



# DOEPKE-INFO-ZEITUNG

KOSTENLOSE KUNDENZEITUNG DER FIRMA DOEPKE SCHALTGERÄTE GMBH

## IN THIS ISSUE

DFS 4 MI: safety for mobile installations .....	1	No access for the layperson .....	2	The anniversary club: 18 members of staff are celebrating milestones this year .....	4	apprenticeship .....	4
New, intelligent devices .....	1	Standardisation .....	3	Digital/print media designer .....		Bello's travels .....	4
		Smart, wireless, touch, light.....	3			Publisher/Quote/Dates .....	4

## *DFS 4 MI: safety for mobile installations*

*Residual current circuit-breakers  
even for unknown upstream safety measures*



▲ Specially designed for mobile installations: the DFS 4 MI

**The residual current circuit-breaker should be selected in accordance with the residual currents which are to be expected in the event of a fault. This is the bottom line of the installation regulations.**

If AC residual currents or pulsating residual currents, or mixed-frequency residual currents, are expected, a type-A or type-F residual current device should be selected. As soon as residual currents which are not equal to the operating frequency or smooth direct residual currents are expected, the use of an AC-DC sensitive residual current circuit-breaker is

essential. But what happens if, during operation of a mobile distributor, the safety measure on the power socket or connection point which is intended to supply the distributor with power is not known? This may quite possibly be the case in a TT system, or retrofitting an AC-DC sensitive residual current circuit-breaker in the electrical installation supplying the distributor with power may appear uneconomical because the operator of the distributor may not be the owner of the electrical installation which they are using.

If a type-A or type-F residual current

device is installed in this electrical installation, in the event of a fault it can no longer provide the sought safety measures (e.g. protection of personnel or preventative fire protection) because of premagnetisation of the transformer core, which is caused by a smooth DC residual current that is greater than 6 mA. Therefore, this configuration is not provided in the relevant standards. The potential danger of this is huge! In this case, the installing engineer must replace both residual current circuit-breakers with AC-DC sensitive devices.

The new Doepke DFS 4 MI residual current circuit-breaker provides a safe solution to this problem; it can be installed downstream of a type-A or type-F residual current circuit-breaker. Its DC trip threshold is 6 mA. The DFS 4 MI trips and disconnects the faulty downstream electrical installation from the mains, when a residual current reaches 6 mA maximum. Dangerous premagnetisation of the upstream residual current device is

**New,  
intelligent devices**  
*Self-test for safety*

Doepke's new 'Selftest' series of intelligent residual current circuit-breakers perform a self-test at regular intervals. Whereas previously self-tests used to have to be activated manually, these devices now do this once a month, automatically. What's more, there is a check to ensure that the switch is functioning properly.

Bypass contacts provide the power supply to the system during these self-tests, and a programmable potential-free contact allows a log to be kept. The 'Selftest Restart' complements this function by automatically restarting in the event of faulty tripping. Instances of faulty tripping may be caused by lightning strikes, transient leakage currents, vibrations or a reduction in the insulation resistance caused by moisture or dirt. The Selftest Restart devices switch the power back on within ten seconds, after testing the insulation resistance against earth.

► Continues on page 2

► Continues on page 2



▼ Continued from page 1:  
DFS 4 MI

therefore prevented, and it can fulfil its protective purposes again. The Doepke DFS 4 MI also combines familiar properties such as the compact housing with four module widths, low dissipation power per pole, increased surge current strength for the highest possible level of system availability, and an increased residual current detection range of up to 100 kHz depending on configuration. The devices will be available with the SK characteristic curve and as type B+, and with rated currents of 16 A to 63 A. The residual operating current is 30 mA.

*Heino Thoben-Mescher  
Product Management*



▼ Continued from page 1:  
New, intelligent devices

If the device detects a fault, it performs another test after two minutes. While there is still a fault, the test will be repeated every two minutes and there will be no attempt to restart the system until there are no faults present.

These functions provide increased safety as there is no longer any need to press the test button to manually test the protective function, meaning there is no risk of someone forgetting to do it. System availability is also increased if the power supply can be switched back on quickly by the Selftest Restart, meaning losses incurred due to downtimes are also reduced. Both devices are available in two- and four-pole designs.



▲ Intelligent and reliable: the self-test regularly tests the installation

Mounting and connection are both easy and intuitive. Both devices are available in two- and four-pole designs with rated currents of 25 A to 63 A. The residual operating current is 30 mA.

*Holger Freese  
Product Management*



## Find more informations regarding our new products in our prospectus:

**Doepe** The experts in residual current protection technology

**Residual current protection without retrofitting: DFS 4 B+ MI** Doepe

**The right residual current circuit-breaker for e-mobility: DFS 4 EV** Doepe

**Automated function tests: Selftest|Selftest Restart**

The experts in residual current protection technology

- » Intelligent residual current circuit-breaker
- » Regular self-test without any interruption to the power supply
- » Remote signalling
- » Certified safety
- » Automatic restart (selftest restart)

▲ How to find them?  
Look at: [www.doepke.de](http://www.doepke.de)  
Order them at: [info@doepke.de](mailto:info@doepke.de)

## No access for the layperson



▲ Being exposed to electric currents reduces life expectancy.

Normally there is no false tripping in residual current devices. One of our developers was shocked to find that the reason his home kept unexpectedly being plunged into darkness was the residual current device. However, knowing that this is not possible, he set about finding the cause.

measurement soon proved something wasn't right there. On opening up the machine the perpetrator was quickly found – but sadly it wasn't likely it would be able to escape. Since then, there have been no more pins and needles, and for our developer, his work makes sense once more. Thanks go to the residual current device! ■

He unexpectedly got an important, if unpleasant, clue when he was loading his washing machine and got slight pins and needles in his hand when he touched the machine. Sometimes with and sometimes without the circuit breaker tripping. An insulation

*Gerold Roofls  
Head of Development*



## STANDARDISATION

### DIN VDE 0100-714

(VDE 0100-714):2014-02:  
Construction of low voltage  
installations – Part 7-714:  
Requirements for work  
premises, rooms and special  
types of installations – outdoor  
lighting installations

The requirements in this standard apply to the selection and construction of lights or lighting installations which are part of a fixed outdoor installation, such as public spaces, sports grounds (floodlights), lighting installations for streets or gardens, lighting of monuments or road signs.

In installations with integrated lighting, such as telephone boxes, bus shelters or information boards, in accordance with section 714.411, residual current devices (RCDs) with a rated residual current of  $\Delta I \leq 30 \text{ mA}$  must be used to protect against electric shock.

In accordance with section 714.462, it must be provided that electric circuits can be individually disconnected from the supply voltage. For this purpose, residual current devices (RCDs) may be used, since they are suitable for disconnection according to DIN VDE 0100-530.

In terms of classifying external influences (ambient temperature, climatic conditions), it is stated in section 714.512 that, depending on local conditions, increased mechanical stress and solar radiation or corrosive substances may also need to be taken into account.

Our residual current circuit-breakers with the "HD" addition are particularly suitable for use in harsh environments.

Günter Grünebast  
Head of  
Standardisation/  
Testing/  
Certification



## Smart, wireless, touch, light

### Two simple ways to control Dupline using a smartphone or tablet

**The prerequisites are often already in place, given that smartphones, tablets and WLAN networks aren't anything out of the ordinary these days. What could be more obvious than controlling existing building technology using these devices? Of course, this is also possible using Dupline.**

There are essentially two technical solutions which can implement this type of control. Both solutions ensure that a signal reaches the channel generator, which can then process this signal.

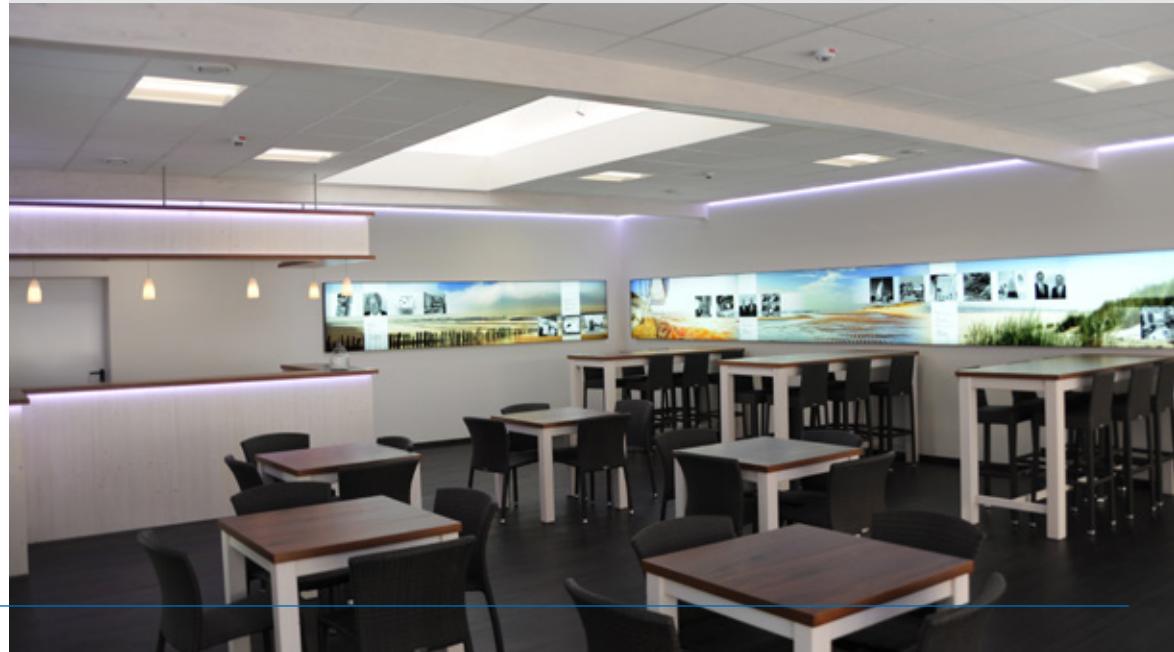
The parameters for both solutions are identical to start with: a WLAN network is required to which the smartphone or tablet is connected, and a wired network. Here, either a Modbus gateway or a touch panel is used as a link to the Dupline bus.

#### Option 1: Modbus gateway

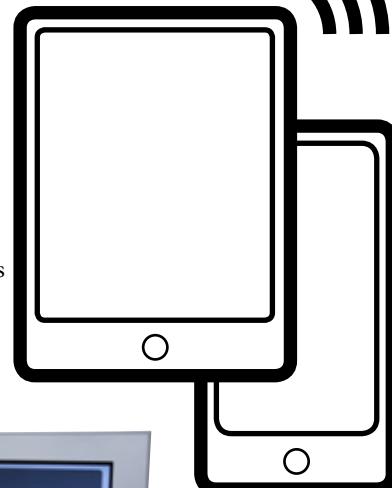


A Modbus gateway is connected both

▼ A standard application of building system technology is lighting control, as seen here in the new social and meeting hub at Doepke.



to the "normal" home network and to the COM-2connection of the channel generator. This is just a signal converter, with no other function. On the smartphone or tablet, software is required which generates direct Modbus commands and transmits these to the central channel generator via the gateway.



is directly displayed on these devices. Therefore, the same interface can be used on all devices, and this makes it a lot easier to switch between them. The menu can be

displayed independently or as a live image of the touch panel, so that alterations or menu changes can be displayed simultaneously on all devices.

#### Comparison

The touch panel option is clearly more intuitive, since the same interface is used on all devices, and only needs to be centrally designed once for installation. This means the user only needs to familiarise themselves with one system. In addition, a touch panel also enhances normal control.

#### Implementation

Retrofitting is easy where the prerequisites do not already exist in any case – as might be the case where there is a touch panel.

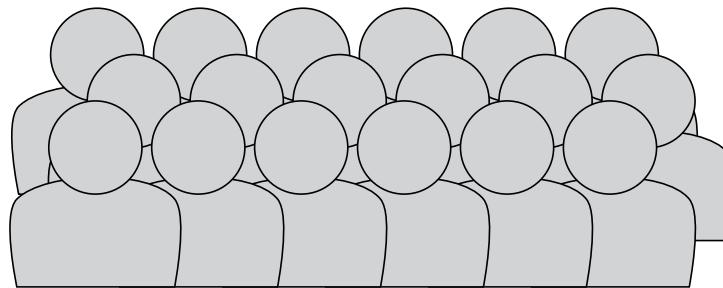
## The anniversary club: 18 members of staff are celebrating milestones

this year

Collectively they have clocked up 470 years of service

For an individual to have been working with the company for that long, they would have had to start work in 1545. At this time, Martin Luther was single-handedly working on his version of the Bible.

Of course, back then the demand for residual current circuit-breakers was low, and the human resources department at Doepe had no staff at all – the big recruitment drive happened a lot later. The effects of this can now be seen clearly, since many members of staff are celebrating milestones. We wish all our members of staff a long, happy and successful career within our company. ■



Here is an overview of all the milestones reached this year:

**35** Georg Betten, Carola Ites, Erwin Recknagel

**30** Siegbert Caspers, Monika Muskulus, Günther Oldendorf, Gerold Roofls

**25** Udo Ahrends, Edda Conrads, Edelgard Endemann, Jürgen Freymuth, Doris Harms, Inge Jakobs, Dieter Kalkwarf, Ulrich Oltmanns, Jens Trauernicht

**10** Andreas Ippen, Barbara Steinmetz

## Digital/print media designer apprenticeship

*Tomke Müller is strengthening the marketing team*

Our marketing department has taken on an apprentice for the first time: Tomke Müller has been part of the team since 1 September 2014.

After finishing her leaving exams at the Norden Ulrichsgymnasium, she joined our company last autumn to begin her media designer apprenticeship.

Her tasks include many design projects such as designing advertisements, brochures, flyers and trade fair signage. She is also responsible for typesetting new operating manuals. Another of Tomke Müller's tasks is

taking and editing photographs of members of staff and products. But the job of a media designer includes much more than this, including typographical design and editing text and graphics. The creative possibilities of digital image editing appealed to her in particular.

In her personal life, Tomke Müller spends lots of time with her family, friends and playing handball. When the weather is nice, she also likes to walk her dog, Ojo. She also likes to take her camera out with her so that she can take pictures of friends, family and her dog.



▲ Looking forward to a varied apprenticeship:  
Tomke Müller from the marketing department

## Bello's travels

A sighting in the Caribbean



Bello, our mountain dog mascot, was spotted in Jamaica; his protective instinct meant he kept an eye on visitors at Dunn's River Falls who wanted to climb the waterfalls – some more gracefully than others. Climbing the falls was part of the itinerary, and so the visitors queued up patiently. Bello's fear that if someone slipped it could cause a domino effect was unfounded, however; as even inexperienced hikers reached their goal, helped along by the waiting guides when needed.

The waterfalls are on the north coast of Jamaica, not far from a cruise terminal. Lots of tourists flock to the falls, and so this undisputedly beautiful part of nature is unfortunately somewhat diminished. It is therefore recommended to visit the Dunn's River Falls in the early morning or as evening approaches. ■

## DATES/NOTES

### Hannover trade fair

13/04 – 17/04  
Hall 13, stand C11

### Project Qatar, Doha (Qatar)

04/05 – 07/05  
Hall 5, stand E88  
German Pavilion

### Lecture by Stefan Davids

RCDs and frequency converters  
19/05  
de-Normentag [Day seminar on standards], Hamburg

## PUBLISHER

# Doepke

Schaltgeräte GmbH

Stellmacherstraße 11  
26506 Norden

Telefon: +49 4931 1806-0  
Telefax: +49 4931 1806-101  
E-Mail: info@doepke.de  
www.doepke.de

## QUARTERLY QUOTE

I shut my eyes in order to see.

Paul Gauguin