and the 'Fourth Industrial Revolution' are indicative of this new shift.

Despite the fact that digitalisation actually began several years ago, it's only now that it's truly gathering pace. In order to keep up with this new trend, we have created a new position: Head of Digitalisation. Jochen Janßen (see picture below) will take over the role, managing and overseeing processes that, as part of

the digitalisation process, are created through the introduction of new technologies.

This includes the development of internal soft and hardware structures, but mainly external interfaces. He is currently responsible for providing product data for wholesale businesses. Mr Janßen will be able to bring plenty of useful experience to the role, particularly the skills he learnt during the introduction of CRM software and the product information management system. ■



Change of roles: Melanie Brandes and Jochen Janßen discuss their new responsibilities

Change of leadership

Electricians and electrical engineers know a bright spark when they see one. Now one of the brightest is taking on a new role as head of Product Management at Doepke.

Following Mr Janßen's move to digitalisation, Melanie Brandes (see photo above) will now take over leadership of the Product Management

team. Her personable manner and professional competency make her the perfect choice to succeed Mr Janßen.

She will also continue in her role as product manager for switchgears and controlgears, building systems technology, and measurement and monitoring devices, which are her specialist areas. ■



Doepke

The experts in residual current protection technology

We are an innovative, medium-sized company and have been a successful manufacturer of electromechanical switching devices and installation systems on the global market for over 60 years.

Our greatest asset is our employees. It is they who secure the future and success of our company through their creativity and initiative.

In order to reinforce our sales activities, we are currently looking for a

Sales representative (m/f) for sales promotion for the areas Baden-Wuerttemberg and Bavaria

Your main tasks will be

- ▶ close cooperation with the local representations
- ▶ customer support based on your place of residence
- ▶ trade fair activities
- ▶ attendance at customer projects in terms of consultancy, planning, commissioning and subsequent support
- ▶ sales support focused on products needing consultation or explanation
- ▶ development and performance of trainings

Ideally, you are a graduate of electrical engineering or a master electrician, living in the area mentioned above. Communication skills and team ability are a matter of course for you. You have project experience and enjoy travelling.

We offer a home office equipped by us, flexible working hours, an appropriate remuneration as well as a company vehicle.

If you are interested in this versatile and demanding task, please send us your application documents (email welcome).

We look forward to receiving your application.

Doepke

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Julio on the move

Japan's Golden Pavilion

Kinkaku-ji, the golden pavilion in Kyoto, was built around 1400 and is listed as a UNESCO World Heritage Site. Its name is derived from the gold leaf which completely covers the building's two upper levels.

For all its splendour, the pavilion and its adjoining lake still blend in seamlessly with the surroundings and thus reflect the aesthetic maxim of the architects for whom the bond between man and nature was of fundamental importance. ■



DATES/NOTES

eltec, Nuremberg
11–13 January 2017
Hall 1, stand 1.217

elektrotechnik, Dortmund
15–17 February 2017
Hall H3B, stand 3B.C24

eltefa, Stuttgart
29–31 March 2017
Hall 6, stand 6B62

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QUARTERLY QUOTE

百語より一笑。

(Hyaku go yori issō –

A smile is worth a hundred words.)

Japanese saying