

Operating Instructions RCD Measuring Adapter Plus

Measuring and test adapter for loop impedance measurement and fault tracing in electrical installations

Selective measurement in a series circuit of residual current devices (RCD)



RCD Measurement Adapter Plus from V0.3



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1. Application

The RCD measuring bridge is a useful measuring accessory for electricians in order to be able to quickly and efficiently carry out loop impedance measurements on systems with residual current devices (RCDs) in conjunction with a test device according to DIN EN 61557-3 (VDE 0413-3).

In addition, the RCD measuring bridge can also be used to carry out measurements on fault current devices (RCDs) selectively connected in series, such as construction site power distributors.

The RCD measuring bridge is suitable for tests according to VDE 0100 or VDE 0105 on installations of measurement category CAT III 300 V AC with fault or tripping currents of up to 4 A. The measurement category (CAT III 300V) is suitable for testing and measuring circuits that are connected to the distribution circuit of the building installation of the low-voltage grid installation.

2. Product supplement Warnings for the use of the RCD measuring bridge

In order to ensure a high level of safety for the user and the device when used as intended with the test fixture, it is necessary to take into account the following general warnings:



Warning on the product means: „For safe operation, read the Instruction manual particularly attentive“. The symbol requires an action!

- Read this instruction manual carefully, otherwise the use of the device could be dangerous for the operator, the device or the equipment to be tested!
- If the measuring adapter is used in any other way not specified in this manual, the protection provided by the device may be compromised.
- Before using the RCD measuring bridge, check the device for damage, including the two fuses. (Chapter 9: Replacing the fuses). Do not use the appliance if damage has been detected.
- Observe all commonly known precautions to avoid the risk of electric shock when handling dangerous voltage.
- In the corresponding test procedure (e.g. measuring the loop impedance), make sure that only the circuit to be tested is in operation, otherwise the protective device (high-performance fuse of type:T4 H 500 V (6.3 x 32 mm) may be activated in the event of an overload or the measurement result may be influenced.
- Before attaching and removing the RCD measuring bridge, observe the sequence described in the instructions for use (Chapter 7 Intended procedure).

3. Intended use

The product is intended only for the applications described in the user manual. For this purpose, special attention must be paid to the safety instructions and the technical data with the environmental conditions. Any other use is prohibited and may result in accidents or destruction of the device. These lead to an immediate expiry of any guarantee and warranty claims.

4. Safety features and safeguards

The test fixture is built and tested in accordance with the following safety regulations: DIN EN 61010-1 (VDE 0411-1):2020-03.

When used as intended, safety for the user and the device is guaranteed.

Read the operating instructions carefully and completely before using your device.

Pay attention to them in all respects.

5. Applications of the RCD bridge

- Assessing systems as per DIN VDE 0100-600 or VDE 0105-100
- When using RCDs type A, type B or type B+, type F or type EV (wall box) with threaded connection.
- For RCDs connected in series (e.g. building site power distribution box, test systems in training and continuing education facilities).
- Troubleshooting: leakage current measurement using a leakage current clamp meter.

6. Intended use of the RCD bridge

Measuring a 2pin. RCD / RCBO



Correct positioning of the RCD measuring bridge

Measuring a 4pol. RCD / RCBO



Correct positioning of two RCD measuring bridges

Measurements can be used to (RCDs) that are selective connected in series, e.g. on construction site power distributors.



Loop impedance measurement on a site power distributor with CEE 16 adapter



Loop impedance measurement on a sub-distribution with CEE 16 adapter, measured with a test device according to DIN EN 61557-3 (VDE0413-3), (can be used independently of the manufacturer)



RCD test adapter in the sub-distributor for loop impedance measurement

7. Proper procedure for 2-pin RCD/RCBO

7.1 Turn off the RCD to be measured. Through the use of the RCD measuring bridge becomes the circuit for the downstream loads, for the subsequent measurement.



Before measuring, refer to the technical data of the RCD measuring bridge. (e.g. Fuses of the RCD measuring bridge T4A H 500 V).

For measuring a 2-pin RCD / RCBO



Bild 7

7.2 Place the measuring adapter on the 2-pole. RCD/RCBO according to *Image 7*.

7.3 Make sure that the RCD measuring bridge is properly seated.

7.4 Take your measurements.

7.5 The RCD measuring bridge must be removed after completion of the measurement to ensure that no circuit fused with an RCD remains bridged.



7.6 A permanent stay in the mains voltage circuit is not permitted.

7.7 Turn on the RCD if it is necessary.

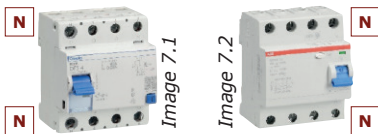
8. Proper procedure for 4-pin RCD/RCBO

8.1 Turn off the RCD to be measured. Through the use of the RCD measuring bridge becomes the circuit for the downstream loads, for the subsequent measurement.



Before measuring, refer to the technical data of the RCD measuring bridge. (e. g. Fuses of the RCD measuring bridge T4A H 500 V).

For measuring a 4-pin RCD / RCBO



8.2 Place the measuring adapter (Fig. 8-1) on the respective 4-pin. RCD/RCBO on (see *Image 7-1* or *Image 7-2*).

Please be sure to place the bridge on the N-conductor of the RCD first (see *Image 8-2*).



8.3 After that you can second RCD measuring bridge according to *Picture 8-3*. Or in reverse order, should the neutral wire be on the right.



8.4 Make sure that the RCD measuring bridge is properly seated.

8.5 Take your measurements.

8.6 Die RCD-Messbrücke ist nach Abschluss der Messung wieder zu entfernen, um sicher zu stellen, dass kein mit einem RCD abgesicherten Stromkreis überbrückt bleibt.

Dabei ist zu beachten:

Gehen Sie in umgekehrter Reihenfolge wie beim Aufsetzen der RCD-Messbrücke vor. Die RCD-Messbrücke, welche den Neutralleiter durchschleift, ist als letzte Brücke zu entfernen.

8.7 Ein dauerhafter Verbleib im Netzspannungskreis ist nicht erlaubt.



8.8 Schalten Sie den RCD bei Bedarf wieder ein.

9. Personal safety

Only operate the product in dry environments. Otherwise, there is a danger to life due to an electric shock!

In schools, training centres, hobby and DIY workshops, the handling of electrical equipment must be monitored by trained personnel.

Observe the information in the accident prevention regulations of the Association of Industrial Employers' Liability Insurance Associations for electrical installations and equipment (e.g. PPE - Personal Protective Equipment).

If you have reason to believe that safe operation is no longer guaranteed, remove the bridge and secure the system against unintentional operation.

10. Replacing fuses

If the function of the RCD measuring bridge is disturbed, check the two fuses with the help of the resistance measurement. If you notice that a fuse is defective, place the RCD measuring bridge on the front side. Open the two screws. Remove the lid.

Remove the defective fuse, e.g. with the help of a test probe, and replace it with a new one.

A high-performance fuse of the type: T4 H 500 V (6,3 x 32 mm).

If it is deemed necessary to use a different fuse with a higher load, please contact the manufacturer of the RCD measuring bridge.

Important when assembling:

Assemble the two housing parts in parallel and fasten the lid with the two screws.

11. Cleaning and care

Cleaning of the device is only permitted when it is de-energized.

The adapter is maintenance-free except for occasional cleaning by means of a dry, fiber-free cloth.

Under no circumstances should you use aggressive cleaning agents, rubbing alcohol or other chemical solutions, as this can attack the housing or even impair its function.

12. Content of delivery

- RCD measuring bridge with QR code for the operating instructions in German and English.
- A leaflet with warnings for using the RCD bridge.
- A folding box or, optionally, a case as an accessory serves as transport packaging.
- Further accessories optionally available. (see accessories)

13. Guarantee

The measuring adapter is subject to strict quality control. If, contrary to expectations, an error occurs, we grant a guarantee of 12 months (only valid with invoice).

Manufacturing or material defects will be remedied by us free of charge, provided that the device has a defect without external influence and is sent to our service unopened. Please contact our service by e-mail.

Damage caused by falling, incorrect handling or improper use is excluded from the warranty. After the warranty has expired, functional errors can be repaired by our service. In this case, the expense will be billed accordingly.

14. Disposal

Old appliances do not belong in the household waste! Waste electrical and electronic equipment contains valuable resources that can be recovered and reused in the recycling process. In addition, they also contain pollutants that must not be released into the environment under any circumstances.

The „crossed-out wheeled bin“ on your electrical and electronic equipment therefore indicates that old appliances must not be disposed of with household waste, but must be collected separately.



At the end of its service life, return the device to the Inomess take-back concept.

15. Equipment for RCD measuring adapter Plus

TWIST-case in black or TWIST-case in light grey



Inomess RCD test fixture set (8001000) Spezial (8002000)

- 2 x RCD-Messbrücke Plus (8002956)
- 1 x Cross connector for RCD-Messbrücke 4-pin (8000048)
- 1 x case (TWIST T9226) black oder light grey



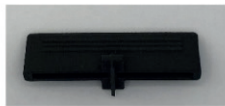
Inomess RCD test fixture set Spezial (8002000)

- 2 x RCD-Messbrücke Plus (8002956)
- 1 x Cross connector for RCD-Messbrücke 4-pin
- 1 x CEE 16A connector (800EVO16)
- 1 x case (TWIST T9226) black oder light grey



Optional: CEE 16A Adapter (800EVO16)

for testing at a CEE socket with 5 x 4mm safety socket



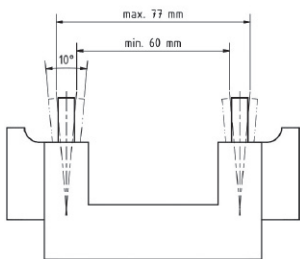
Optional: Cross connector 4-pin RCD measuring bridge (8000048)

for connecting two individual RCD measuring bridges to a 4-pole test adapter

16. Technical Data RCD Bridge Plus from V0.3

Scope of application	Power distribution in the building
Heavy-duty fuse	6,3 mm x 32 mm T4 H 500 V
Connections	4 x flat holding magnet connections
Measurement category	CAT III 300 V
Special feature of the plug-in	Magnetic catch
Rated voltage	100 V – 400 V
Product type	Measuring accessories

Controls/dimensioning:



RCD measuring bridge Plus V0.3 with higher protection against accidental contact



CEO:
Thomas Mitzel, Klaus Kunzmann
Kißlichstraße 16 · 75056 Sulzfeld

www.die-rcd-bruecke.de · info@die-rcd-bruecke.de

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