DATA SHEET

DRCA 1

Measuring system for analysing discharge/residual currents

Article number 09352051

Internetlink

Function

Due to the increasing use of type B RCDs to protect systems with power electronics equipment (e.g. frequency converters) there are also increasingly more trips from these RCDs to monitor without being able to identify a fault in the system using conventional analysis processes. The cause of these faulty trips are usually residual currents in the form of capacitive leakage currents with frequencies that deviate from the mains frequency and that flow to the earth via real or parasitical capacitance (e.g. EMC capacitors or line capacitance). Depending on the type of electronic equipment, leakage currents may have very different frequency mixes. As these residual currents on the earth resistance of the electrical system also cause touch voltage, they must be detected by an RCD and effect a trip. Measuring systems of this class facilitate the analysis of residual currents and residual current mixes with frequencies that deviate from the mains frequency. The analysis results usually point to the cause of the leakage current, thereby providing information on measures of how to reduce it in order to use a Type B RCD without problems. Measuring devices of series DRCA offer multi-layered analysis tools for determining the source of residual currents and the selection of suitable RCDs. The DRCA 1 measuring unit analyses the measured values and prepares them for further processing on the PC connected to the unit via a standard USB port.

Features

suitable for detecting residual currents from 10 Hz to 100 kHz and an amplitude up to max. 10 A, immunity against DC residual currents up to 3 A with maximum -10% measurement deviation, robust, handy plastic tabletop housing, reverse polarity protected connection socket for measuring cable and USB cable, LED for displaying the operating status

Mounting

tabletop unit for setup on level surfaces

Applications

Measurement in commercial and industrial installations with TN-S and TN-C-S systems, where power electronics equipment is used without galvanic isolation from the mains, e.g. frequency converters, UPS equipment, switching power supplies or high-frequency converters.

Notes

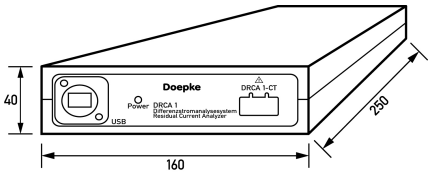
The measuring bushing transformer should be mounted in such a way that it measures within the immediate vicinity of the RCD in question.

Technical Data

Technical Data	DRCA 1
Series	DRCA 1
Measuring category	I
Attenuation above 100 kHz	40 db/Dekade
min. Sensor, measuring range, current	0 A
max. Sensor, measuring range, current	10 A
Operating system	Windows 2000 (SP3), Windows 2003, Windows 7, Windows XP
Languages	German
	Display Operation
Type	LED
General data description	General data
Duty cycle	continuous operation (Duty cycle ≤ 100 %)

Technical Data	DRCA 1
Operating position	any
max. Operating altitude above MSL	2000 m
Storage temperature	-20 °C ... 70 °C
Ambient temperature	0 °C ... 45 °C
Climate resistance	max. 90% rel. humidity, condensation not permitted
Housing type	Desktop housing
Mounting type	other
Housing material	Polycarbonate (PC)
Protection class	IP40
Width	160 mm
Depth	40 mm
Length	250 mm
Design requirements/Standards	EN 61010-1, VDE 0411 Teil 1
Degree of pollution according to EN 60664	2

Dimensions



Dimensional drawing Group view