

SECUTEST[®] SII

Testers per DIN VDE 0701, 0702 and 0751

3-349-229-03
8/12.06

- **Testing electrical safety of electrical equipment** per DIN VDE 0701-1:2000
- **Testing of data processing equipment** and office machines per DIN VDE 0701, part 240
- **Periodic testing** per DIN VDE 0702:2004
- **Testing of electrical medical devices** including type B, BF and CF application parts per DIN VDE 0751 and for technical safety inspection per MPG¹⁾ (AC and DC components measured separately)
- **DIN VDE 0404** is complied with
- **Differential current measurement** with a resolution of 1 μ A as recommended by the trade association
- **Automatic classification and test sequence**
- **Automatic measuring point recognition** for protective conductor testing
- **Preset test sequences** and integrated test report templates
- **With DKD certificate** upon request
- Maximum safety for the user thanks to **integrated personal safety switch**

¹⁾ MPG = German medical product legislation



Quality Management System



Features

Connection of the device under test:

- Via the test socket with and without adapter (accessory) for various types of mains connections
- Via connector jacks for devices under test which do not have a mains plug (feature F01)
- Via adapter (accessory) for extension cables with and without multiple outlets

Automatic recognition of:

- Mains connection errors
- Safety class (I or II)

Menu driven test sequence:

- Fully automated or
- Manual

Convenient memory and report generating functions and alphanumeric entry (feature E01)

Data interface for PC, printer and barcodes

Compact design, minimal weight

Applications

Testing the electrical safety of electrical equipment per BGV A3

The test instrument is intended for fast, safe measurement of repaired or modified electrical devices in accordance with DIN VDE 0701, and for periodic testing per DIN VDE 0702. The following are measured in accordance with the regulations:

- Protective conductor resistance
- Insulation resistance
- Protective conductor current for safety class I devices
- Contact current for (safety class II devices)
- Absence of voltage at exposed, conductive parts (= contact current)

Measuring methods:

- Direct measurement
- Equivalent leakage current
- Differential current

Testing the electrical safety of electrical medical devices in accordance with German medical product legislation (MPG) and the applicable operator's ordinance

The SECUTEST[®]SII test instrument is intended for fast, safe testing and measurement of repaired or modified electrical devices in accordance with DIN VDE 0751.

Adherence to technical safety requirements assures safe use of electrical medical devices for users of the test instrument. The safety of the patient is also assured during use of tested electrical medical devices.

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

The following are measured in accordance with DIN VDE 0751:

- Protective conductor resistance (four pole measurement)
- Insulation resistance
- Equivalent housing leakage current
- Equivalent patient leakage current
- Device leakage current
- Patient leakage current (AC and DC components are measured separately)

Measuring methods for leakage current:

- Direct measurement
- Equivalent leakage current
- Differential current

(Mains at application part can be measured using the equivalent patient leakage current method.)

Report Generating Functions

All of the values required for approval reports or device logbooks for electrical equipment (e.g. per ZVEH) can be measured with this instrument.

The SECUTEST®PSI module (feature E01), a printer which can be inserted into the cover and which includes a memory module, an integrated interface and a keypad, expands the test instrument's range of possible applications.

All measurement data can be documented and archived thanks to the measurement and test report which can be printed directly from the SECUTEST®PSI module or via a PC, or stored to a PC.

Function Test with Power Analysis (also suitable for high power DUTs with a current consumption of up to 16 A)

The device under test can be subjected to a function test with line voltage via the integrated test socket.

The function test can be executed immediately after electrical safety testing has been successfully completed. The following are measured or calculated automatically:

- Line voltage
- Differential current
- Current consumption
- Active and apparent power
- Power factor
- Electrical energy
- Duty cycle

Multimeter Functions (feature F01)

Extensive multimeter functions including temperature measurement expand the user's measuring options in a sensible fashion. The following individual measurements are possible:

- Direct and alternating voltage
- Resistance
- Phase search
- Current via clip-on ammeter (accessory)
- Temperature via Pt100 or Pt1000 (accessories)

Features

Display

The LCD panel consists of a dot matrix at which menus, setting options, measurement results, instructions, error messages and schematic diagrams appear.

Automatic Classification and Test Sequence

The instrument detects the safety class of the device under test, and executes even complex measurements fully automatically.

RS 232 Interface for PC and Printer

This port allows for power supply and data transmission to the optionally available PSI module.

Other devices can also be connected to this port with the help of an interface cable, e.g. a PC or a printer

The Help Key

Information and schematic diagrams for the current display can be accessed with this key. The appropriate information is displayed at the LCD panel.

Function Selector Switch

Test sequences and measuring functions are selected with the function selector switch. Direct allocation of the switch position to the respective test regulation simplifies operation.

Mains Plug Polarity Reversal

It is not necessary to reverse polarity at the mains plug manually. Reversal is executed during the test sequence upon request.

Test Instrument Safety Features

- Mains connection monitoring:
Any faulty or dangerous connection is indicated, and measurement is disabled in the event of danger.
- Personal safety by means of integrated residual current monitoring.

Regulations and Standards applied for the Construction and Testing of the Test Instrument

| | |
|---|---|
| IEC/EN 61 010-1:2001 VDE 0411-1:2002 | Safety requirements for electrical equipment for measurement, control and laboratory use – general requirements |
| DIN VDE 0404, Part 1: 2002 | Test and measuring equipment for testing the electrical safety of electrical devices – general requirements |
| DIN VDE 0404, Part 2: 2002 | Testing equipment for tests after repair, change or in the case of repeat tests |
| DIN VDE 0404 Part 3: 2005 | – Equipment for periodical tests and tests prior to commissioning medical electrical devices or systems |
| DIN EN 60 529/ VDE 0470, Part 1 | Test instruments and test procedures, degrees of protection provided by enclosures (IP code) |
| DIN EN 61 326 VDE 0843, Part 20 | Electrical equipment for control technology and laboratory use – EMC requirements |

Regulations and Standards for the Use of SECUTEST® SII Test Instruments

| | Testing after Repairs | | | Periodic Testing | |
|---|---------------------------|-------------------------|--------------------|--------------------|--------------------|
| | DIN VDE 0701, part 1:2000 | DIN VDE 0701, part 2:40 | DIN VDE 0751: 2001 | DIN VDE 0702: 2004 | DIN VDE 0751: 2001 |
| DUTs to be tested in accordance with following regulations | | | | | |
| Electrical equipment | | | | • | |
| Working devices | • | | | • | |
| Mains operated electronic devices | | | | • | |
| Hand-held electric tools | | | | • | |
| Extension cables | • | | | • | |
| Data processing devices | | • | | • | |
| Electrical medical devices, application parts | | | • | | • |

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

Characteristic Values

| Function | Measured Quantity | Meas. Range / Nominal Range of Use | Resolution | Nominal Voltage U_N | Open-Circuit Voltage U_0 | Nom. Current I_N | Short-Circuit Cur. I_K | Int. Res. R_I | Ref. Res. REF | Measuring Error | Intrinsic Error | Overload Capacity | |
|--|--|------------------------------------|----------------|---|--------------------------------|--------------------|------------------------------|-----------------|---|---|---|-------------------|---------|
| | | | | | | | | | | | | Value | Time |
| DIN VDE 0701 / 0702 / 0751 Tests | Device protective conductor res. R_{SL} | 0.000 ... 2.100 Ω | 1 m Ω | — | 4.5 ... 9 V DC | — | > 200 mA DC | — | — | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 10 d | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| | | 2.11 ... 31.00 Ω | 10 m Ω | | | | | | | | | | |
| | Insulation resistance R_{ISO} | 0.050 ... 1.500 M Ω | 1 k Ω | 50 ... 500 V DC | 1.0 • U_N ... 1.5 • U_N | > 1 mA | < 10 mA | — | — | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| | | 1.01 ... 10.00 M Ω | 10 k Ω | | | | | | | | | | |
| | | 10.1 ... 310.0 M Ω | 100 k Ω | | | | | | | | | | |
| | Equivalent leakage current I_{EA} or I_{EHL} | 0.00 ... 21.00 mA | 10 μ A | — | 230 V~ - 20 /+ 10% | — | < 3.5 mA | > 72 k Ω | 1/2 k Ω ⁶⁾ | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| | | 20.1 ... 120.0 mA | 100 μ A | | | | | | | | | | |
| | Equivalent patient leakage current I_{EPA} | 0.0 ... 310.0 μ A | 100 nA | — | 230 V~ - 20 /+ 10% | — | < 3.5 mA | > 72 k Ω | 1 k Ω $\pm 10 \Omega$ | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| | | 0.300 ... 2.100 mA | 1 μ A | | | | | | | | | | |
| | | 2.00 ... 11.00 mA | 10 μ A | | | | | | | | | | |
| Contact or housing leakage cur. I_{Probe} or I_{GA} | 0 ... 310 μ A ⁷⁾ | 0.1 μ A | — | — | — | — | 1/2 k Ω ⁶⁾ | — | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. | |
| | 0.300 ... 3.500 mA | 1 μ A | | | | | | | | | | | |
| Patient leakage current I_{PA} AC and DC components measured separately | 0.0 ... 310.0 μ A | 100 nA | — | — | — | — | 1 k Ω | — | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. 2, 4 | |
| | 0.300 ... 3.100 mA | 1 μ A | | | | | | | | | | | |
| | 3.10 ... > 15.00 mA | 10 μ A | | | | | | | | | | | |
| Residual current ΔI between L and N ¹⁾ | 0.000 ... 3.100 mA~ 3.00 ... 31.00 mA~ ²⁾ | 1 μ A 10 μ A | — | — | — | — | — | — | $\pm(10\% \text{ rdg.} + 10 \text{ d})$ > 10 d | $\pm(5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 2) | 2) | |
| Function Test | Line voltage U_{L-N} | 207.0 ... 253.0 V~ | 0.1 V | — | — | — | — | — | — | — | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ | 253 V | Cont. |
| | Load current I_L | 0 ... 16.00 A _{RMS} | 10 mA | — | — | — | — | — | — | — | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ | 20 A | 10 min. |
| | Active power P | 0 ... 3700 W ³⁾ | 1 W | — | — | — | — | — | — | — | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 20 d | 253 V | Cont. |
| | Apparent power S | 0 ... 4000 VA | 1 VA | Calculated value, $U_{L-N} \cdot I_V$ | | | | | | | $\pm(5\% \text{ rdg.} + 10 \text{ d})$ > 20 d | | |
| | Power factor LF with sinusoidal waveshape: $\cos\phi$ | 0.00 ... 1.00 | 0.01 | Calculated value, P / S, display > 10 W | | | | | | | $\pm(10\% \text{ rdg.} + 5 \text{ d})$ | | |
| | Residual current ΔI between L and N | 0.00 ... 31.00 mA~ | 10 μ A | — | — | — | — | — | — | $\pm(10\% \text{ rdg.} + 10 \text{ d})$ > 10 d | $\pm(5\% \text{ rdg.} + 5 \text{ d})$ | 2) | 2) |
| U_{Probe} | Probe voltage (phase search) | 0 ... 253.0 V —, ~ and — | 0.1 V | — | — | — | — | — | — | — | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| $U_{AC/DC}$ ⁵⁾ | Voltage | 0 ... 253.0 V —, ~ and — | 0.1 V | — | — | — | — | — | — | — | $\pm(2.5\% \text{ rdg.} + 5 \text{ d})$ > 10 d | 253 V | Cont. |
| | Extra-low voltage, safety class III | | | | | | | | | | | | |
| R ⁵⁾ | Resistance | 0 ... 150.0 k Ω | 100 Ω | — | < 20 V~ | — | 1.1 mA | — | — | — | $\pm(1\% \text{ rdg.} + 3 \text{ d})$ | 253 V | Cont. |
| I_{Clip} ⁵⁾ | Current via clip-on current-voltage transformer Z3510 | 0.000 ... 10.00 A~ | 1 mA (1 mV) | — | — | — | — | 1.5 M Ω | — | — | $\pm(3\% \text{ rdg.} + 10 \text{ d})$ > 10 d | 253 V | Cont. |
| | | 0 ... 100 A~ | 1 A (1 mV) | — | — | — | — | 1.5 M Ω | — | — | without clip | 253 V | Cont. |
| $Temp.$ ⁵⁾ | Temperature with Pt100 sensor | - 200 ... - 50° C | 1° C | — | < 20 V~ | — | 1.1 mA | — | — | — | $\pm(2\% \text{ rdg.} + 1° \text{ C})$ | 10 V | Cont. |
| | | - 50.1 ... + 300.0° C | 0.1° C | | | | | | | | $\pm(1\% \text{ rdg.} + 1° \text{ C})$ | 10 V | Cont. |
| | | + 300 ... + 850° C | 1° C | | | | | | | | $\pm(2\% \text{ rdg.} + 1° \text{ C})$ | 10 V | Cont. |

1) For testing in accordance with DIN VDE 0751, device leakage current is determined by means of differential current measurement as part of the test sequence.

2) As of 25 mA: shutdown within 100 ms as a result of differential current measurement

3) Measured value P and calculated value S are compared, and the smaller of the two is displayed.

4) The measuring path becomes highly resistive, indication appears at the display.

5) With feature F01 only

6) For DIN VDE 0701/0702: 2 k Ω , for DIN VDE 0751: 1 k Ω

7) This measuring range for DIN VDE 0751 only




Key: rdg. = reading (measured value), d = digit(s)

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

Testing for Correct Mains Connection

The device automatically recognizes mains connection errors if the conditions in the following table have been fulfilled. The user is informed of the type of error, and all measuring functions are disabled in the event of danger.

| Type of Mains Connection Error | Message | Condition | Measurements |
|---|---|---|--|
| Voltage at protective conductor PE to finger contact | Text at LCD panel | Press  key $U > 40 \text{ V}$ | Disabled |
| Protective conductor PE and phase conductor L reversed and/or neutral conductor N interrupted | Lamp  lights up | Voltage at PE $> 100 \text{ V}$ | Disabled |
| Contact voltage at protective conductor PE to neutral conductor N or phase conductor L | Text at LCD panel | $U > 25 \text{ V}$ | Disabled, but disabling can be deactivated (e.g. IT network) |
| Line voltage too low | Lamp  lights up | $U_{L-N} < 180 \text{ V}$ | Possible |

Influencing Quantities and Influence Error

| Influencing Quantity / Sphere of Influence | DIN VDE 0404 Designation | Influence Error $\pm \dots \%$ of Measured Value |
|--|--------------------------|--|
| Change of position | E1 | — |
| Change to test equipment supply voltage | E2 | 2.5 |
| Temperature fluctuation | E3 | Specified influence error valid for temperature changes as of 10 K: 1 for protective cond. resistance 0.5 for all other meas. ranges |
| 0 ... 21 °C and 25 ... 40 °C | | |
| Amount of DUT current | E4 | 2.5 |
| Low frequency magnetic fields | E5 | 2.5 |
| DUT impedance | E6 | 2.5 |
| Capacitance during insulation measurement | E7 | 2.5 |
| Waveshape of measured current | E8 | 2 with capacitive load (for equivalent leakage current) |
| 49 ... 51 Hz | | 1 (for contact current) |
| 45 ... 100 Hz | | 2.5 for all other measuring ranges |

Reference Ranges

| | |
|---------------------|---|
| Line voltage | 230 V $\pm 0.2\%$ |
| Line frequency | 50 Hz ± 2 Hz |
| Line Voltage | Sine (deviation between effective and rectified value $< 0.5\%$) |
| Ambient temperature | +23 °C ± 2 K |
| Relative humidity | 40 ... 60% |
| Load Resistance | linear |

Nominal Ranges of Use

| | |
|------------------------|------------------|
| Line voltage | 207 V ... 253 V |
| Line frequency | 50 Hz ± 2 Hz |
| Line voltage waveshape | sinusoidal |
| Temperature | 0 °C ... + 50 °C |

Ambient Conditions

| | |
|---------------------|---|
| Storage temperature | - 20 °C ... + 60 °C |
| Operating Temp. | - 10 °C ... + 50 °C |
| Accuracy Range | 0 °C ... + 50 °C |
| Relative humidity | Max. 75%, no condensation allowed |
| Elevation | Max. 2000 m |
| Deployment | Indoors, except within specified ambient conditions |

Power Supply

| | |
|-------------------------------------|--|
| Line voltage | 207 V ... 253 V |
| Line frequency | 50/60 Hz |
| Power consumption for function test | Approx. 15 VA Continuous max. 3600 VA, power is conducted through the instrument only, switching capacity $\leq 16 \text{ A}$ |

RS 232 Interface

| | |
|---------------|-------------------------------------|
| Type | RS 232C, serial, per DIN 19241 |
| Configuration | 9600, N, 8, 1 |
| Connection | 9-pin subminiature socket connector |

Electrical Safety

| | |
|--------------------|--|
| Safety class | I per IEC 61010-1/EN 61010-1/VDE 0411-1 |
| Nominal voltage | 230 V |
| Test voltage | 2.35 kV, 50 Hz |
| Measuring category | 300 V CAT II |
| Fouling factor | 2 |
| Safety Shutdown | At DUT differential current of $> 25 \text{ mA}$, Shutdown time: $< 100 \text{ ms}$ Probe current: $> 10 \text{ mA}$, $< 1 \text{ ms}$ |

Electromagnetic Compatibility

| | |
|------------------|-------------------|
| Generic Standard | DIN EN 61326:2002 |
|------------------|-------------------|

| Interference Emission | | Class |
|-----------------------|----------------------------|---------|
| EN 55022 | | B |
| Interference Immunity | Test value | Feature |
| EN 61000-4-2 | Contact/atmos. - 4 kV/8 kV | A |
| EN 61000-4-3 | 10 V/m | C |
| EN 61000-4-4 | Mains connection - 2 kV | B |
| EN 61000-4-5 | Mains connection - 1 kV | A |
| EN 61000-4-6 | Mains connection - 3 V | A |
| EN 61000-4-11 | 0.5 period / 100% | A |

Mechanical Design

| | |
|------------|---|
| Display | Multiple display with dot matrix, 128 x 128 pixels, backlit |
| Dimensions | LxWxH: 292 x 138 x 243 mm |
| Weight | Approx. 4.5 kg |
| Protection | Housing: IP 40, connectors: IP 20 per DIN VDE 0470, part 1/EN 60529, table excerpt on the meaning of IP codes |

| IP XY (1 st digit X) | Protection against foreign object entry | IP XY (2 nd digit Y) | Protection against the penetration of water |
|---------------------------------|---|---------------------------------|--|
| 0 | Not protected | 0 | Not protected |
| 1 | $\geq 50.0 \text{ mm dia.}$ | 1 | Vertically falling drops |
| 2 | $\geq 12.5 \text{ mm dia.}$ | 2 | vertically falling drops with enclosure tilted 15° |
| 3 | $\geq 2.5 \text{ mm dia.}$ | 3 | Spraying water |
| 4 | $\geq 1.0 \text{ mm dia.}$ | 4 | Splashing water |

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

Standard Equipment for SECUTEST® SII Basic Device

(all features = 00)

- 1 SECUTEST® SII test instrument
- 1 Probe cable with test probe
- 1 Plug-on alligator clip for test probes
- 1 Test report
- 1 Set operating instructions
- 1 Carrying strap
- 1 CD ROM (demo) with PS3 data management software
- 1 CD ROM (demo) with PC.doc software for generating reports and lists, and for test data management

Features, Options, Accessories

List of Possible Options for SECUTEST® SII Device Series

| Features | | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 12 | 99 |
|---|----|----|-------------------|----|----|----|----|----|----|----|----|----|----|----|
| Design | A | GM | | | | | | | | | | | | |
| Mains connection, respective country | B | D | | F | | | | | | | CH | | 2) | |
| User interface, online instructions | C | D | GB | | | | | | | | | | | |
| Configuration (settings in the setup menu) | D | GM | | | | | | | 3) | | | | | |
| SECUTEST® PSI Printer Module | E | No | Yes | | | | | | | | | | | |
| Additional test sockets (cannot be retrofitted) | F | No | Yes ⁴⁾ | | | | | | | | | | | |
| DBmed Database option (Z853H) | KB | No | Yes | | | | | | | | | | | |
| Remote control, special SK5 cable (Z745K) | KD | No | Yes | | | | | | | | | | | |
| Direct printing after each measurement for automatic test sequences ¹⁾ , read-out via RS 232, SECU-dd option (Z853L) | KE | No | Yes | | | | | | | | | | | |
| Calibration cert. per DKD | L | No | Yes | | | | | | | | | | | |

- 1) Each measured value is documented in this case, as opposed to the results of a test sequence for which the poorest value for each given test is displayed.
- 2) Adapter set for international use (feature B00 included – earthing contact socket)
- 3) With configuration for safety class 2 hospital beds (preset)
- 4) For multimeter functions, for measurements with accessories and for devices under test without plug, including 3 plug-on quick clips

Example for complete type designation (article number) of a SECUTEST® SII:
M7030 E01 KD01 KE01 (only the designation of the basic device, M7030, and features other than 00 are specified)

* Prerequisites for installing the software

Software:

- MS Windows 98, ME, NT, 2000 or XP

Hardware:

- IBM compatible Windows PC, as from 200 MHz Pentium CPU with at least 64 MB RAM
- SVGA monitor
- Hard disk with at least 20 MB available memory
- Microsoft compatible mouse

Feature C00 ... C99: SE-L.med * Foreign Language Software (on enclosed PS | 3 CD-ROM)

User interface languages which are not included as a standard feature can be uploaded from our homepage (www.gossenmetrawatt.com). One language at a time can be uploaded to the test instrument.

Feature E01: SECUTEST® PSI

Values measured by the test instrument can be stored to this module, and can be furnished with comments with the help of the alphanumeric keypad and printed out. The LCD panel at the test instrument is used as a display for the module. Statistical analysis of the measurement results is also possible (percentage of tests which have been successfully passed).

The PSI module is screwed into the lid of the test instrument in a space-saving fashion.



Please request our SECUTEST® PSI data sheet for further information.

Feature KB01: Database

Test sequences can be configured and executed on-site in the selected switch position in accordance with the respective requirements. Configurations for various test sequences are stored in the test instrument, and can be activated in the future. Measured values acquired during testing are also saved to memory in the test instrument. If required, these can be printed out at a connected printer using test report templates which are stored at the test instrument.

Feature KD01: SK5 Remote Control (Recognition of Probe on Protective Conductor)

This additional feature consists of a 5 meter long probe cable with a test probe and includes a software extension. Protective conductor measurement is expanded to include the function, "automatic recognition of measuring point change". During protective conductor measurement, the test instrument recognizes whether or not the test probe is in contact with the protective conductor, which is indicated by means of two different acoustic signals.

This function is very useful where several protective conductor connections need to be tested.

Feature KE01: Direct Printing

After completion of each test (individual test or at the end of a test sequence), test results are read out directly via the RS 232 interface. If the SECUTEST® PSI has been connected, the results are printed directly to paper.

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SECU-cal 10 Accessory Calibration Adapter

The calibration adapter is used for testing the measuring uncertainty of test instruments in accordance with DIN VDE 0701/0702/0751. As a rule, these instruments must be tested once each year, as set forth by accident prevention regulation BGV A3 (previously VBG 4) as well as for certification in accordance with the ISO 9000 quality standard.



All limit values for the required tests per DIN VDE, as well as protective conductor resistance, insulation resistance, equivalent leakage current, differential and/or contact as well as housing leakage current must be tested.

K2010 Accessory Case for SECUTEST® SII and Accessories



F2000 Accessory Pouch for SECUTEST® SII and Accessories



PC Software for SECUTEST® SII

| Analysis Software Comparison | PC.doc-WORD™/ EXCEL™ PC.doc-ACCESS™ | PS 3 | PS3 compact |
|--|--|--|--|
| Autonomous | Required: WINWORD/EXCEL/ ACCESS | ✓ autonomous | ✓ |
| Type | Always complete | Modular | — |
| Included GMC-I Gossen-Metra- watt GmbH testers | SECUTEST®... METRATESTER®5/5-F PROFITEST®0100S- I/C, PROFITEST ONE, PROFITEST 204 METRISO®C GEOHM®C (standard) | SECUTEST®..., SECUSTAR® FM, PROFITEST®0100S- I/C, PROFITEST ONE, PROFITEST 204, METRISO®C | SECUTEST®..., PROFITEST® 0100S-I/C, PROFITEST ONE, METRISO®C |
| Master data management | ✓ Complete with WINWORD/EXCEL/ ACCESS | ✓ Fully autonomous | ✓ |
| Search function | ✓ Using Access functions | ✓ Autonomous | ✓ |
| List generator | ✓ With Access retrieval functions | ✓ Autonomous | ✓ Not storable |
| Automatic deadline follow-up | ✓ Standard | ✓ Included with add-on module | ✓ |
| Forms generator | ✓ Using WINWORD | ✓ Included with add-on module | — |
| Statistics | ✓ Error statistics, defect statistics | ✓ Option | — |
| Navigator | — | ✓ (module) | — |
| Client options | — | ✓ (module) | — |
| Outdoor function | — | ✓ (module) | — |
| Barcode generation | ✓ (standard) | ✓ | ✓ |
| Network compatible | ✓ (standard) | ✓ (module) | — |
| Inventory management | — | ✓ (module) | — |
| Viewer | — | ✓ (module) | — |
| Repairs function | — | ✓ | — |
| Document management | — | ✓ (module) | — |
| Error messaging module | — | ✓ (module) | — |

Report and List Generation with PC.doc-WORD™/EXCEL™

Prerequisite: Microsoft®WORD™ or Microsoft®EXCEL™

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

Test Data Management with PC.doc-ACCESS™

Prerequisite: Microsoft®ACCESS™

PC.doc-ACCESS™ manages device, machine, equipment, master and test data. Available test 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 and dates.

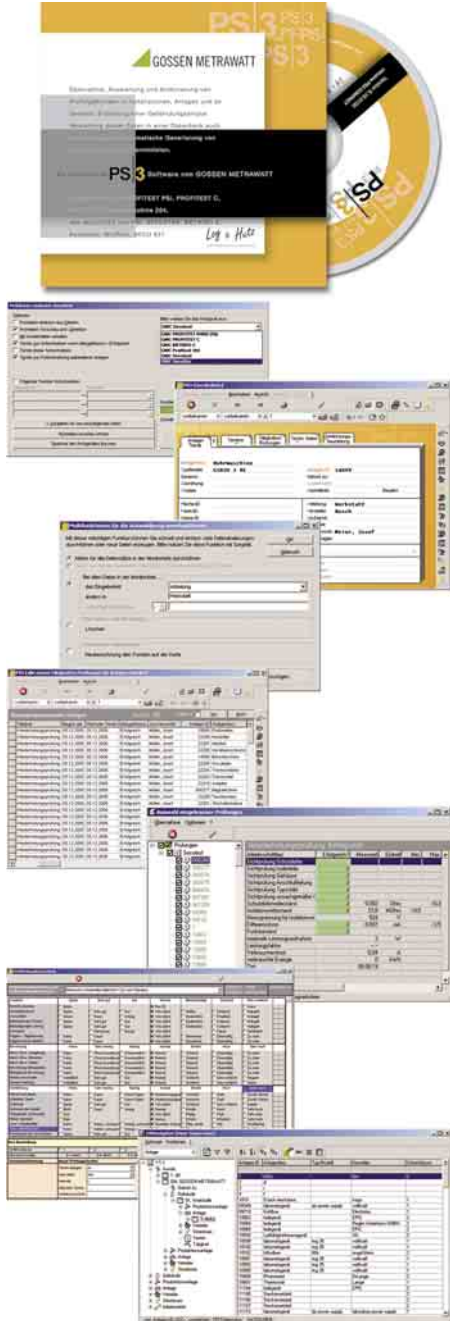
An overview of performance features included with PC.doc-WORD™/EXCEL™ and PC.doc-ACCESS™ is available in a separate data sheet.

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

PS | 3

Universal, modular test instrument software –
Systems, equipment and service management, plus report generation



Automatic read-out and analysis of measured values
from testing conducted on systems and equipment.

System and equipment management
with respective test results stored to a database.

Automatic generation of test reports
in accordance with recommendations issued by the trade associations

PS3-compact

Report generation and test data management for electrical
devices and equipment with SECUTEST®,...,
PROFITEST®0100S-II, PROFITEST®C and METRISO®C

PS3 GM

Basic module and device driver, allows for the read-out of mea-
sured values from the PROFITEST®0100S-II, PROFITEST®C,
METRISO®C, PROFITEST 204 and SECUTEST®... test instru-
ments (all variants)

PS3 AM

PS3 AM (device driver, basic module and add-on module)
complemented by the following modules:

- equipment management
- remote
- maintenance management
- barcode printing

PS3 add-on modules

- PS3 Navigator – LHNavigator and LHViewer
(prerequisite: PS3 AM)
- PS3 Client – client options (prerequisite: PS3 AM)
- PS3 Hazard Analysis – hazard analysis
(prerequisite: PS3 AM)

PS3 update

- Update to PS3 AM, version 9, including hazard analysis,
– basic software: PS3 add-on module (version 3 or 4)

PS3 upgrade

Upgrade to PS3 AM including hazard analysis,

- basic software: SE-Q.base
- basic software: PC.base
- basic software: PC.doc-WORD™/EXCEL™, PC.doc-ACCESS™
- basic software: Elektromanager / Protokollmanager
- basic software: PS3 compact (any version)
- basic software: PS3 basic module (any version)

Maintenance contract

PS3 maintenance contract upon request

System Requirements for PS3

- a Windows compatible PC with at least a Pentium IV CPU
> 2 GHz
- Windows 2000 SP4 / Windows XP
- working memory: 512 MB RAM
- hard disk with approx. 800 MB free memory (without data)
- CD ROM drive
- floppy disk drive or e-mail connection for loading control and/
or enable files

SECUTEST® SII

Testers per DIN VDE 0701, 0702 and 0751

Order Information

| Designation | Type | Article Number |
|---|---------------------------------------|--------------------|
| Basic device and features for subsequent installation | | |
| Basic device with automatic test sequence, interface, German user interface, earthing contact plug and outlet, probe cable with test probe, plug-on alligator clip, test report and operating instructions. For features and add-ons refer to table on page 5 | SECUTEST®SII | M7030 |
| Standard model available from stock with additional test sockets and 3 plug-on quick clips (M7030 F01) | M7030-V001 | M7030-V001 |
| Standard model available from stock with configuration for hospital beds (M7030 D07) | M7030-V002 | M7030-V002 |
| Standard model available from stock with SECUTEST PSI (M7030 E01) | M7030-V003 | M7030-V003 |
| Standard model available from stock (M7030 E01F01) | M7030-V005 | M7030-V005 |
| Feature E01: PSI module with languages D, GB, F, NL, I, E and CZ, 2 rolls paper chart, 1 ribbon cartridge, batteries and operating instructions | SECUTEST®PSI ^{D)} | GTM 5016 000 R0001 |
| Feature KD01: remote control, 5 m probe cable ¹⁾ | SK5 | Z745K |
| PC software | | |
| Software for maintenance and electronic equipment management | PS 3 | |
| Report generation and test data management of electrical devices and systems with SECUTEST®... test instruments | PS3-compact | Z530K |
| Basic module and device driver, allows for read-out of measured values from the SECUTEST®... test instruments | 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 |
| PC software for generating reports and lists as supplement to MS Word/EXCEL (language version German/English/French/Finnish/Polish) (Exception: EXCEL part only in German/English) | PC.doc-WORD™/ EXCEL™ ^{D)} | Z714A |
| PC software for test data management as supplement to MS Access (language version German/English) | PC.doc-ACCESS™ ^{D)} | Z714B |
| Upgrade from PC.doc win/med... to PC.doc-WORD™ | PC.doc upgrade | Z714C |
| Upgrade from PC.base ... to PC.doc-ACCESS™ | PC.base upgrade | Z714D |
| Update from SE-Q.base and PS3 compact to PS3 | Z530U | Z530U |
| Accessories | | |
| Special cable, 2 m | SK2 | Z745D |
| Brush probe | Z745G | Z745G |
| Pack of 10 rolls paper chart for PSI module (approx. 6.7 m per roll) | PS-10P | GTZ 3229 000 R0001 |
| Printer ribbon cartridges for PSI module, package of 10 | Z3210 | GTZ 3210 000 R0001 |
| Printer adapter for direct connection of external printers | DA-II | Z745M |
| Barcode scanner | B3261 | GTZ 3261 000 R0001 |
| Barcode and label printer with software | Z721D | Z721D |

| Designation | Type | Article Number |
|--|-------------------------|--------------------|
| Label set for Z721D printer (qty. x width: 3 x 24, 1 x 18 and 1 x 9 mm, 8 m long each) | Z722D | Z722D |
| Label set for Z721D printer (5 lengths, 18 mm wide x 8 m long) | Z722E | Z722E |
| Pt100 temperature sensor, -40 to +500° C, for surface and immersion measurements (prerequisite: feature F01) | Z3409 | GTZ 3409 000 R0001 |
| Pt100 oven sensor, -50 to +550° C for SECUTEST®SII (prerequisite: feature F01) | TF550 | GTZ 3408 000 R0001 |
| Switchable clip-on current sensor, 1 mA ... 15 A and 1 A ... 150 A, Frequency range 45 ... 65 ... 500 Hz, Transformation ratio: 1 mV/mA and 1 mV/A, Clip opening: max. cable dia.: 15 mm (prerequisite: feature F01) | WZ12C ^{D)} | Z219C |
| Calibration adapter for test instruments per DIN VDE 0701/0702/0751 (max. 200 mA) | SECU-cal 10 | Z715A |
| Adapter for testing single-phase extension cables including earth contact and inlet plug inserts | EL1 | Z723A |
| Plug insert for EL1 in CH per SEV | PRO-CH | GTZ 3225 000 R0001 |
| Plug insert for EL1 in GB per BS | PRO-GB | GTZ 3226 000 R0001 |
| Plug insert for EL1 for GB measurement | PRO-GB/ring | GTZ 3226 000 R0002 |
| Plug insert for EL1 in Italy per IMQ | PRO-I | GTZ 3227 000 R0001 |
| Plug insert for EL1 in DK | PRO-DK | GTZ 3219 000 R0001 |
| Plug insert for EL1 in South Africa | PRO-RSA | Z501A |
| Plug insert for EL1 with 3 connector cables for any connection standards | PRO-UNI | GTZ 3214 000 R0003 |
| Plug insert for EL1 with 10 m cable for PE measurements and the like | PRO-RLO | GTZ 3214 000 R0002 |
| Schuko plug insert or similar (replacement plug, included with EL) | PRO-Schuko | GTZ 3228 000 R0001 |
| Test adapter for tests on devices with CEE16 and CEE32 connections | AT3-II-S ^{D)} | Z745T |
| 3-phase current adapter 16A/32A (test case) for connection to the test instrument for tests per DIN VDE 0701, 0702, 0751 and IEC 601 | AT3-III-E ^{D)} | Z745S |
| Adapter for connecting devices under test: 3-pole 16 A, 5-pole 16 A + 32 A, 5 ea. 4 mm jacks | CEE-Adapter | Z745A |
| Cable set | KS13 | GTY 3624 065 P01 |
| Cable set | KS17-2 | GTY 3520 034 P01 |
| Carrying pouch for SECUTEST®SII | F2000 ^{D)} | Z700D |
| Carrying case for SECUTEST®SII | K2010 | Z504L |

¹⁾ Includes 3½" floppy disks and Z3241 interface cable for RS 232

^{D)} Data sheet available

For additional information on accessories, please refer to

- our Measuring Instruments and Testers Catalog
- our website www.gossenmetrawatt.com

Edited in Germany • Subject to change without notice • A pdf version available on the Internet

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