

# PROFiTEST<sup>®</sup> 0100S-II

## Test Instrument for DIN VDE 0100

3-348-888-03  
13/10.06

### Testing of Residual-Current Protective Devices (RCCBs)

- Measurement of contact voltage without tripping the RCCB  
Contact voltage with reference to nominal residual current is measured with 1/3 of nominal residual current.
- Trip test with nominal residual current, measurement of time to trip

### Special Testing for Systems and RCCBs

- Testing of systems and RCCBs with rising residual current and display of trip current, as well as contact voltage at the moment tripping occurs
- Testing of RCCBs (10 and 30 mA) with  $5 \cdot I_{\Delta N}$
- Testing of RCCBs which are suitable for pulsating DC fault current, testing is conducted with positive or negative half-waves
- Testing of RCCBs with adjustable residual current for the determination of contact voltage and trip current

### Testing of Special RCCBs

- Selective **S**, SRCDs, PRCDs (Schukomat, Sidos etc.), type G

### Testing of RCD Protection in IT Systems



QUALITY MANAGEMENT SYSTEM



DQS certified per  
DIN EN ISO 9001:2000  
Reg. No.1262

### Large Voltage and Frequency Range

An extended-range measuring system allows for use of the test instrument for all AC and three-phase systems with voltages ranging from 65 to 500 V, and frequencies from 15.4 to 420 Hz.

### Loop and System Impedance Measurement

Measurement of loop and system impedance can be performed within a range of 65 to 550 V. Conversion to short-circuit current is based upon respective line voltage, as long as the measured line voltage is within the prescribed range. Short-circuit current is calculated from actual line voltage and measured impedance for line voltages outside of this range.

With a test current of 15 mA the loop impedance can also be determined after RCCBs with a nominal residual current of at least 30 mA without the RCCB being tripped.

### Insulation Resistance Measurement with Nominal Voltage and Variable or Rising Test Voltage

Insulation resistance is usually measured with the nominal voltages 500 V, 250 V or 100 V. For measurements at sensitive components, as well as within systems with voltage limiting devices, 22 different test voltages ranging from 20 to 500 V can be selected, which deviate from, and are generally lower than nominal voltage. Measurements can be performed with continuously rising voltage for the detection of weak points in insulation, as well as for the determination of response voltages for voltage limiting devices.

Voltage at the device under test, any detected response or breakdown voltage, as well as insulation resistance appear at the instrument's display, and an LED indicates violation of an (adjustable) limit value.

### Low-Resistance Measurements

Bonding conductor resistance and protective conductor resistance can be measured with a measuring current of  $\geq 200$  mA DC, automatic measuring voltage polarity reversal and selectable conduction direction. Violation of an (adjustable) limit value is signaled with an LED.

### Standing-Surface Insulation Measurement

Measurement of standing-surface insulation is performed with actual line frequency and line voltage.

### Universal Connector System

The interchangeable plug inserts and the plug-on 2-pole adapter (can be expanded to a 3-pole adapter for phase sequence measurements) allow for use of the test instrument all over the world.

### Special Features

- Display of allowable fuse types for electrical systems
- Start-up testing for energy consumption meters
- Calculation of cable lengths for common copper conductor cross-sections
- Measurement of biasing, leakage and circulating current up to 1 A, as well as working current to 150 A with the Clip 0100S accessory clip-on current sensor
- Phase sequence measurement (phase sequence, highest line-to-line voltage)
- Temperature and humidity measurement with adapter Z541A as accessory equipment

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### Display

The LCD field consists of a backlit dot matrix at which menus, possible settings, measurement results, tables, tips and error messages, as well as wiring diagrams are displayed.

### Selectable Language

An appropriate language can be selected for the country in which the test instrument is used.

Several instrument versions are available which include various language combinations.

### Operation

The instrument is very easy to operate with its rotary function selector switch and 5 keys. Two of the keys located at the instrument have the same functions as the keys at the test plug, which allows for convenient measuring at difficult to access locations. Wiring diagrams and online help can be displayed at the LCD for all basic functions and sub-functions.

### Phase Tester

Protective conductor potential is tested by contacting the contact surface with the contact finger. If a potential difference of greater than 100 V is detected between the contact surface and the protective contact at the earthing contact plug, the PE signal lamp lights up.

### Signal Lamps

Faults within the system are recognized automatically by the instrument, and are indicated by means of four lamps.

### Battery or Rechargeable Battery Test and Self-Test

The battery test is performed under load. The results are displayed both numerically and with a symbol. Test patterns can be queried one after the other during the self-test, and LEDs and relays can be tested as well. The instrument is shut down automatically if the batteries are depleted. The instrument includes an integrated charge control circuit for reliable charging of NiMH or NiCd batteries.

### Data Interface

Data are transmitted to the PROFiTEST<sup>®</sup>PSI-E/BC accessory module (optional) via the integrated IRDA interface, which provides for three advantages:

- Immediate print-out of all measurement data to recording chart paper
- Storage of all data to memory for later processing
- Transmission of stored data to a PC for archiving, or for the preparation of reports

### Software Updates

The test instrument will always be up to date, because its software can be updated via the IRDA interface. Software updates can be performed within the framework of instrument re-calibration by our service department, or by the user.

### Standard Equipment

- 1 PROFiTEST<sup>®</sup>0100S-II test instrument
- 1 insert for earthing contact plug (PRO-Schuko)
- 1 two-pole measuring adapter
- 1 cable for expansion to three-pole adapter
- 2 alligator clips
- 1 carrying strap
- 1 set batteries
- 1 operating instructions
- 1 PC software WinProfi for communication with PROFiTEST<sup>®</sup>0100S-II. The PS3 CD-ROM includes the software WinProfi with the following content and functions:
  - up-to-date test instrument software
    - for loading other user interface languages
    - for loading firmware version updates
  - Transmission of measured data from PSI module to PC

### Applicable Regulations and Standards

IEC 61010-1/EN 61010-1/ VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use
IEC 61557/ EN 61557/ VDE 0413	Part 1: General requirements Part 2: Insulation resistance measuring instruments Part 3: Loop resistance measuring instruments Part 4: Instruments for the measurement or resistance at earth conductors, protective conductors and bonding conductors Part 5: Earth resistance measuring instruments Part 6: Instruments for testing for correct functioning of residual-current protective devices (RCDs) and the effectiveness of protective measures in TT and TN systems Part 7: Phase sequence indicators
DIN 43751 Part 1, 2	Digital measuring instruments
VDE 0106 Part 1	Protection against electrical shock, classifications for electrical and electronic equipment
EN 60529 VDE 0470 Part 1	Test instruments and test procedures – Protection provided by enclosures (IP code)
DIN EN 61326 VDE 0843 Part 20	Electrical equipment for measurement, control and laboratory use – EMC requirements

### Nominal Ranges of Use

Voltage $U_N$	120 V	(108 ... 132 V)
	230 V	(196 ... 253 V)
	400 V	(340 ... 440 V)
Frequency $f_N$	16 2/3 Hz	(15.4 ... 18 Hz)
	50 Hz	(49.5 ... 50.5 Hz)
	60 Hz	(59.4 ... 60.6 Hz)
	200 Hz	(190 ... 210 Hz)
	400 Hz	(380 ... 420 Hz)
Overall Voltage Range	65 ... 550 V	
Overall Frequency Range	15.4 ... 420 Hz	
Waveshape	sine	
Temperature Range	0 °C ... + 40 °C	
Battery Voltage	6 ... 10 V	
Line Impedance Angle	corresponds to $\cos\varphi = 1 \dots 0.95$	
Probe Resistance	< 50 k $\Omega$	

# PROFiTEST® 0100S-II

## Test Instrument for DIN VDE 0100

### Characteristic Values

Function	Measured Quantity	Measuring Range (Display Range I <sub>k</sub> )	Resolution	Input Impedance / Test Current	Nominal Range of Use	Nominal Values	Operating Error	Intrinsic Error	Connections					
									Plug Insert <sup>2)</sup>	2-Pole Adapter	3-Pole Adapter	Probe	Clip	
U <sub>L-PE</sub>	U <sub>L-PE</sub>	0 ... 99.9 V	0.1 V	terminal L-N-PE 500 kΩ	108 ... 253 V		±(2% rdg.+1D)	±(1% rdg.+5D)	●	●				
		100 ... 500 V	1 V		108 ... 500 V <sup>6)</sup>			±(1% rdg.+5D)						
	f	15.0 ... 99.9 Hz	0.1 Hz	terminal L-PE 500 kΩ	15.4 ... 420 Hz		±(0.2% rdg.+1D)	±(0.1% rdg.+1D)	●					
		100 ... 1000 Hz	1 Hz		108 ... 500 V <sup>6)</sup>			±(2% rdg.+1D)						
	U <sub>3~</sub>	0 ... 99.9 V	0.1 V	probe-PE 1MΩ	0 ... 253 V		±(3% rdg.+5D)	±(2% rdg.+4D)				●		
	U <sub>SONDE</sub>	100 ... 500(850 <sup>1)</sup> V	1 V		0 ... 253 V			±(2% rdg.+4D)						
	I <sub>L</sub>	0 ... 1 A	0.1 mA		5 mA ... 1.0 A		±(5% rdg.+5D)	±(3% rdg.+3D)					●	
	I <sub>AMP</sub>	0 ... 99.9 A	0.1 A		10 A ... 150 A		±(10% rdg.+5D)	±(5% rdg.+3D)					●	
T <sup>4)</sup>	-10.0 ... +50.0 °C			0 ... +40 °C			±2 °C							
F <sub>rel</sub> <sup>4)</sup>	10.0 ... 90.0%			20 ... 80%			±5%							
U <sub>L-N</sub>	U <sub>L-N</sub>	0 ... 99.9 V	0.1 V	330 kΩ	108 ... 253 V		±(2% rdg.+1D)	±(1% rdg.+5D)	●					
	f	15.0 ... 99.9 Hz	0.1 Hz		15.4 ... 420 Hz			±(0.1% rdg.+1D)						
I <sub>ΔN</sub>	U <sub>IΔN</sub>	0 ... 70.0 V	0.1 V	0.3 · I <sub>ΔN</sub>	5 ... 70 V	calculated value from U <sub>IΔN</sub> /I <sub>ΔN</sub>	U <sub>N</sub> = 120/230 V f <sub>N</sub> = 50/60 Hz U <sub>L</sub> = 25/50 V I <sub>ΔN</sub> = 10/30/100/300/500 mA U <sub>N</sub> <sup>2)5)</sup> = 400 V I <sub>ΔN</sub> = 10/30 mA	+10% rdg.+1D	+1% rdg.-1D ... +9% rdg.+1D	●	●	●	as desired	
	R <sub>E</sub> / I <sub>ΔN</sub> = 10 mA	10 Ω ... 6.51 kΩ	10 Ω											
	R <sub>E</sub> / I <sub>ΔN</sub> = 30 mA	3 Ω ... 999 Ω	3 Ω											
	R <sub>E</sub> / I <sub>ΔN</sub> = 100 mA	1 Ω ... 651 Ω	1 Ω											
	R <sub>E</sub> / I <sub>ΔN</sub> = 300 mA	0.3 Ω ... 99.9 Ω	0.3 Ω											
	R <sub>E</sub> / I <sub>ΔN</sub> = 500 mA	0.2 Ω ... 9.99 Ω	0.2 Ω											
	I <sub>A</sub> / I <sub>ΔN</sub> = 10 mA	3.0 ... 13.0 mA	0.1 mA	3.0 ... 13.0 mA	3.0 ... 13.0 mA									
	I <sub>A</sub> / I <sub>ΔN</sub> = 30 mA	9.0 ... 39.0 mA		9.0 ... 39.0 mA	9.0 ... 39.0 mA									
	I <sub>A</sub> / I <sub>ΔN</sub> = 100 mA	30 ... 130 mA	1 mA	30 ... 130 mA	30 ... 130 mA									
	I <sub>A</sub> / I <sub>ΔN</sub> = 300 mA	90 ... 390 mA	1 mA	90 ... 390 mA	90 ... 390 mA									
	I <sub>A</sub> / I <sub>ΔN</sub> = 500 mA	150 ... 650 mA	1 mA	150 ... 650 mA	150 ... 650 mA									
	U <sub>IΔ</sub> / U <sub>L</sub> = 25 V	0 ... 25.0 V	0.1 V	same as I <sub>A</sub>	0 ... 25.0 V									
	U <sub>IΔ</sub> / U <sub>L</sub> = 50 V	0 ... 50.0 V			0 ... 50.0 V									
	t <sub>A</sub> / I <sub>ΔN</sub>	0 ... 1000 ms	1 ms	1.05 · I <sub>ΔN</sub>	0 ... 1000 ms									
t <sub>A</sub> / 5 · I <sub>ΔN</sub>	0 ... 40 ms	1 ms	5 · I <sub>ΔN</sub>	0 ... 40 ms										
Z <sub>Schl</sub> Z <sub>I</sub>	Z <sub>Schl</sub> (full-waves)	0.01 ... 9.99 Ω	10 mΩ	0.83 ... 4.0 A	0.15 ... 0.49 Ω	U <sub>N</sub> = 120/230 V	±(10% rdg.+2D)	±3 D	●	●	Z <sub>Schl</sub>			
	Z <sub>I</sub>				0.50 ... 0.99 Ω			±(10% rdg.+3D)						±(4% rdg.+3D)
	Z <sub>Schl</sub> (+/- half-waves)				1.0 ... 9.99 Ω			±(5% rdg.+3D)						±(3% rdg.+3D)
I <sub>k</sub>	0 A ... 999 A	1 A	1 A	—	120 (108 ... 132) V	U <sub>N</sub> <sup>2)</sup> = 400 V / 500 V at Z <sub>Schl</sub>	±(18% rdg.+3D)	±(6% rdg.+5D)	●					
					230 (196 ... 253) V			±(10% rdg.+3D)						±(4% rdg.+3D)
					400 (340 ... 440) V			calculated value from Z <sub>Schl</sub>						
R <sub>E</sub>	R <sub>E</sub> (R <sub>ESchl</sub> without probe)	0 ... 10 Ω	10 mΩ	0.83 ... 3.4 A	0.15 Ω ... 0.49 Ω	U <sub>N</sub> = 120/230 V U <sub>N</sub> = 400 V <sup>2)</sup> f <sub>N</sub> = 50/60 Hz	±(10% rdg.+2D)	±3 D	●	●				
		0 ... 10 Ω	10 mΩ	0.83 ... 3.4 A	0.5 Ω ... 0.99 Ω			±(10% rdg.+3D)						±(4% rdg.+3D)
		0 ... 100 Ω	10 mΩ	400 mA	1.0 Ω ... 9.99 Ω			±(5% rdg.+3D)						±(3% rdg.+3D)
		0 ... 1 kΩ	1 Ω	40 mA	10 Ω ... 99.9 Ω			±(10% rdg.+3D)						±(3% rdg.+3D)
	1 kΩ ... 10 kΩ	1 Ω	4 mA	100 Ω ... 999 kΩ	1 kΩ ... 9.99 kΩ	±(10% rdg.+3D)	±(3% rdg.+3D)							
U <sub>E</sub>	0 ... 253 V	1 V	—	calculated value										
Z <sub>ST</sub>	0 ... 1 MΩ	1 kΩ	2.3 mA at 230 V	10 kΩ ... 199 kΩ	200 kΩ ... 999 kΩ	U <sub>0</sub> = U <sub>L-N</sub>	±(10% rdg.+2D)	±(5% rdg.+3D)						
R <sub>ST</sub>				10 kΩ ... 199 kΩ			±(20% rdg.+2D)	±(20% rdg.+3D)						
R <sub>ISO</sub>	R <sub>ISO</sub> , R <sub>E ISO</sub>	0.01 ... 9.99 MΩ	10 kΩ	I <sub>k</sub> = 1.5 mA	50 kΩ ... 100 MΩ	U <sub>N</sub> = 100 V I <sub>N</sub> = 1 mA	±(5% rdg.+1D)	±(3% rdg.+1D)	●	●				
		10.0 ... 99.9 MΩ	100 kΩ											
		100 ... 999 MΩ	100 kΩ											
		100 ... 200 MΩ	1 MΩ											
U	25 ... 600 V-	0.01 ... 9.99 MΩ	10 kΩ			U <sub>N</sub> = 500 V I <sub>N</sub> = 1 mA	±(3% rdg.+1D)	±(1.5% rdg.+1D)						
		10.0 ... 99.9 MΩ	100 kΩ											
R <sub>LO</sub>	R <sub>LO</sub>	0.01 Ω ... 9.99 Ω	10 mΩ	I <sub>m</sub> ≥ 200 mA	0.1 Ω ... 6 Ω	U <sub>0</sub> = 4.5 V	±(4% rdg.+2D)	±(2% rdg.+2D)		●				
		10.0 Ω ... 99.9 Ω	100 mΩ											

1) Only for systems with overvoltage category II, contamination degree 2, max. 5 min

2) U > 253 V with 2-pole adapter only

3) 100 U<sub>N</sub> · 1/Ω

4) with external probe (accessory)

5) I<sub>ΔN</sub> = 500 mA, max. U<sub>N</sub> = 250 V

6) L-PE: 300 V, L-L: 500 V

# PROFiTEST<sup>®</sup> 0100S-II

## Test Instrument for DIN VDE 0100

### Reference Conditions

Line Voltage	230 V ± 0.1%
Line Frequency	50 Hz ± 0.1%
Meas. Qty. Frequency	45 Hz ... 65 Hz
Meas. Qty. Waveshape	sine (deviation between RMS and rectified value ≤ 0.1%)
Line Impedance Angle	cos φ = 1
Probe Resistance	≤ 10 Ω
Battery Voltage	8 V ± 0.5 V
Ambient Temperature	+ 23 °C ± 2 K
Relative Humidity	45% ... 55%
Finger Contact	potential difference test at earth potential
Standing-Surface Insulation	purely ohmic

### Power Supply

Batteries	6 ea. 1.5 V mignon cells (alkaline manganese) per IEC-LR6 or ANSI-AA or JIS-AM3) or 6 rechargeable NiMH batteries
Number of Measurements (with one set of batteries)	
– for R <sub>ISO</sub>	1 measurement – 25 s pause 1500 measurements
– for R <sub>LO</sub>	automatic polarity reversal (1 measuring cycle) – 25 s pause: 1500 measurements
Battery Test	battery voltage displayed numerically and as symbol 6.0 ... 10.0 V
Battery Saving Circuit	Display illumination can be deactivated. The instrument switches itself off 15 ... 90 seconds after last key operation. ON-time can be selected by the user.
Safety Shut-Down	The instrument is switched off, or cannot be switched on, if the supply voltage drops to below a given level.
Charging Socket	Rechargeable batteries can be directly charged within the instrument by connecting the Z501D charger to the charging socket.

### Overload Capacity

R <sub>ISO</sub>	600 V continuous
U <sub>L-PE</sub> , U <sub>L-N</sub>	600 V continuous
F <sub>i</sub> , R <sub>E</sub> , R <sub>F</sub>	440 V continuous
Z <sub>Schl</sub> , Z <sub>i</sub>	550 V (limits the number of measurements and pause duration, a thermal protector switches the instrument off if overload should occur.)
R <sub>LO</sub>	Electronic protection prevents the instrument from being switched on if interference voltage is present.
Fine-Wire Fuse Protection	3.15 A 10 s, > 5 A – fuse blows

### Electrical Safety

Protection Class	II per IEC 61010-1/EN 61010-1/VDE 0411-1
Nominal Voltage	230/400 V (300/500 V)
Test Voltage	3.7 kV 50 Hz
Measuring Category	III
Contamination Factor	2
Fuses	
Terminals L and N	1 ea. fuse link M 3.15/500G 6.3 mm x 32 mm (safety fuse: FF 3.15/500G)

### Electromagnetic Compatibility (EMC)

Product standard	EN 61326-1:1997 EN 61326:1997/A1:1998
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Interference Emission		Class
EN 55022		A
Interference Immunity	Test Value	
EN 61000-4-2	Contact/air - 4 kV/8 kV	
EN 61000-4-3	10 V/m	
EN 61000-4-4	Mains Connection- 2 kV	

### Ambient Conditions

Operating Temperature	–10 ... + 50° C
Storage Temperature	–20 ... + 60° C (without batteries)
Relative Humidity	max. 75%, no condensation
Elevation	max. 2000 m above sea level

### Mechanical Design

Display	multiple display with dot matrix 64 x 128 pixels
Protection	housing: IP 40, test probe: IP 40 per EN 60529/DIN VDE 0470 Part 1

Extract from table on the meaning of IP codes

IP XY (1 <sup>st</sup> digit X)	Protection against foreign object entry	IP XY (2 <sup>nd</sup> digit Y)	Protection against the penetration of water
0	not protected	0	not protected
1	≥ 50.0 mm Ø	1	vertically falling drops
2	≥ 12.5 mm Ø	2	vertically falling drops with enclosure tilted 15°
3	≥ 2.5 mm Ø	3	spraying water
4	≥ 1.0 mm Ø	4	splashing water

Dimensions (without PSI module)	w x l x d = 240 mm x 340 mm x 62 mm
Weight (without PSI module)	approx. 2.5 kg with batteries

### Data Interface

Type	infrared interface (SIR/IrDa) bidirectional, half-duplex
Format	9600 baud, 1 start bit, 1 stop bit, 8 data bits, no parity, no handshake
Range	max. 30 cm recommended distance: < 10 cm

# PROFiTEST® 0100S-II Test Instrument for DIN VDE 0100

## Accessories for the PROFiTEST® 0100S-II

### PROFiTEST® PSI-E and PSI-BC

The PSI (Printer Storage Interface) module PROFiTEST® PSI-E or PROFiTEST® PSI-BC is used as an output unit for the test instruments PROFiTEST® 0100S, 0100S-II as well as PROFiTEST® ONE and functions simultaneously as a printer, a memory and a data interface.

Contrary to the PSI module, the SI module PROFiTEST® SI-BC does not have an internal printer.

The (P)SI module can be directly attached and secured to the test instrument with two snap hooks.

Values measured with the test instrument within an electrical circuit are transmitted directly to the (P)SI module with an infrared transceiver diode and stored there to memory. All measured values from a total of up to 200 electrical circuits can be stored at the (P)SI module.

PSI module: Measured values are printed out for each individual electrical circuit in the form of a measurement and test report including date and time of testing.



(P)SI module: Stored measured values can be uploaded from the (P)SI module to a PC via the serial RS232 port, and can be archived or printed out in a predefined report template with a special PC software.

### Modules Comparison between PSI-E, PSI-BC and SI-BC

Feature	PROFiTEST® PSI-E	PROFiTEST® PSI-BC	PROFiTEST® SI-BC
Embedded printer	✓	✓	—
Entry of buildings	3 place numeric	6 place *	6 place *
Entry of distribution cabinets	—	3 place *	3 place *
Entry of RCD identification	—	2 place *	2 place *
Entry of circuits	3 place numeric	3 place *	3 place *
Entry of identification numbers via barcode scanner	—	with B3261 as accessory	with B3261 as accessory
Number of measurement values per circuit for insulation resistance measurement	1	2	2
Entry of faults	—	3 selectable possibilities	3 selectable possibilities
Entry of number of existing circuits	—	3 place numeric	3 place numeric
Report generating software	PS3, WinProfi, PC.doc-WORD™, PC.doc-ACCESS™		

\* alphanumeric

### DA-II

Printer adapter for the connection of a printer with Centronics interface\* to the PROFiTEST® PSI-E/BC for immediate printing of measured and stored values to a predefined report in A4 format.

<sup>\*)</sup> this implies that the printer must be capable of interpreting symbols, mere Windows printers are not appropriate.

### PROFiTEST® DC-II

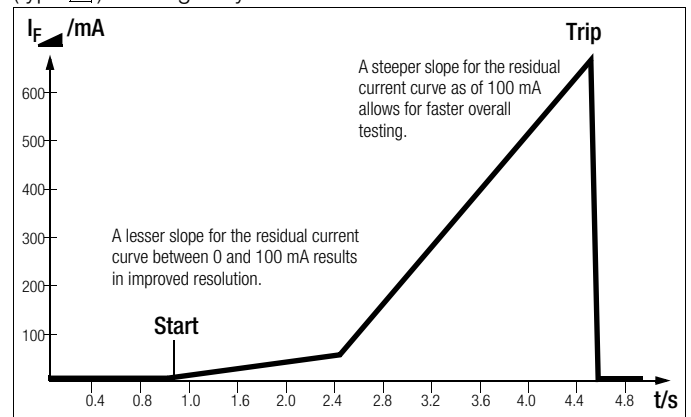


### Applications

- Trip test of the DC characteristics for AC-DC sensitive RCCBs
  - for measuring trip current
  - for measuring time to trip
  - for the testing of undelayed and delayed RCCBs
- Loop resistance measurement with a resolution of 0.01 Ω with the PROFiTEST® 0100S-II by suppressing tripping of RCCBs which are sensitive to pulsating currents.

### Trip Test Operating Mode for AC-DC Sensitive RCCBs with Rising DC Residual Current and Measurement of Trip Current

In selector switch position  $I_F$  a slowly rising direct current flows via N and PE. The measurement value for current is continuously displayed. When the RCCB is tripped, the last measured current value appears. Measurement is performed for delayed RCCBs (type ) with a greatly reduced rate of rise.

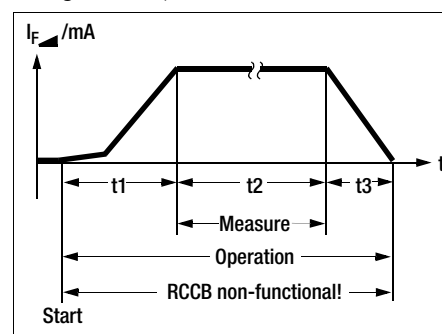


### Trip Test Operating Mode for AC-DC Sensitive RCCBs with Constant DC Residual Current and Measurement of Trip Current

In the selector switch position for the respective nominal residual current, twice the nominal current flows via N and PE. Time required until RCCB tripping occurs is measured and displayed.

### Loop Impedance Measurement Operating Mode with the PROFiTEST® 0100S-II by means of Suppressing RCCB Tripping

The PROFiTEST® DC-II allows for the measurement of loop impedance in TN systems with RCCBs which are sensitive to pulsating current (10/30/100/300/500 mA nominal residual current).



The instrument generates a DC residual current which saturates the RCCB's magnetic circuit. A measuring current is superimposed by the PROFiTEST® 0100S-II which demonstrates half-waves only of like polarity. The RCCB can no longer detect the

measuring current and is not tripped during testing.

# PROFiTEST<sup>®</sup> 0100S-II

## Test Instrument for DIN VDE 0100

### ISO Calibrator 1

Calibration adapter for quick and efficient testing of the accuracy of test instruments for insulation resistance and low-value resistors.



### PS3 Intelligent Modular Software for Test Instruments

Measurement data acquired with test instruments is transferred to PS3 and are then automatically assigned to activities such as testing, maintenance or inspection. Ready-to-sign test and work reports can thus be prepared with a minimum of effort.

The basic module and the device module are sufficient for standard requirements such as reading in measurement data and report printing.

Additional requirements such as following up on deadlines, test data history, data selection and list generation, right on up to complete object management (devices and buildings) with inventory management, errors indication, work orders and repairs are handled with the expansion module and with add-on modules.

An overview of all of the features included with this software is given on our website.

### Generation of Reports and Lists with PC.doc-WORD™

Prerequisite: Microsoft<sup>®</sup> WORD™

PC.doc-WORD% inserts test results and data entered at the test instrument input module into test or list forms. These can then be supplemented and printed out with WORD™.

### Test Data Management with PC.doc-ACCESS™

Prerequisite: Microsoft<sup>®</sup> ACCESS™

PC.doc-ACCESS™ manages device, machine, equipment, master and test data. Available test instrument data are automatically entered to master data and test data lists which are assigned to individual customers. Data are represented in accordance with the respective test regulation. Data are displayed as lists or in data sheet format, and can be sorted and filtered in a variety of different ways. Complete test data management is thus made possible. Reports and deadline lists can be printed out for selectable ID number ranges.

A separate data sheet gives you an overview of the features and functions of PC.doc-WORD™ and PC.doc-ACCESS™.

### 3-Phase Current Adapters



The A3-16, A3-32 and A3-63 three-phase current adapters are used for the convenient connection of test instruments to 5-pole CEE outlets. The three different versions have different sized plugs which correspond to 5-pole CEE outlets with current ratings of 16 A, 32 A and 63 A. Phase sequence is indicated with lamps.

Testing for the effectiveness of protective devices is accomplished via five 4 mm, contact protected jacks.

### Variable Plug Set



Three contact protected, self-retaining test probes for connection to measurement cables with 4 mm banana plugs, or with contact protected plugs for connection to sockets with openings ranging from 3.5 to 12 mm, e.g. CEE or Perilex outlets etc.

The test probes also fit into, for example, the square PE jack at Perilex

outlets. Maximum allowable operating voltage: 600 V per IEC 61010.

### Floor Probe



The 1081 floor probe allows for the measurement of resistance at insulating floor coverings in accordance with DIN VDE 0100, part 610 and EN 1081.

### KS24 Cable Set



The KS 24 cable set consists of a 4 m extension cable with permanently attached test probe at one end, and a contact protected jack at the other end, as well as two alligator clips which can be plugged onto the test probe.

### Drum with TR50



50 m measurement cable wound onto a metal drum. Connection to one end of the cable is accomplished with a jack which is integrated into the drum. The other end is equipped with a banana plug. The drum axle with handle can be removed for space saving storage.

Cable resistance can be compensated for in selector switch position  $R_{LO}$ .

# PROFiTEST® 0100S-II

## Test Instrument for DIN VDE 0100

### Various Accessories



Clockwise:  
TR25 reel,  
SP350 earth drill,  
Telearm 1  
telescoping rod,  
PRO-UNI and  
PRO-RLO plug  
inserts

### F2000 Carrying Pouch



The test instrument, the PSI module, plug inserts, measuring adapter, replacement batteries, recording chart paper etc., can all be conveniently stored and transported with the F2000 carrying pouch.

(Outer dimensions:  
380 x 310 x 200 mm)

### K2000 Carrying Case (Example of Content)



As compared with the F2000 carrying pouch, the K2000 carrying case has additional room for three different three-phase current adapters, reel with measurement cable, telescoping rod, earth drills and 1081 probe.

(K2000 outer dimensions:  
590 x 475 x 125 mm)  
  
(Z504J outer dim.:  
470 x 378 x 168 mm)

### Z504J Metal case (Example of Content)



### Order Information

Designation	Type	Article Number
<b>Basic Instruments</b>		
Universal, protective device test instrument for DIN VDE 0100 per DIN VDE 0413, parts 1+3+4+6+7+9	PROFiTEST 0100S-II	M 520A
Same as PROFiTEST®0100S-II with languages English, Danish, Swedish, Finnish and German, no plug insert, with English operating instructions	PROFiTEST 0100 S-UK-II	M 520B
Same as PROFiTEST®0100S-II with Iberian languages (Castilian, Catalan, Galician, Basque, Portuguese, English)	PROFiTEST 0100 S-E-II	M 520C
Same as PROFiTEST®0100S-II with Slavic languages (Czech, Slovenian, Hungarian and German)	PROFiTEST 0100 S-Ost-II	M 520D
<b>Test Instrument Sets</b>		
Test set in K2000 carrying case: PROFiTEST®0100S-II and PSI-BC, PRO-R <sub>L0</sub> , variable plug set, TR25	PGS117-T	M509T
Test set in K2000 carrying case: PROFiTEST®0100S-II and PSI-E, WinProfi, PS3-Demo, SP350, Telearm 1, PRO-R <sub>L0</sub> , variable plug set, TR25	PGS210	M509L
Same as PGS210 with PROFiTEST®PSI-BC instead of PROFiTEST®PSI-E	PGS211	M509M
Test set in F2000 carrying pouch: PROFiTEST®0100S-II and PSI-BC	PGS215	M509R
Same as PGS215, with additional earthing contact plug insert PRO-Schuko	PGS216	M509S
Test set in metal case: PROFiTEST®0100S-II and PSI-E, DA-II, SP530, variable plug set, PRO-R <sub>L0</sub> , TR25, WinProfi, PS3-Demo, METRAmax 12	PGS2000	M509P
<b>Expansions</b>		
Printer, memory, RS232 as expansion module for PROFiTEST®0100S-II including 2 rolls of recording chart, 1 ink ribbon, batteries, operating instructions	PROFiTEST®PSI-E <sup>D)</sup>	M522A
Same as PROFiTEST®PSI-E, series BC, but with expanded data entry and report generating, alphanumeric and barcode entry options	PROFiTEST®PSI-BC <sup>D)</sup>	M522D
Same as PROFiTEST®PSI-BC, but without printer	PROFiTEST®SI-BC	M522E
Barcode scanner	B3261	Z720A
Barcode and label printer, including software	Z721D	Z721D
Printer adapter for the connection of a printer with Centronics interface to the PROFiTEST®PSI-E/BC	DA-II	Z745M
Sensor for temperature and relative humidity for PROFiTEST®0100S-II and METRISO®C	T/F Sensor	Z541A
Test instrument, as described on page 5, including connector cable and operating instructions	PROFi TEST DC-II <sup>D)</sup>	M523A
Adapter for PROFiTEST®DC-II in systems without earthing contact sockets	3-Pol-Adapter	Z523A
Differential current monitor	DI-Mon 1	M662B

# PROFiTEST® 0100S-II

## Test Instrument for DIN VDE 0100

Designation	Type	Article Number
Adapter with IR interface for connection to the USB port at a PC to transmit data between PC and PROFiTEST® 0100S-II, e.g. for software updates to the instrument or display of measurement values at the PC	IrDa-USB Converter	Z501J
Adapter for connecting the RS232 interface of PROFITEST PSI with the USB interface of a PC	RS232-USB Converter	Z501L
<b>Plug Inserts and Adapters</b>		
Measuring adapter for three-phase current and poly-phase systems	PRO-A3 <sup>1)</sup>	GTZ 3214 000 R0001
Schuko or equivalent	PRO-Schuko	GTZ 3228 000 R0001
For Switzerland per SEV	PRO-CH	GTZ 3225 000 R0001
For GB per BS	PRO-GB	GTZ 3226 000 R0001
For GB ring measurement	PRO-GB/ring	GTZ 3226 000 R0002
For South Africa	PRO-RSA	Z501A
With 3 connector cables for any standards	PRO-UNI	GTZ 3214 000 R0003
With 10 m cable for PE measurements etc.	PRO-RLO	GTZ 3214 000 R0002
5-pole three-phase current adapter for 16 A CEE outlets	A3-16	GTZ 3602 000 R0001
5-pole three-phase current adapter for 32 A CEE outlets	A3-32	GTZ 3603 000 R0001
5-pole three-phase current adapter for 63 A CEE outlets	A3-63	GTZ 3604 000 R0001
Variable plug set	Z500A	Z500A
Adapter for protective conductor and insulation testing with PROFiTEST® 0100S-II	Adapter 701	Z501F
<b>Accessories</b>		
4 m extension cable	KS24	GTZ 3201 000 R0001
Telescoping rod for PE measurement	Telearn 1	GTZ 3232 000 R0001
Reel with 25 m measurement cable	TR25 Reel	GTZ 3303 000 R0001
Drum with 50 m measurement cable	TR50 Drum	GTY 1040 014 E34
35 cm earth drill for earth measurement	SP350 Earth Drill	GTZ 3304 000 R0001
Triang. probe for floor measurement per EN 1081 and DIN VDE 0100	1081 Probe	GTZ 3196 000 R0001
6 special NiM rechargeable mignon batteries with holder (1300 mAh)	Akku-Set 0100S	Z501B
Charger for recharging 0100S battery set in the PROFiTEST® 0100S-II	NA 0100S	Z501D
Clip-on current sensor for leakage current, adjustable: 1 mA ... 15 A, 3% and 1 A ... 150 A, 2%	CLIP 0100S <sup>D)</sup>	Z501E
Clip-on current sensor, convertible meas. ranges 0 ... 1/100/1000 A ~ AV ~ ± (0.7% ... 0.2%) usable with PROFiTEST® 0100S-II only in combination with CLIP-ON adapter cable	Z3512A <sup>D)</sup>	Z225A
Cable for the connection of current clips with banana plugs to the jack plug of the PROFiTEST® 0100S-II	CLIP-ON Adapter Cable	Z501G
Universal carrying pouch for PROFiTEST® 0100S-II, 204 or METRISO® 5000A	F2000 <sup>D)</sup>	Z700D

Designation	Type	Article Number
Carrying case	K2000	Z504K
Metal case	Z504J	Z504J
<b>Calibration Adapters</b>		
Calibration adapter for testing the accuracy of instruments for the measurement of insulation resistance and low-value resistors	ISO-Kalibrator 1	M662A
<b>PC Analysis Software</b>		
Software for maintenance and electronic equipment management	PS3	
Report generation and test data management of electrical devices and systems with SECUTEST® ..., PROFiTEST® 0100S-II, PROFiTEST® C and METRISO® C test instruments	PS3-compact	Z530K
Basic module and device driver, allows for read-out of measured values from the test instruments (same test instruments as for PS3-compact plus PROFITEST 204)	PS3 GM	Z530E
Device modules, basic module and add-on module complemented by the following modules – electronic equipment management – remote – maintenance management – barcode printing	PS3 AM	Z531N
Documentation and management software as accessory equipment for MS-Word, user language: German/English/French/Finnish	PC.doc-WORD™ <sup>D)</sup>	Z714A
Documentation and management software as accessory equipment for MS-Access, user language: German/English	PC.doc-ACCESS™ <sup>D)</sup>	Z714B
Upgrade of PC.doc win/med ... to PC.doc-WORD™	PC.doc upgrade <sup>D)</sup>	Z714C
Software update for PROFiTEST® 0100S-II on floppy disc (one-time update only, not a subscription)	SW-Update 0100S-II	Z520A
<b>Consumable Materials</b>		
Package of 10 rolls (6 m each) of recording chart for the PSI module	PS-10P	GTZ 3229 000 R0001
Package of 10 ink ribbon cartridges for PSI-E/BC	Z3210	GTZ 3210 000 R0001
Label set for barcode and label printer Z721D (quantity x width: 3x24/1x 18/1x9 mm, length: 8 m each)	Z722D	Z722D
Label set for barcode and label printer Z721D (quantity x width: 5x18 mm, length: 8 m each)	Z722E	Z722E

<sup>D)</sup> Data sheet available

<sup>1)</sup> Included with the PROFiTEST® 0100S-II

For additional information on accessories, please refer to

- our *Measuring Instruments and Testers catalogue*
- our *website www.gossenmetrawatt.com*

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