Doepke

Trade fair highlights 2022

e.Guard —— preventive safety
DLS 7 | 8 | 9 —— line protection with UL approval
DPRCD-M —— for safe use of heavy current
DRCBO 4 B —— compact dual protection
DFS A EV + DFS A EV NA —— the safe way to charge your car
DFS 6 A EV OCP HD —— innovation for the charging column
DFS ISΩ HD —— test-proof residual current protection
Selection tool app —— find the right RCCB immediately

www —— doepke.de

e.Guard

PREVENTIVE MAINTENANCE

Industry 4.0 enables us to predict the future condition of the installation, based on historical data powered via PoE. Doepke e.Guard is a flexible system combining both hardware and software components in order to continuously monitor electrical installations. This allows you to keep a close eye on an installation's status and so to dispense with repeated insulation testing according to DIN VDE 0105-100/A1, for example. What's more, with the aid of artificial intelligence (AI) methods, the residual current data collected by the system can be used to deduce trends that indicate how the installation might behave in the future. As a result, e.Guard enables you to take planned action at an even earlier stage, thereby increasing safety and minimising risks for your company.

e.Guard features a modular design with five different levels so you can configure it precisely according to your needs. The system offers custom installation monitoring – from a flexible stand-alone solution for smaller set-ups through to fully integrated monitoring within system landscapes made up of complex industrial structures.

SMART HARDWARE

The hardware consists of an AC-DC sensitive Type B residual current monitor that can be spowered via PoE and an industrial IOT gateway for recording and storing data locally and in the cloud.

- integrated evaluation unit
- detects and evaluates residual currents of up to 30 A on eight frequency channels
- large frequency range of 0 Hz to 100 kHz
- easy to put into operation using Ethernet interface with PoE
- two adjustable potential-free contacts for alarm or tripping thresholds

FLEXIBLE SOFTWARE

The e.Guard software visualises, saves and documents the detected residual currents. You can use the software to manage the residual current monitors on the network and to set the alarm thresholds.

Depending on which e.Guard level is selected, the possibilities range from a lean piece of software for continuous installation monitoring through to an intelligent, self-learning complete solution that is based on machine learning modules and is individually tailored to your needs. The software runs locally or in the cloud.

e.Guard

CUSTOMISED

e.Guard is available as a flexible stand-alone solution for smaller systems OR can be fully integrated into complex system architectures.

INTELLIGENT

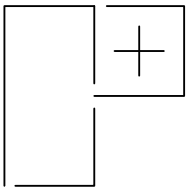
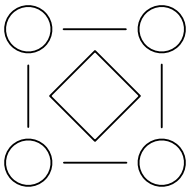
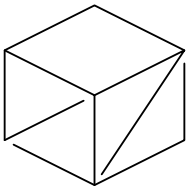
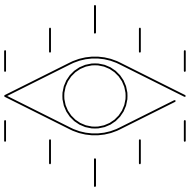
e.Guard detects and learns installation-specific residual current patterns during actual operation, making it possible to predict what maintenance work will be required.

EASY

The process of putting e.Guard into operation is not at all taxing. Usable data is available in next to no time.

VISUAL

For analysis and control, e.Guard offers intuitive dashboards that have also been optimised for use on mobile devices.

basic
Level 1 of 5

Gain valuable time: prevention with e.Guard basic

e.Guard basic signals residual currents and saves the data on a local hard drive. Level ONE allows you to incorporate devices for triggering alarms or switching off installations.

expertise
Level 2 of 5

An early warning is preferable: continuous monitoring and signalling on the network with e.Guard expertise

e.Guard expertise combines an AC-DC sensitive residual current monitor with an IoT gateway. No PC is required during continuous operation.

cloud
Level 3 of 5

Identify weaknesses in the system: visualise residual currents and monitor them in the cloud with e.Guard cloud

e.Guard cloud combines a smart residual current monitor with an IoT gateway. The software is provided – and the data stored – in a secure cloud environment.

advance
Level 4 of 5

Learn and predict the electrical behaviour of installations with e.Guard advance

e.Guard advance uses the collected residual current data to predict installation behaviour based on machine learning.

excellence
Level 5 of 5

Flexible response to dynamically evolving risks – e.Guard excellence truly lives up to its name with unrivalled expertise

e.Guard excellence is the individually tailored solution for predictive maintenance in relation to complex industrial installations.

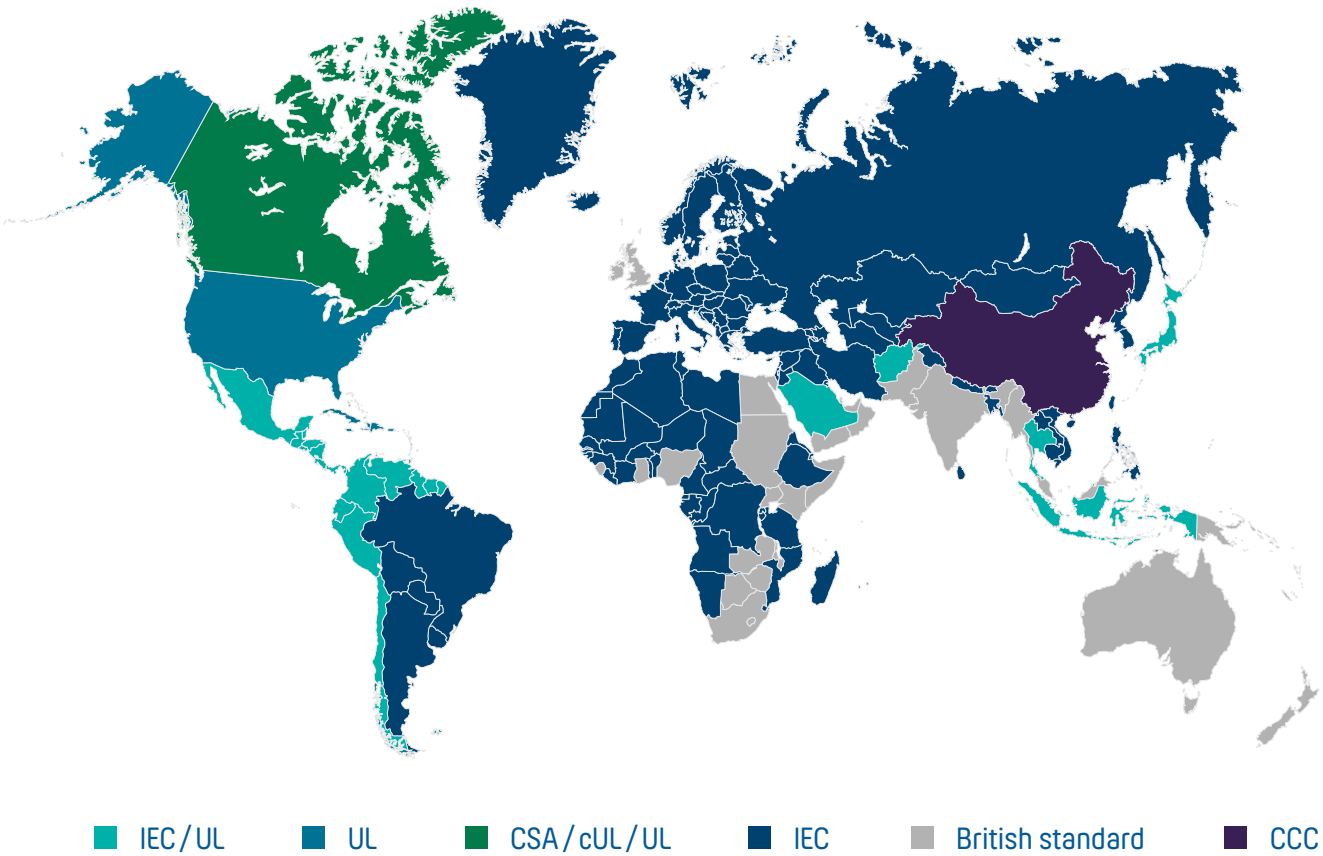
DLS 7 | 8 | 9

Miniature circuit-breakers – safety in line with UL standards

Product standards in North America and in some other countries have a different emphasis from those in Europe. This is because UL standards apply here. UL (Underwriters Laboratories Inc.®) is one of the leading organisations for testing and certification in the area of product safety.

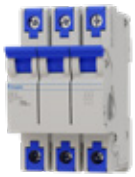
What is the difference compared to the IEC?

The IEC merely lays down the minimum safety requirements for a product. All the other details – such as the product design and technical structure – are decided by the manufacturers themselves. The UL certification requirements are much more extensive than this. Depending on the standard, UL may regulate everything from the design data and production process right through to application and assembly of the product. Accordingly, manufacturers have to undergo regular checks to retain their certification.



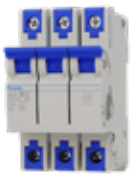
DLS 7

- these devices provide supplementary protection
- intended for control current circuits
- as a component for installation in switching devices according to the UL 508A listing requirements
- from 0.5 to 60 A
- function: overload protection
- UR certificate



DLS 8

- these devices provide supplementary protection
- extra-small nominal current increments for optimum installation protection: 27 nominal currents from 0.3 A to 60 A
- functions: overload protection, disconnection, switching, particularly in motor circuits
- smallest certified UL 508 switching device with an installation height of just 89.3 mm
- perfectly standardised installations thanks to combined IEC + UL approval



DLS 9

- these devices are used for branch circuit protection
- functions: overload protection, disconnection, switching, short-circuit protection without back-up fuse (up to the nominal breaking capacity)
- approved for HACR applications
- extra-small nominal current increments for optimum installation protection: 23 nominal currents from 0.3 A to 63 A
- one of the smallest UL 489 miniature circuit-breakers with an installation height of just 105 mm
- DC product series: Provided that the polarity +/- is respected, current can be supplied at the top or the bottom

	DLS 9					DLS 8						DLS 7	
Regulations	UL 489					UL 508						UL 1077	
Rated voltage	240 V AC	277 V AC	480 V AC	125 V DC	250 V DC	277 V AC	480 V AC	42 V DC	80 V DC	24 V DC	60 V DC	277 V AC	480 V AC
Number of poles	1, 2, 3	1	2, 3	1	2	1	2, 3	1	2	1	2	1	2, 3
B characteristic						1–60 A	1–60 A	1–25 A	1–25 A	30–60 A	30–60 A	0.5–60 A	0.5–60 A
C characteristic	40–63 A	0.3–32 A	0.3–32 A	0.3–63 A	0.3–63 A	0.3–60 A	0.3–60 A	0.3–25 A	0.3–25 A	30–60 A	30–60 A	0.5–60 A	0.5–60 A
D characteristic	40–63 A	0.3–32 A	0.3–32 A	0.3–63 A	0.3–63 A	0.3–60 A	0.3–60 A	0.3–25 A	0.3–25 A	30–60 A	30–60 A	0.5–60 A	0.5–60 A
E characteristic						0.3–60 A	0.3–60 A	0.3–25 A	30–60 A	30–60 A			
G characteristic						0.3–60 A	0.3–60 A	0.3–25 A	30–60 A	30–60 A			
Z characteristic	40–63 A	0.3–32 A	0.3–32 A			0.3–50 A	0.3–50 A	0.3–25 A	30–50 A	30–50 A			

* further characteristics and current strengths available on request

Our quality objective is to supply customised special solutions that are tailored to meet individual customer requirements.

Jann Eilers, Head of Technical Design

DPRCD-M – for safe use of heavy current

If a socket within an existing installation is going to be used for commercial/industrial purposes but you do not know what upstream protective measures are in place, you must implement suitable safety precautions first. That is why the PRCD is available for 230 V sockets. However, according to BG Bau (the employers' mutual insurance association for the construction industry in Germany), a PRCD is also required for 400 V sockets.

To accommodate this range, Doepke has now developed the DPRCD-M, a module that combines an AC-DC sensitive RCCB with mains conductor and protective earthing conductor monitoring. The key feature of a mobile PRCD is that it is connected between the heavy current socket and the consumer. The DPRCD-M provides 30 mA residual current protection (for personal protection) and trips in response to DC residual currents of 6 mA or higher. This prevents pre-magnetisation of any upstream residual current circuit-breakers, thereby safeguarding their protective function.

If a voltage is present on the protective earthing conductor or if the conductor is interrupted, the DPRCD-M cannot be closed. If the fault on the protective earthing conductor occurs during operation, the DPRCD-M opens immediately. If external voltage is applied to the protective earthing conductor – e.g. as a result of drilling into a line – all mains conductors are disconnected but the protective earthing conductor remains connected. If the feeding voltage is interrupted, the DPRCD-M opens – but when the voltage is restored, it does not close again automatically for safety reasons.

- optional anti-clockwise rotating field lock
- rated residual current IΔn ≤ 30 mA
- nominal current of up to 63 A available
- all-pole disconnection, including protective earthing conductor
- single toggle operation
- funding through BG Bau

DRCBO 4 B – compact dual protection

RCBO

The proven combination of residual current protection and line protection is the most compact solution for reliably protecting power control circuits supplying frequency converters or other power converters, in the event of short-circuit, overload or residual currents.

Doepke now offers the AC-DC sensitive residual current operated circuit-breaker with integral overcurrent protection in an even more compact form: the DRCBO 4 B has a module width of just 2.5 units in the two-pole variant, and 4.5 units in the four-pole design. In the event of an overload or short-circuit, only the faulty circuit is switched off.

In addition to the types of residual current protection device already available – the SK and NK – the residual current operated circuit-breaker with integral overcurrent protection is now also available in a B+ version.

- significant space savings
- rated currents up to 32 A
- rated residual currents of 30, 100 and 300 mA
- VDE-certified

Now available in an even more compact design

Module width of 2.5 instead of 4

Module width of 4.5 instead of 6

DFS A EV and DFS A EV NA – the safe way to charge your car

DFS A EV

Dangerous smooth DC residual currents can occur when charging electric vehicles. Doepke has developed the EV (electric vehicles) design of its DFS RCCB specifically for charging electric vehicles. These circuit-breakers are VDE-certified to IEC 62955, detect smooth DC residual currents and trip at 6 mA DC. By using this product, you can prevent the summation current transformer's core from becoming pre-magnetised (a phenomenon known as "blinding"). Not only does this protect the RCDs being used at this point, but also any upstream Type A and Type F RCDs.

- trips at max. 6 mA DC
- type A certified according to IEC 62955
- maintains the protective function of existing residual current devices

DFS A EV NA

The DFS 4 A EV NA provides reliable protection for electric vehicle charging equipment. This RCCB not only monitors the charging device, but also the external emergency stop circuit. In the event of danger, one or even several charging points can be switched off centrally at the push of a button. This ensures additional safety in public areas, for example.

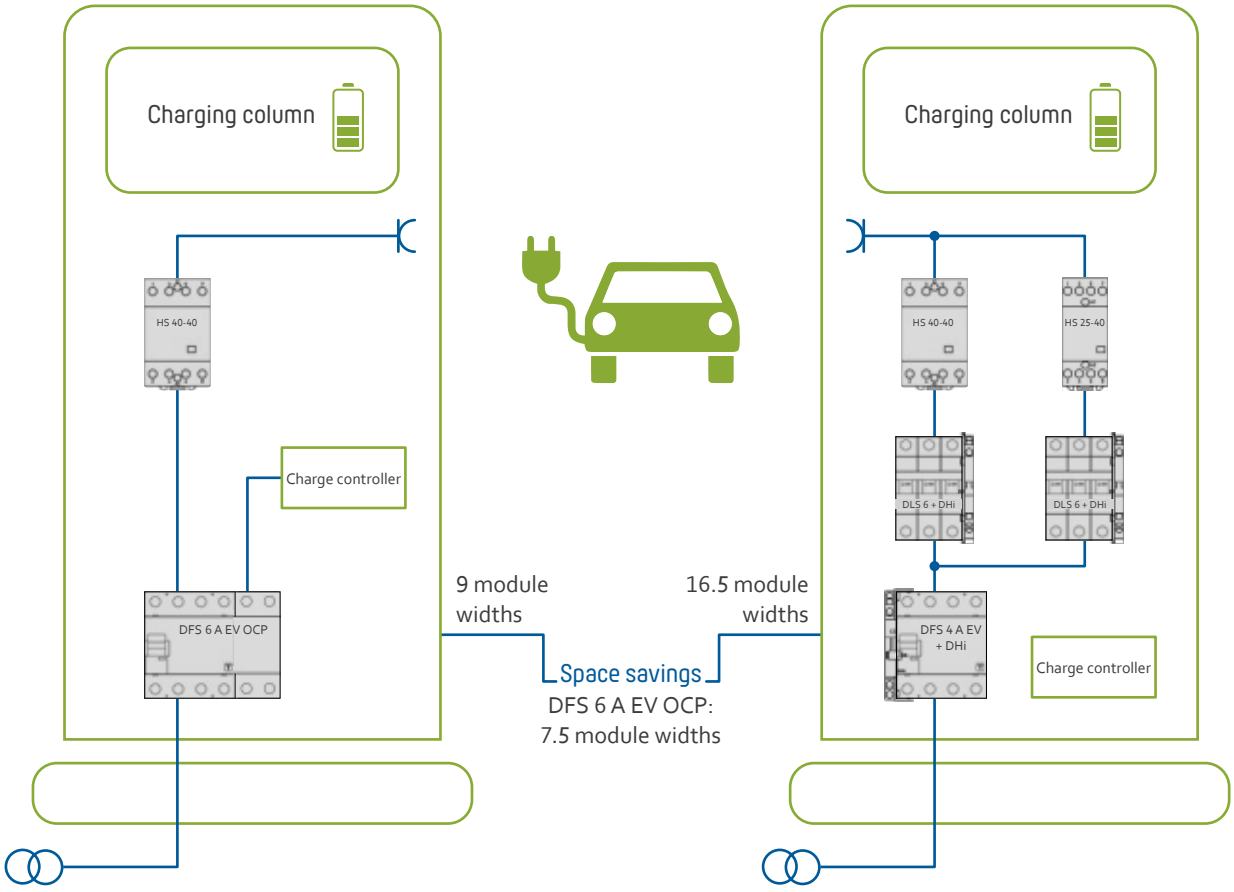
- optimised for wall boxes and charging columns
- DC detection from 6 mA and emergency stop function in one unit
- emergency stop circuit secure against wire breakage
- integrated auxiliary switch for remote signalling
- standard-compliant all-round protection, including to IEC 62955

DFS 6 A EV OCP HD

DFS 6 A EV OCP HD — Doepke now also offers an OCP (overcurrent protection) version of its residual current protection technology for use in electric vehicle charging equipment. In a compact design, the DFS 6 A EV OCP HD manages to combine the advantages of the DFS 4 A EV – which trips at 6 mA DC and is certified to the IEC 62955 product standard – with a temperature-independent switchable overcurrent release. By saving on miniature circuit-breakers and contactors, up to 7.5 module widths of space can be saved.

- selectable charging to 16 A or 32 A
- RDC-PD with integrated temperature-independent overcurrent release
- significant space savings

Innovation for the charging column



Power supply with short-circuit back-up fuse

Power supply with short-circuit back-up fuse

ISΩ HD
– test-proof residual current protection

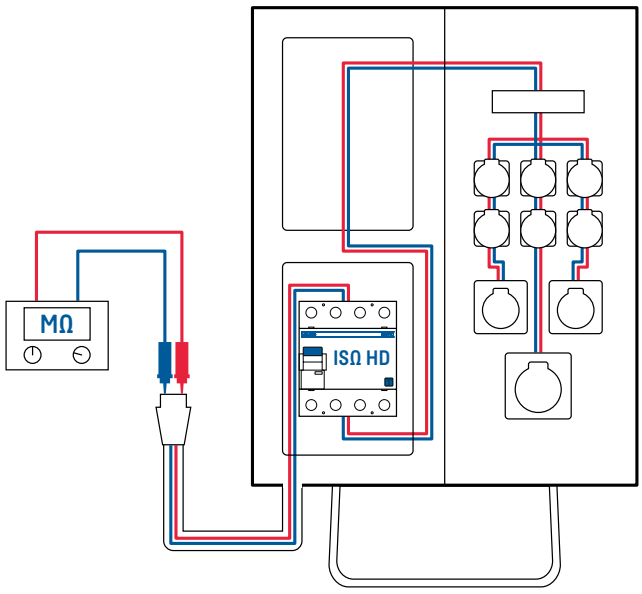
Insulation measurement without disconnecting

The repeated insulation measurements for electrical installations required by DIN VDE 0100-600 are often laborious. AC-DC sensitive residual current circuit-breakers usually have to be disconnected beforehand; otherwise, the insulation test will give a false reading.

However, with its new ISΩ HD design, Doepke now offers test-proof AC-DC sensitive residual current circuit-breakers so that the insulation can be checked without prior disconnection. Type B Doepke residual current circuit-breakers in the ISΩ HD design can handle nominal currents of up to 63 A and rated residual currents of up to 500 mA.

- saves a lot of time during insulation tests
- no mechanical stress due to repeated disconnection
- no false readings due to the internal electronics

New!
With the ISΩ HD, you no longer need to disconnect.



With power disconnected, the DFS ISΩ HD is closed, allowing the test voltage to be applied to the installation during insulation measurement.

Selection tool app – find the right RCCB immediately

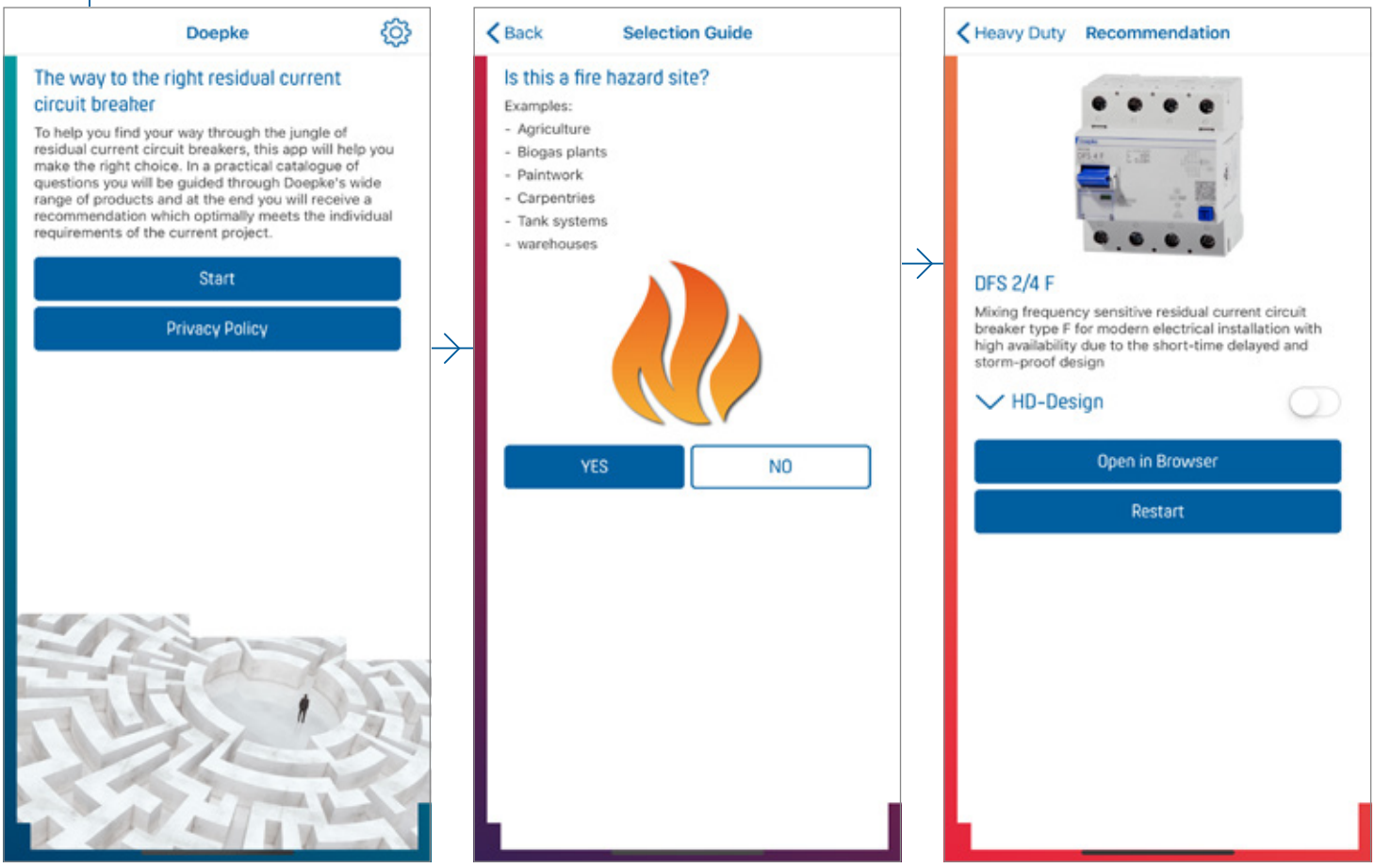
Go directly to the correct solution — There are RCCBs for all sorts of applications. It is not particularly easy to navigate your way around them and choose the right model for your needs. This app guides you through the extensive product range, taking you straight to the correct RCCB for your individual needs in just a few clicks.

- practical questionnaire
- find the right solution in just a few clicks
- free for iOS and Android

Download here

Android

iOS



PREMIUM MARKEN Partner

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