

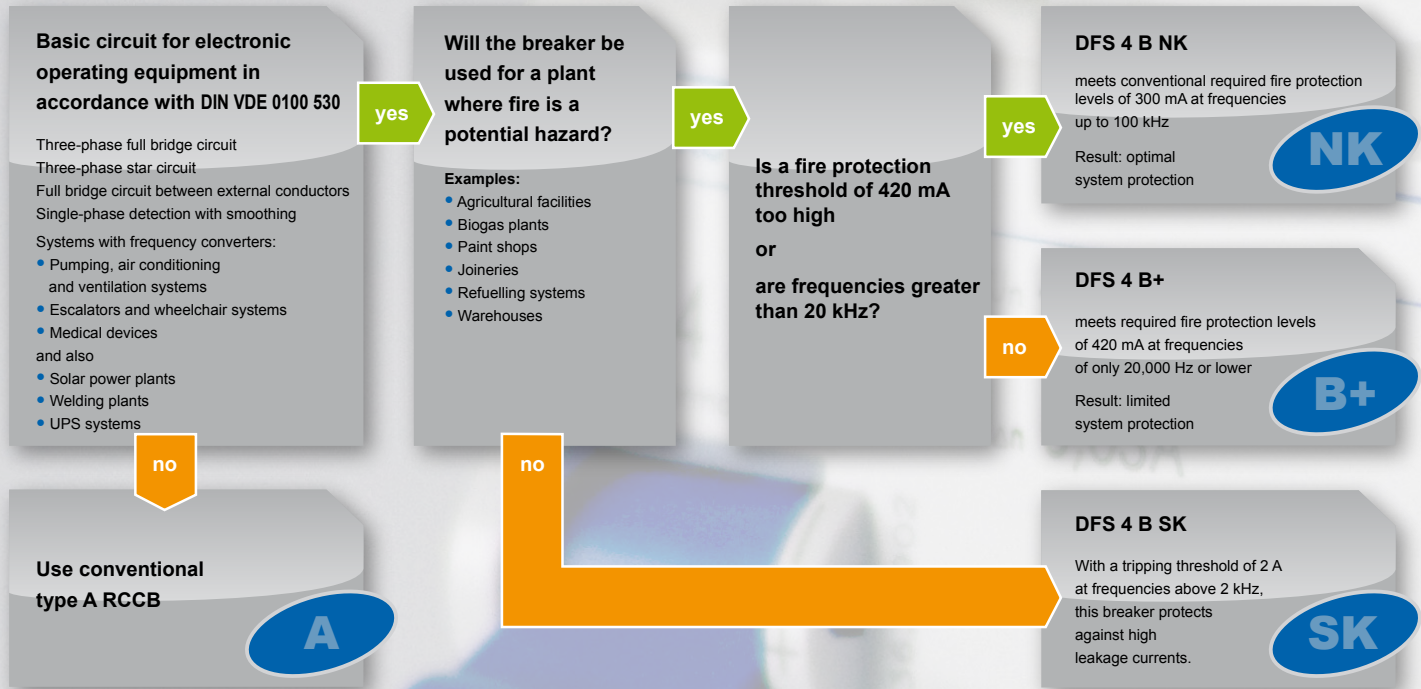
Residual current analysis system DRCA 1



- » Measurement of leakage and residual currents
- » Current and frequency analysis
- » Long-term measurement
- » Analysis



Guidelines for the selection of AC-DC sensitive RCDs



Sporadic tripping of RCDs

The DRCA 1 (Doepke Residual Current Analyzer) measurement system can be used to take reliable measurements of leakage and residual currents. This measurement system is able to measure and give a detailed analysis of residual currents.

The initial idea for a residual current analyser arose from a constantly recurring problem: AC-DC sensitive

RCDs (Residual Current Devices) tripped even when there was no apparent residual current. The ever increasing use of frequency converters with filter technology often generates high leakage currents, mostly falling within the pulse frequencies of these devices. An RCD treats leakage and residual currents in the same way, causing it to trip when residual current is correspondingly high. The DRCA 1 can

be used to analyse residual currents and monitor their effect on type B RCDs in a targeted way.

The measurement system consists of three components: A transformer is electrically installed in the distribution board requiring analysis, at the point where the residual current circuit-breaker is located, in order to ensure that the relevant currents are measured.

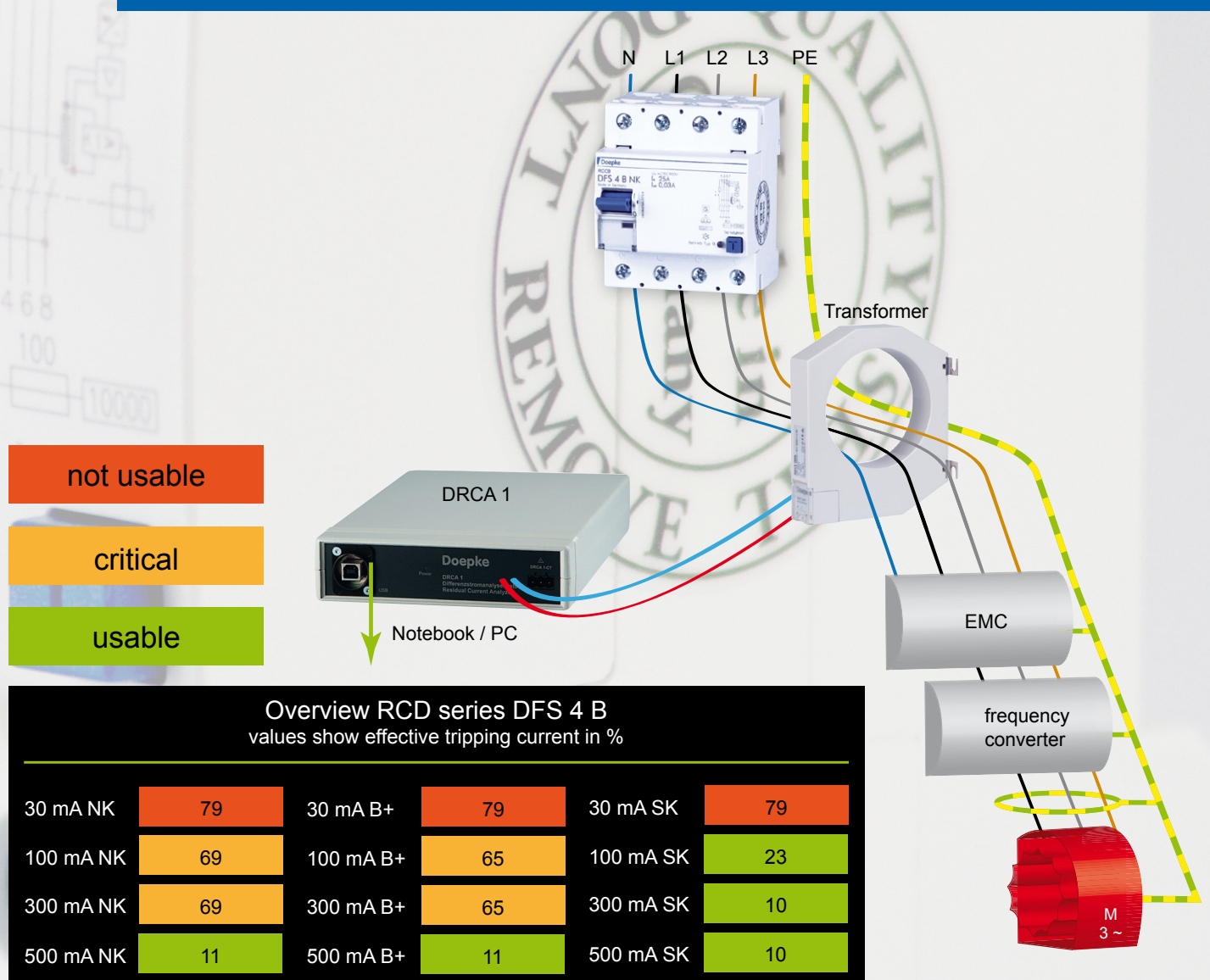
Installation of analysis software

The transformer is connected to an external measurement unit, which in turn is connected via USB to a PC or notebook. The actual analysis software is installed on a computer with a Windows operating system. A range of analysis functions for the DRCA 1 are available.

Alternating currents with amplitudes up to 10 A and frequencies from 10 Hz to 100 kHz are measured. There are several ways to analyse the signal: the signal's progression can be displayed, a frequency analysis can be carried out or an effective value diagram can be generated. Switching

processes can also be detected via a trigger menu. The integrated long-term measurement module is the perfect solution for sporadic problems with high leakage currents.

DRCA 1 wiring diagram



(similar to illustration)

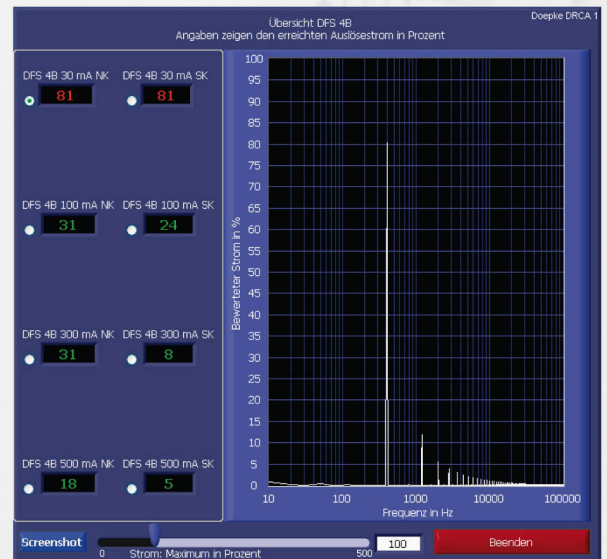
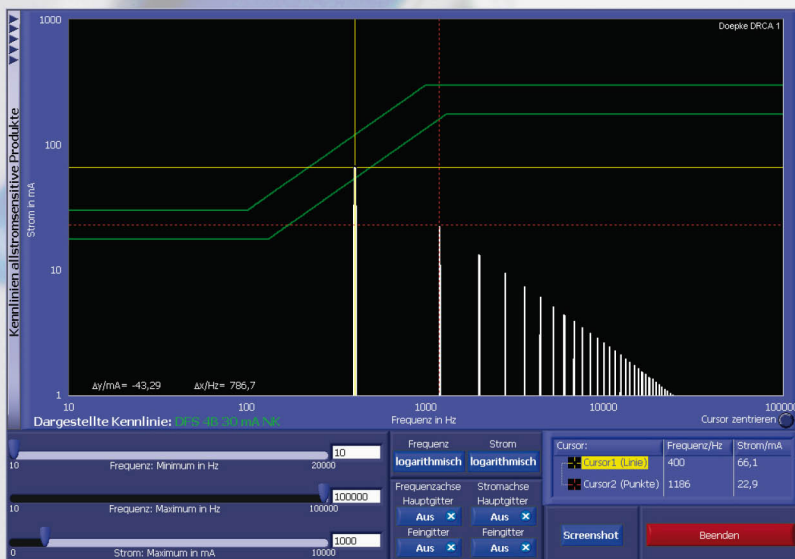
Selected products from the Doepke range

Default measurement functions can be set to a specified start time and then the results can be analysed in more detail later.

However, even after the current has been examined, the question of how it affects an RCD remains. Different tripping thresholds with increasing

frequencies make it difficult to draw an initial conclusion, but evaluating the analysis can provide information about the direct influence of the residual current on the RCD. Each RCD has a corresponding tripping characteristic curve which can be used to identify remaining reserves or any trips.

In short, the DRCA 1 measurement system provides complete residual current analysis, and is easy to use and also easy to install.



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DRCA-1-Set Item no. 09 352 050	Residual current analysis set including: measurement unit, winding type transformer, 70 mm internal diameter, 3 m measuring cable, analysis software and storage case
DRCA 1 Item no. 09 352 051	Residual current analysis system including analysis software
DRCA 1 CT Item no. 09 352 052	Measurement winding type transformer, 70 mm internal diameter
DRCA 1 MC Item no. 09 352 053	Measuring cable with plug connection, 3 m length
DRCA 1 SW Item no. 09 352 054	Residual current analysis software