

EASY
transfer



PROFITEST | **MASTER**
INSTALLATION | TESTER



The new PROFITEST MASTER test instrument provides professional electricians with a state-of-the-art, universal measuring tool.

The instrument is capable of executing all tests for the effectiveness of safety measures in electrical systems as specified in VDE 0100, part 600, and other country-specific standards, as well as in individual sections of VDE 0413. Consequently, it's ideally suited for approvals and periodic testing of stationary electrical installations. Thanks to measuring category CAT IV, the PROFITEST MASTER provides the user with highest possible safety levels.

Whether it's used in private, commercial or industrial objects – the PROFITEST MASTER assures the user that his installation complies with all applicable regulations, and that it functions reliably. And, of course, test results for up to 50,000 measuring points can be transferred to a PC and documented in detail as substantiation of correct installation.

In actual practice, the PROFITEST MASTER is distinguished by extremely easy operation and a broad ranging spectrum of tests: its advanced technical concept is consistently aligned to electrical engineering tasks encountered on a daily basis. In addition to basic standard tests, the instrument also offers numerous additional measuring and test functions for subjecting installations to the acid test, which provide highly accurate results.

A special advantage of the PROFITEST MASTER is its intelligent, ergonomic design. Control is simple and safe, and data can be conveniently read from the large illuminated display. An extensive range of accessories offers the right connection options for every task.

The PROFITEST MASTER is setting new standards where time savings, safety and convenience are concerned: a combination of innovative design and an ergonomic operating concept make it the ideal companion for any electrician.

Outstanding Features

- CAT IV
- DAKkS calibration certificate
- Bidirectional data exchange via USB / Bluetooth (MXTRA) and to DDS-CAD
- Connection of an RFID or barcode scanner with supply power
- AMC – automatic measurement cable compensation using 4-wire method
- All measurements per VDE 0100, part 600 / IEC 60364-6 / EN 61557 plus:
 - ➔ Voltage drop measurement
 - ➔ Insulation measurement with rising voltage
 - ➔ Leakage current measurement with external current clamp or adapter
 - ➔ Highly accurate Z_s measurement with 0.001 Ω resolution without tripping the RCCB
 - ➔ RCCB test with continuously rising, intelligent ramp
 - ➔ Testing of RCD types A, AC, B, B+, F, G/R, SRCD and PRCD, testing of IMDs and RCMs
 - ➔ Mains or battery powered measurement of soil resistivity R_E
 - ➔ Residual voltage test per EN60204-1
- 1 mA varistor response test with insulation measuring voltage up to 1000 V
- 2-pole measurements with plug insert or interchangeable 2/3-pole adapter
- Including ETC software (Electrical Testing Center)

The PROFITEST evaluates measurement results automatically!



International Use



Thanks to diverse connection options and selectable language combinations, the PROFITEST MASTER can be used anywhere in the world.

For Use Around the World

With its five interchangeable plug inserts, the PROFITEST can be connected to all European electrical outlets, and many others as well. The 2/3-pole adapter, included as standard equipment, offers additional adaptation options. Testing in accordance with the following international regulations is of course possible with the instrument:

- IEC 60 364-6
- CEI 64-8
- ÖVE ÖNORM 8001-6
- NIV/NIN
- ČSN 33 2000-6
- NEN1010 - 6 Hoofdstuk 61
- VDE 0100, part 600

Command of Numerous Languages

Display and user interface language are variable, making it possible for local employees to use the device during foreign service calls.



Regardless of the selected language:

The PROFITEST MASTER evaluates measurement results automatically!



Working Efficiently

Easy Handling – Quick Entry

The PROFITEST MASTER product range allows for data entry via the RS 232 port with the help of a barcode or RFID reader. This unique function assures maximum operating convenience for creating and expanding tree structures (customers, buildings, distributors etc.), searching for designations or IDs, navigating through various modes, creating test texts, inspection and trial tests, creating defects lists and much more. Data processing, measurement and visual inspection can be executed immediately without reconfiguring plugs or switches – the basis for meaningful documentation.

Barcodeliste (001 / Kindergarten Zauberschloss, Bergische Gasse 5, 52066 Aachen)

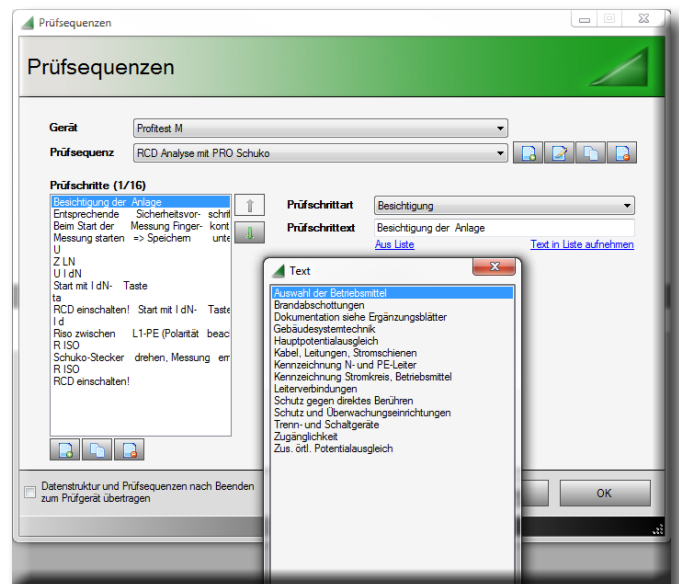
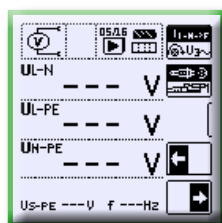


Nr	Art	Identnummer	Objekt	Text	Barcode
00001	Verteiler	A001	Kindergarten Zauberschloss, Bergische Gasse 5, 52066 Aachen - Sicherkeitssteckdose	UV-Erdgeschoss -	
		A003			
		A004			



Automated Test Sequences

Automated test sequences can be generated from manually created individual measurements with the help of the test sequence function. A test sequence consists of individual steps, measurements, visual inspections etc., which are executed one after the other. Measurement results obtained in this way are saved correctly to the freely selectable tree structure and can be subsequently documented by means of appropriate software. Test sequences are created with the help of ETC software and are transferred to the respective test instrument (PROFITEST MxTRA and MPRO).





High performance features provided by PROFITEST MASTER test instruments can be fully exploited with ETC professional user software (Electric Testing Center). It was specially developed to increase measuring efficiency and to enhance user convenience.



ETC offers a wide variety of support options for data acquisition and management, as well as for controlling test sequences.

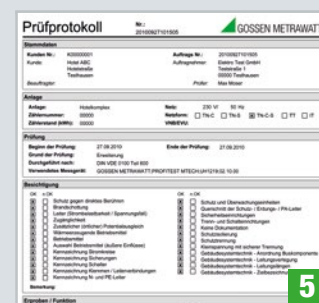
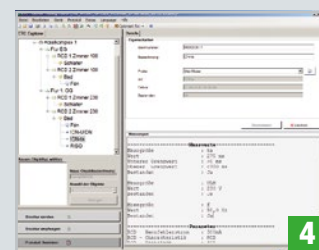
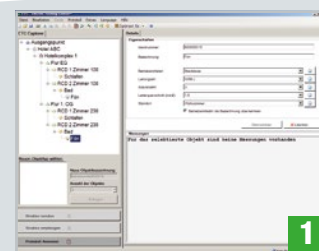
- The software acquires all important data for reports in accordance with DIN VDE 0100, part 600, DIN VDE 0701-0702, DIN VDE 0751 and IEC 62353.
- Test reports (ZVEH) can be generated automatically.
- Distribution structures with electrical circuit and RCD data can be individually defined.
- Created structures can be saved to memory and uploaded as required.
- PROFITEST MASTER and PC software can exchange data bidirectionally via USB port.
- Data can be exported to Excel, CSV and XML.
- Multilingual user interface: D, GB, I, NL, F, CZ, E, P, S, N, FIN, PL

PC and Test Instrument: Dialog for Secure Data

ETC supports seamless communication between the PROFITEST MASTER and a PC. Bidirectional data exchange via USB provides the user with direct access to quick measurements. The PROFITEST MASTER is capable of processing individualized test structures which have been created beforehand with ETC at a PC **1**. After data transfer, the structures are displayed one-to-one at the test instrument **2**. Each structure can be made up of any desired combination of objects: number and type of customers, buildings, distributors, electrical circuits and RCDs can be freely selected. After measurement has been completed **3**, the results can be transferred back to the PC **4**. A test report can be generated automatically using these data **5**.

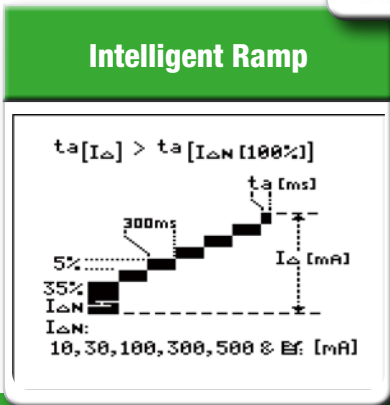
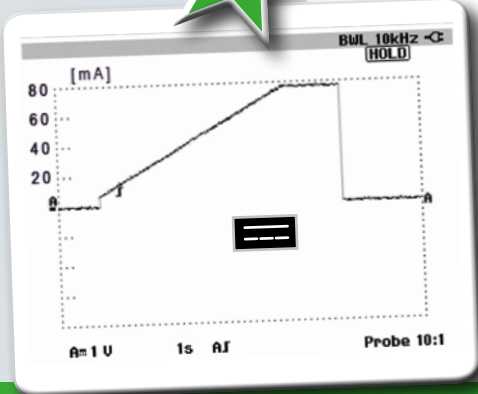
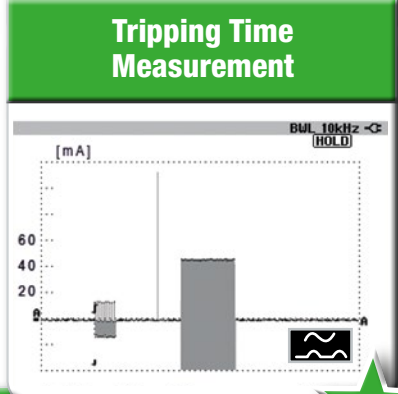
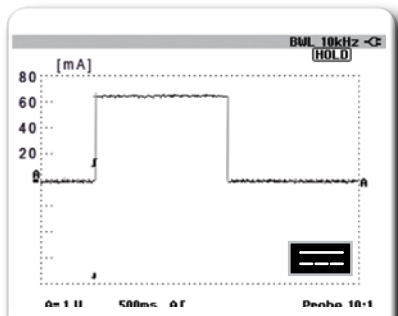
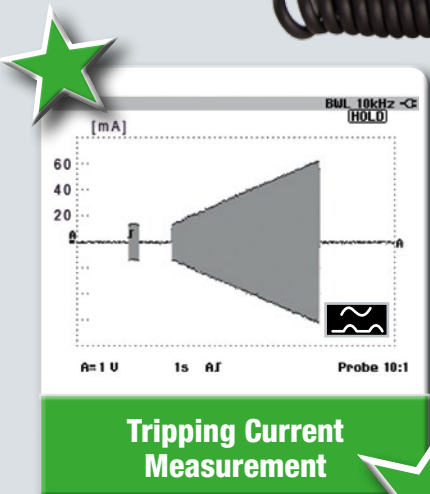
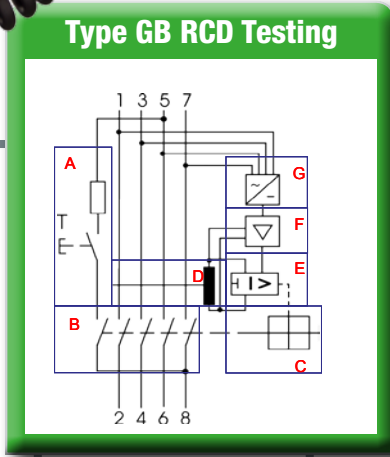


EASY transfer stands for direct incorporation of the PROFITEST MASTER into DDS-CAD planning software.



RCD Testing in Compliance with the Standards

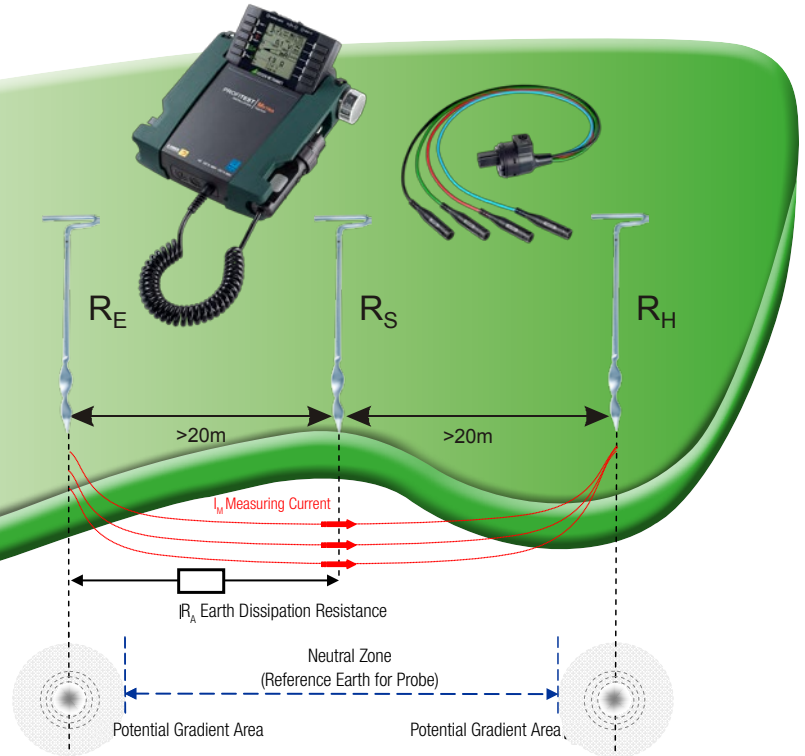
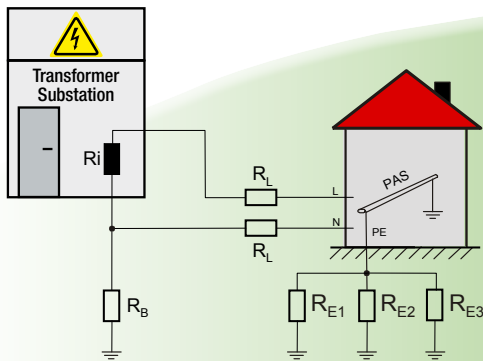
PROFITEST MASTER: RCCB / RCD types: A, AC, B, B+, F, SRCD, PRCD-S and PRCD-K
 PROFITEST MxTRA: All of the Above Plus IMDs and RCMs



Professional Earth Measurement – Fast and Accurate



Earth resistance R_E is an important characteristic value for the evaluation of the safety of electrical systems. As a multi-talented measuring instrument, the PROFITEST MASTER allows for reliable determination of earth resistance in an especially simple, accurate and quick fashion!



Amongst others, buried earth electrodes (earth rods), earth strips (foundation earth electrodes), mesh earth electrodes, ground plates and hemispherical earth electrodes are used in applications for protective, lightning protection, functional and operational earthing.

All applications can be tested with the PROFITEST Master product range by means of the following measuring methods:

Battery powered measuring methods:

- 3 and 4-pole measuring methods
- 4-pole measuring method, selective with current clamp sensor
- Loop resistance measurement with 2 clamps (without probe and auxiliary earth electrode)
- Soil resistivity ρ_E – measurement according to the “Wenner method”

Mains powered measuring methods:

(interference protected, also possible downstream from the RCD)

- Direct measurement of earthing resistance with probe
- Direct measurement of earthing resistance without probe
- Selective earthing resistance with current clamp sensor



Testing Machines per EN 60204 – DIN VDE 413

Machines manufactured in accordance with EN 60204 can also be subjected to periodic testing and re-testing with the PROFITEST Mxtra.

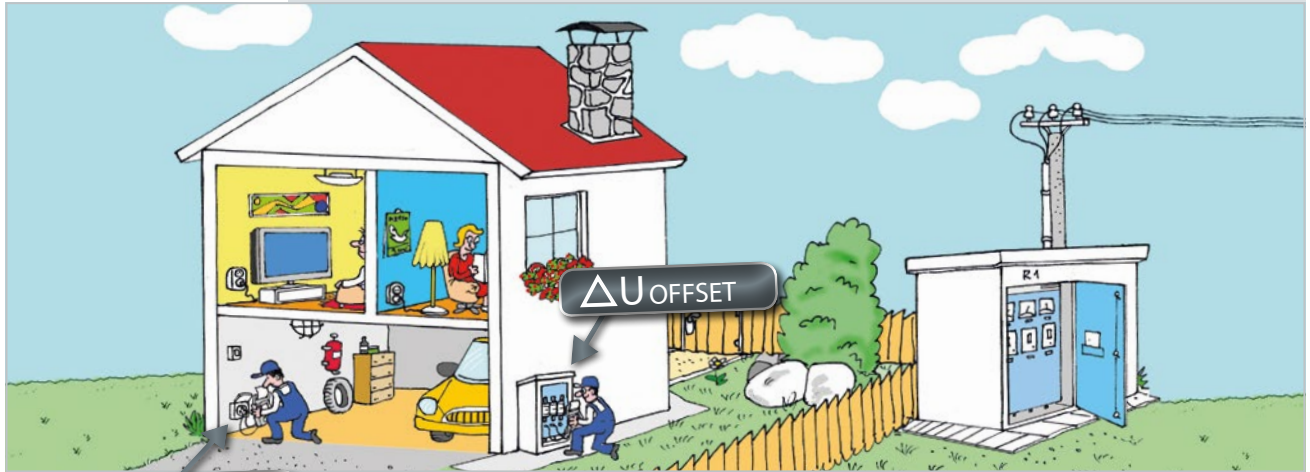
EN 60204 places special significance on testing the continuity of the protective conductor, as well as on checking fault loop impedance and the suitability of the associated overcurrent protective device.

	PROFITEST Mxtra
First test	$I_{meas} = 0.2 \dots 10A$
Second test	ZL-PE / RCD
Protection against residual voltage	e.g. 230V \Rightarrow 5 sec. \Rightarrow 60V

IEC 60364.6
VDE 0100, part 600

Internal System Resistance and Voltage Drop

The condition and quality of electrical systems, cables, wiring, terminals etc. can be evaluated with the PROFITEST MASTER by means of precise calculation of voltage drop.

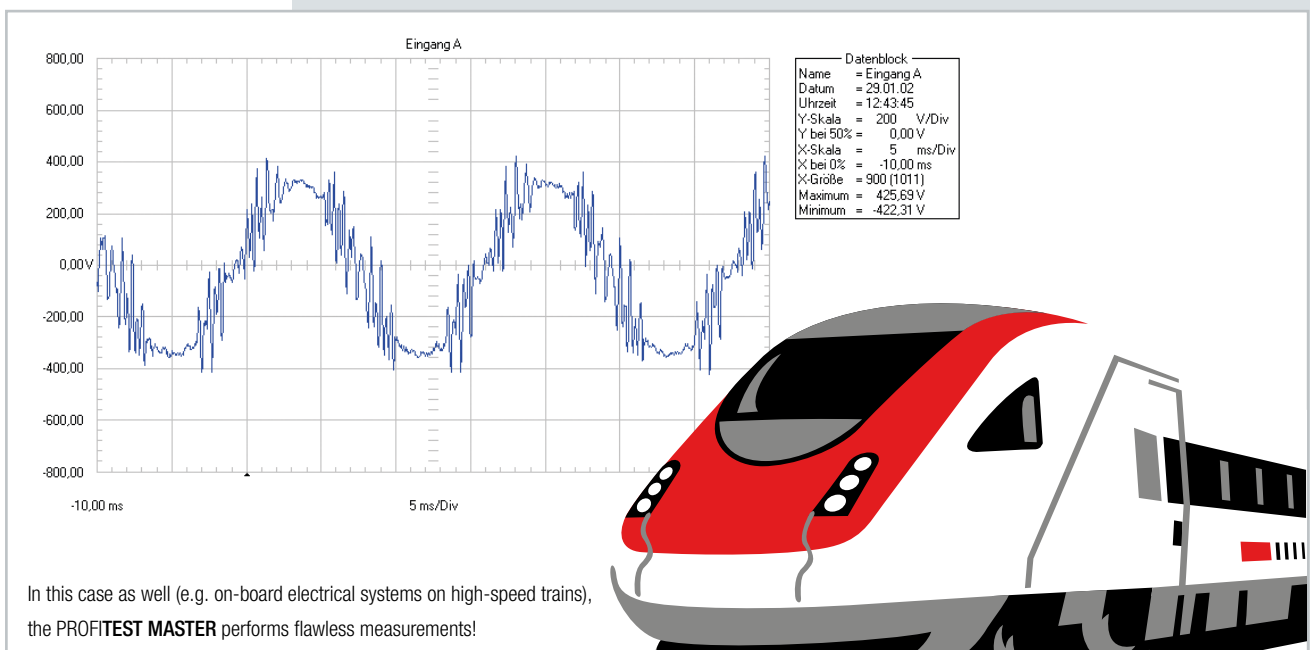


ΔU_{TOTAL}

As a result, this measuring function contributes to reliable operation of the electrical system (fire protection). The PROFITEST MASTER obtains data required for calculation during measurement of internal system impedance and via manual input: $Z_{L-N} (Z_I)$, U_N , I_N .

Large Voltage and Frequency Ranges

A broad-range measuring device allows for use of the test instrument in all alternating and 3-phase electrical systems with voltages from 65 to 550 V and frequencies of 15.4 to 420 Hz.



In this case as well (e.g. on-board electrical systems on high-speed trains), the PROFITEST MASTER performs flawless measurements!



All Functions at a Glance



PROFITEST ...	Mbase	Mpro	Mtech	Mxtra
Article number	M520M	M520N	M520O	M520P
Testing of residual current devices (RCDs)				
U_B measurement without tripping the RCD	✓	✓	✓	✓
Tripping time measurement	✓	✓	✓	✓
Measurement of tripping current I_E	✓	✓	✓	✓
Selective, SRCDs, PRCDs, type G/R	✓	✓	✓	✓
AC/DC sensitive RCDs, types B and B+	—	—	✓	✓
Testing of insulation monitoring devices (IMDs)	—	—	—	✓
Testing of residual current monitoring devices (RCMs)	—	—	—	✓
Testing for N-PE reversal	✓	✓	✓	✓
Measurement of loop impedance Z_{L-PE} / Z_{L-N}				
Fuse table for systems without RCDs	✓	✓	✓	✓
Without tripping the RCD, fuse table	—	—	✓	✓
With 15 mA test current* without tripping the RCD	✓	✓	✓	✓
Earthing resistance R_E (mains operation)				
I-U measuring method (2/3-wire measuring method via measuring adapter: 2-wire/2-wire + probe)	✓	✓	✓	✓
Earthing resistance R_E (battery operation)				
3 or 4-wire measuring method via PRO-RE adapter	—	✓	—	✓
Soil resistivity ρ_E (battery operation)				
(4-wire measuring method via PRO-RE adapter)	—	✓	—	✓
Selective earthing resistance R_E (mains operation)				
with 2-pole adapter, probe, earth electrode and current clamp sensor (3-wire measuring method)	✓	✓	✓	✓
Selective earthing resistance R_E (battery operation)				
with probe, earth electrode and current clamp sensor (4-wire measuring method via PRO-RE adapter and current clamp sensor)	—	✓	—	✓
Earth loop resistance R_{ELOOP} (battery operation)				
with 2 clamps (current clamp sensor direct and current clamp transformer via PRO-RE/2 adapter)	—	✓	—	✓
Measurement of equipotential bonding R_{L0}				
Automatic polarity reversal	✓	✓	✓	✓
Insulation resistance R_{ISO}				
Variable or rising test voltage (ramp)	✓	✓	✓	✓
Voltage $U_{L-N} / U_{L-PE} / U_{N-PE} / f$				
✓	✓	✓	✓	✓
Special measurements				
Leakage current (clamp measurement) I_L, I_{AMP}	✓	✓	✓	✓
Phase sequence	✓	✓	✓	✓
Earth leakage resistance $R_{E(ISO)}$	✓	✓	✓	✓
Voltage drop	✓	✓	✓	✓
Standing-surface insulation Z_{ST}	✓	✓	✓	✓
Meter start-up	✓	✓	✓	✓
Leakage current with PRO-AB adapter	—	—	—	✓
Residual voltage test	—	—	—	✓
Intelligent ramp	—	—	—	✓
Features				
Selectable user interface language	✓	✓	✓	✓
Memory (database for up to 50,000 objects)	✓	✓	✓	✓
Automatic test sequence function	—	✓	—	✓
RS 232 port for RFID/barcode scanner	✓	✓	✓	✓
USB port for data transmission	✓	✓	✓	✓
Interface for <i>Bluetooth</i> ®	—	—	—	✓
ETC user software for PC	✓	✓	✓	✓
Measuring category: CAT III 600 V / CAT IV 300 V	✓	✓	✓	✓
DAkks calibration certificate	✓	✓	✓	✓



Measurement can be conveniently performed with the 2-pole adapter when testing RCDs and measuring loop resistance. It's not necessary to contact all three poles (L, N, PE).



Measurements can be started with either the soft-key on the top of the instrument or the start key on the test plug.



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DAkks
Kalibrierdienst

CF357
D-K-
15080-01-01
2012-08



E-CHECK
Partner-Unternehmen



Sets

The right test instrument set for every application.

Applications

- BASE starter package - Training at schools and electrical trades
- TECH starter package - Electrical trades, service
- TECH master package - Electrical trades, industry
- E-CHECK set - E-Brand partner companies
- XTRA starter package - Electrical trades, service
- XTRA master package - Industry, mining, photovoltaics, wind power turbines
- XTRA MEDpackage - Facility management, hospitals
- XTRA profi-package - Technical relief organizations, fire departments, power utilities, lightning protection



Testing Packages		BASE Starter Package	TECH Starter Package	TECH Master Package	E-CHECK set	XTRA Starter Package	XTRA Master Package	XTRA MEDpackage	XTRA Profi-package
	Article	M500M	M500N	M500P	M500U	M500V	M500W	M500X	M500Y

Accessories									
PROFITEST MBASE	M520M	■							
PROFITEST MTECH	M5200		■	■	■				
PROFITEST MXTRA	M520P					■	■	■	■
Earth spike SP350	GTZ3304000R0001	—	—	■	—	—	—	—	—
TR50 drum	GTY1040014E34	—	—	■	—	—	—	—	—
VARIO plug adapter set	Z500A	■	■	■	■	■	■	■	■
PRO-RLO II adapter	Z501P	—	—	■	—	—	■	■	—
PRO-AB leakage current measuring adapter	Z502S	—	—	—	—	—	—	■	—
E-Clip 2 generator clamp for earthing measurements	Z591B	—	—	—	—	—	—	—	■
Z3512A clamp for earthing measurements	Z225A	—	—	—	—	—	—	—	■
PRO-RE 2 measuring adapter for 2-clamp measuring method	Z502T	—	—	—	—	—	—	—	■
F2000 universal carrying pouch	Z700D	■	■	—	—	■	—	—	—
Professional case	Z502W	—	—	■	—	—	■	■	■
E-CHECK case	Z502M	—	—	—	■	—	—	—	—
Rechargeable battery pack	Z502H	■	■	■	■	■	■	■	■
Charger	Z502P/R	■	■	■	■	■	■	■	■



RFID Scanner



Barcode Scanner & Profiscan ETC



PRO-RLO II Adapter



VARIO Plug Adapter Set



Battery Set & Charger



Earth Spike & Drum



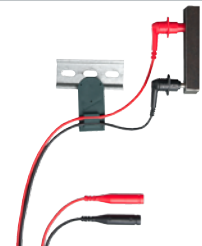
1081 Probe



TR50 Drum with Measurement Cable



Magnetic Test Probe



AC Current Sensor Clamp



Current Clamp Sensor for Leakage Current



Cases & Carrying Pouches



PRO-AB Leakage Current Measuring Adapter for MXTRA



METRAFLEX P300





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