GOSSEN METRAWATT

# SECUTEST®SII
# Testers per DIN VDE 0701, 0702 and 0751

3-349-229-03
6/4.05

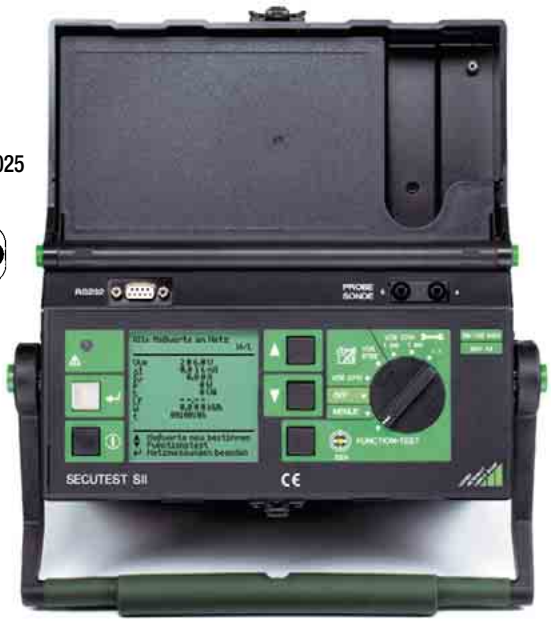
- **Testing electrical safety of electrical equipment** per DIN VDE 0701-1:2000
- **Testing of data processing equipment** and office machines per DIN VDE 0701, part 240
- **Periodic testing** per DIN VDE 0702: **2004** *(new)*
- **Testing of electrical medical devices** including type B, BF and CF application parts per DIN VDE 0751 and for technical safety inspection per MPG [1] (AC and DC components measured separately)
- **DIN VDE 0404** is complied with
- **Differential current measurement** with a resolution of 1 µA 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

Deutscher Kalibrierdienst DKD-K-19701
DKD
DIN EN ISO/IEC 17025

Quality Management System
DQS Certified per DIN EN ISO 9001 reg. no. 1262

Industrie Forum Design Hannover




## 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 simple 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 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.

## Applicable Regulations and Standards

| | |
|---|---|
| **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** | Devices for technical safety testing of electrical equipment – devices for periodic testing |
| **DIN EN 60 529/ VDE 0470, Part 1** | Test instruments and test procedures, degrees of protection provided by enclosures (IP code) |
| **DIN EN 61326 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 | |
|---|---|---|---|---|---|
| **DUTs to be tested in accordance with following regulations** | DIN VDE 0701, part 1:2000 | DIN VDE 0701, part 240 | DIN VDE 0751: 2001 | DIN VDE 0702: 2004 | DIN VDE 0751: 2001 |
| **Electrical equipment** | | | | • | |
| Working devices | • | | | • | |
| Mains operated electronic devices | | | | • | |
| Hand-held electric tools | | | | • | |
| Extension cables | • | | | • | |
| **Data processing devices** | | • | | • | |
| **Electrical medical devices, application parts** | | | • | | • |

## 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 | Overload Capacity Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIN VDE 0701 / 0702 / 0751 Tests | Device protective conductor res. $R_{SL}$ | 0.000 … 2.100 Ω | 1 mΩ | — | 4.5 … 9 V DC | — | > 200 mA DC | — | — | ±(5% rdg.+ 10 d) > 10 d | ±(2.5% rdg.+ 5 d) > 10 d | 253 V | Cont. |
| | | 2.11 … 31.00 Ω | 10 mΩ | | | | | | | | | | |
| | Insulation resistance $R_{ISO}$ | 0.050 … 1.500 MΩ | 1 kΩ | 50 … 500 V DC | 1.0 • $U_N$ … 1.5 • $U_N$ | > 1 mA | < 10 mA | — | — | ±(5% rdg.+10 d) | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| | | 1.01 … 10.00 MΩ | 10 kΩ | | | | | | | | | | |
| | | 10.1 … 310.0 MΩ | 100 kΩ | | | | | | | ±(10% rdg.+10 d) | ±(10% rdg.+10 d) | | |
| | Equivalent leakage current $I_{EA}$ or $I_{EHL}$ | 0.00 … 21.00 mA | 10 µA | — | 230 V~ - 20 /+ 10% | — | < 3.5 mA | > 72 kΩ | 1/2 kΩ [6] | ±(5% rdg.+10 d) | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| | | 20.1 … 120.0 mA | 100 µA | | | | | | | | | | |
| | Equivalent patient leakage current $I_{EPA}$ | 0.0 ... 310.0 µA | 100 nA | — | 230 V~ - 20 /+ 10% | — | < 3.5 mA | > 72 kΩ | 1 kΩ ±10 Ω | ±(5% rdg.+10 d) | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| | | 0.300 ... 2.100 mA | 1 µA | | | | | | | | | | |
| | | 2.00 ... 11.00 mA | 10 µA | | | | | | | | | | |
| | Contact or housing leakage cur. $I_{Probe}$ or $I_{GA}$ | 0 … 310 µA [7] 0.300 … 3.500 mA | 0.1 µA 1 µA | — | — | — | — | 1/2 kΩ [6] | — | ±(5% rdg.+10 d) | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| | Patient leakage current $I_{PA}$ AC and DC components measured separately | 0.0 ... 310.0 µA | 100 nA | — | — | — | — | 1 kΩ | — | ±(5% rdg.+10 d) | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. [2, 4] |
| | | 0.300 ... 3.100 mA | 1 µA | | | | | | | | | | |
| | | 3.10 ... > 15.00 mA | 10 µA | | | | | | | | | | |
| | Residual current ΔI between L and N [1] | 0.000 … 3.100 mA~ 3.00 … 31.00 mA~ [2] | 1 µA 10 µA | — | — | — | — | — | — | ±(10% rdg.+10 d) > 10 d | ±(5% rdg.+5 d) > 10 d | [2] | [2] |
| Function Test | Line voltage $U_{L-N}$ | 207.0 … 253.0 V~ | 0.1 V | — | — | — | — | — | — | — | ±(2.5% rdg.+5 d) | 253 V | Cont. |
| | Load current $I_L$ | 0 … 16.00 $A_{RMS}$ | 10 mA | — | — | — | — | — | — | — | ±(2.5% rdg.+5 d) | 20 A | 10 min. |
| | Active power P | 0 … 3700 W [3] | 1 W | — | — | — | — | — | — | — | ±(5% rdg.+10 d) > 20 d | 253 V | Cont. |
| | | | | | | | | | | | | 20 A | 10 min. |
| | Apparent power S | 0 … 4000 VA | 1 VA | Calculated value, $U_{L-N}$ • $I_V$ | | | | | | | ±(5% rdg.+10 d) > 20 d | | |
| | Power factor LF with sinusoidal waveshape: cosφ | 0.00 … 1.00 | 0.01 | Calculated value, P / S, display > 10 W | | | | | | | ±(10% rdg.+5 d) | | |
| | Residual current ΔI between L and N per VDE 0702 | 0.00 … 31.00 mA~ | 10 µA | — | — | | — | — | — | ±(10% rdg.+10 d) > 10 d | ±(5% rdg.+5 d) | [2] | [2] |
| $U_{Probe}$ | Probe voltage (phase search) | 0 … 253.0 V ⎓, ~ and ≂ | 0.1 V | — | — | | — | | — | — | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| $U_{AC/DC}$ [5] | Voltage | 0 … 253.0 V ⎓, ~ and ≂ | 0.1 V | — | — | | — | — | — | — | ±(2.5% rdg.+5 d) > 10 d | 253 V | Cont. |
| | Extra-low voltage, safety class III | | | | | | | | | ±(5% rdg.+10 d) | | | |
| R [5] | Resistance | 0 … 150.0 kΩ | 100 Ω | — | < 20 V – | | 1.1 mA | — | — | — | ±(1% rdg.+3 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 MΩ | — | — | ±(3% rdg.+10 d) > 10 d without clip | 253 V | Cont. |
| | | 0 … 100 A~ | 1 A (1 mV) | — | — | | — | 1.5 MΩ | — | — | | 253 V | Cont. |
| Temp. [5] | Temperature with Pt100 sensor | – 200 … – 50° C | 1° C | — | < 20 V – | | 1.1 mA | — | — | — | ±(2% rdg.+1° C) | 10 V | Cont. |
| | | – 50.1 … + 300.0° C | 0.1° C | | | | | | | | ±(1% rdg.+1° C) | 10 V | Cont. |
| | | +300 … +850° C | 1° C | | | | | | | | ±(2% rdg.+1° 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 kΩ, for DIN VDE 0751: 1 kΩ
7) This measuring range for DIN VDE 0751 only

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

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### 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 V | Disabled |
| Protective conductor PE and phase conductor L reversed and/or neutral conductor N interrupted | Lamp ⚠ lights up | Voltage at PE > 100 V | Disabled |
| Contact voltage at protective conductor PE to neutral conductor N or phase conductor L | Text at LCD panel | U > 25 V | Disabled, but disabling can be deactivated (e.g. IT network) |
| Line voltage too low | Lamp ⚠ lights up | $U_{L-N}$ < 180 V | Possible |

### Influencing Quantities and Influence Error

| Influencing Quantity / Sphere of Influence | DIN VDE 0404 Designation | Influence Error ± … % 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: |
| 0 … 21 ° C and 25 … 40° C | | 1 for protective cond. resistance |
| | | 0.5 for all other meas. ranges |
| **Amount of DUT current** | E4 | 2.5 |
| **Low frequency magnetic fields** | E5 | 2.5 |
| **DUT impedance** | I6 | 2.5 |
| **Capacitance during insulation measurement** | E7 | 2.5 |
| **Waveshape of measured current** | E8 | |
| 49 … 51 Hz | | 2 with capacitive load (for equivalent leakage current) |
| 45 … 100 Hz | | 1 (for contact current) |
| | | 2.5 for all other measuring ranges |

### Reference Ranges

| | |
|---|---|
| Line voltage | 230 V ±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 | Approx. 15 VA |
| for function test | Continuous max. 3600 VA, power is conducted through the instrument only, switching capacity ≤ 16 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 | II |
| Fouling factor | 2 |
| Safety Shutdown | At DUT differential current of > 25 mA, Shutdown time: < 100 ms<br>Probe current: > 10 mA, < 1 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 | ≥ 50.0 mm dia. | 1 | Vertically falling drops |
| 2 | ≥ 12.5 mm dia. | 2 | vertically falling drops with enclosure tilted 15° |
| 3 | ≥ 2.5 mm dia. | 3 | Spraying water |
| 4 | ≥ 1.0 mm dia. | 4 | Splashing water |

## 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**

Operating system:
– MS Windows 95, 98, ME, NT, 2000 or XP

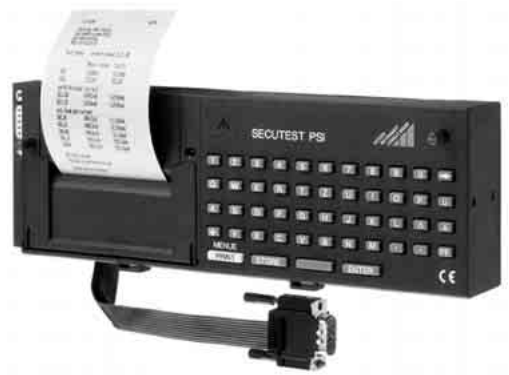
Hardware:
– IBM compatible Windows PC, Pentium CPU or better with 32 MB RAM
– VGA monitor
– Hard disk with at least 20 MB available memory
– 3½" floppy disk drive for 1.4 MB floppies
– Microsoft compatible mouse
– If print-outs are required: a Windows supported printer

**Feature C00 … C99: SE-L.med Foreign Language Floppy Disk ***

User interface languages which are not included as a standard feature can be installed from a floppy disk. One language can be installed 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 ***

The add-on remote control function consists of a 5 meter long probe cable with test probe and an upgrade program on floppy disk. 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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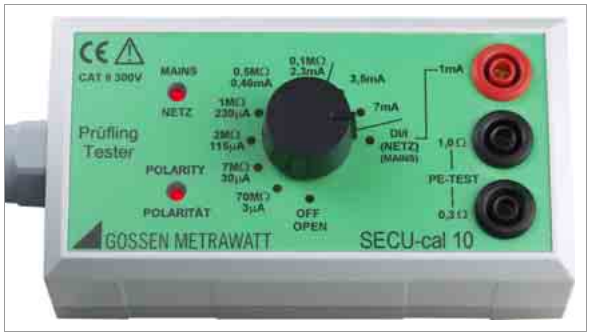
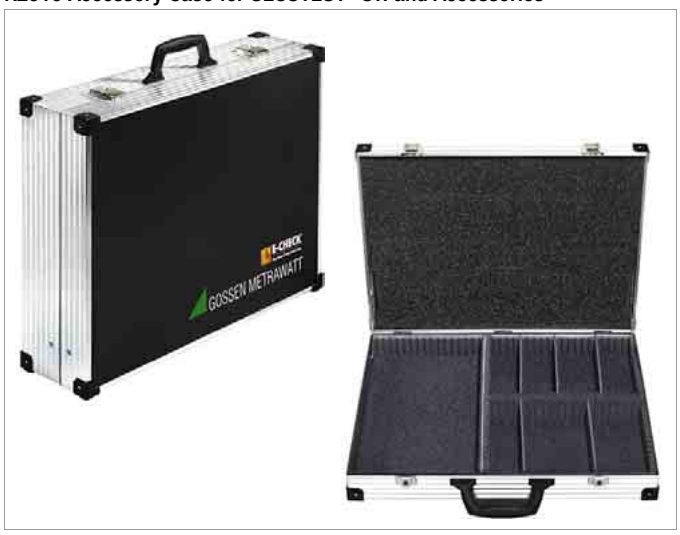
### SECU-cal 10 Accessory Calibration Adapter

The calibration adapter is used for testing measuring accuracy of test instruments in accordance with DIN VDE 0701/0702/0751. As a rule, these instruments must be tested once each year, as well as for certification in accordance with the ISO 9000 quality standard, as set forth by accident prevention regulation BGV A3 (previously BGV A2 or VBG 4).

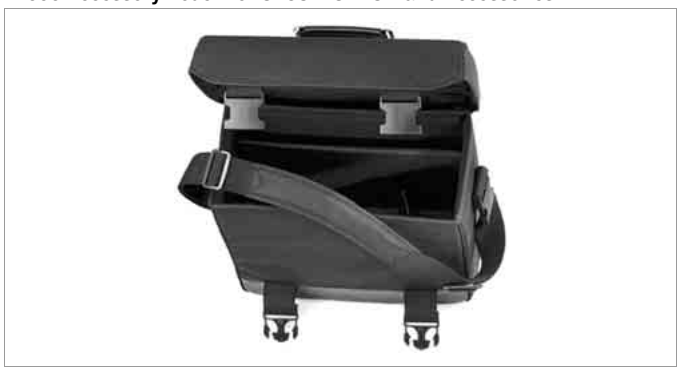



All limit values for the required tests per DIN VDE, as well as protective conductor resistance, insulation resistance, equivalent leakage current, differential and/or contact as well as housing leakage current must be tested.

### 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™ PC.doc-ACCESS™ | PS 3 | PS3 compact |
|---|---|---|---|
| **Autonomous** | Required: WinWord and Access | ✔ autonomous | ✔ |
| **Type** | Always complete | Modular | — |
| **Included GOSSEN METRAWATT GMBH testers** | SECUTEST® METRATESTER®5/5-F PROFITEST® METRISO®C GEOHM®C (standard) | SECUTEST® PROFITEST® METRISO®C GEOHM®C Individual module for each instrument | SECUTEST® and PROFITEST® |
| **Master data management** | ✔ Complete with WinWord and 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 and Access | ✔ Included with add-on module | — |
| **Statistics** | ✔ Error statistics, defect statistics | ✔ Option | — |
| **Navigator** | — | ✔ (module) | — |
| **Client options** | — | ✔ (module) | — |
| **Outdoor function** | — | ✔ (module) | — |
| **Barcode generation** | ✔ (standard) | ✔ (module) | ✔ |
| **Network compatible** | ✔ (standard) | ✔ (module) | — |
| **Inventory management** | — | ✔ (module) | — |
| **Viewer** | — | ✔ (module) | — |
| **Repairs function** | — | ✔ (module) | — |
| **Document management** | — | ✔ (module) | — |
| **Error messaging module** | — | ✔ (module) | — |

### Report and List Generation with PC.doc-WORD™

Prerequisite: Microsoft® Word™

PC.doc-WORD™ 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™.

### 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™ and PC.doc-ACCESS™ is available in a separate data sheet.

### PS3 Software for Maintenance and Repair Management

PS3 reads in measurement data acquired with the test instruments, as well as from other sources, and organizes them automatically according to activity, i.e. testing, maintenance and inspection. Only a few quick work steps are required for the generation of ready-to-sign test reports and handover reports.

Standard requirements, for example reading in measurement data and report printing, are fulfilled with the basic module and device module.

Other requirements including following up on deadlines, test data history and selection of any desired data for generating lists, right on up to complete object management (equipment and buildings) with inventory management, work order generation and repairs, are handled by the add-on module and any required additional modules.

### Device Modules

Device modules enable the read-out of measured values from PRO*Fi*TEST®, METRISO®*C* and SECUTEST® series test instruments.

### Z531A Basic Module

Together with a device module, measurement data can be read out of test instruments, inventory data can be maintained and test reports can be printed. Data can be read out from any number of test instruments of the same type with the device module. Additional device modules can also be linked to the basic module by means of enabling, so that only one basic module is required for all devices.

The following hierarchy levels are available:

"Electrical circuit", "distributor" and "building" for the following test instruments

- **PRO*Fi*TEST®PSI** (all)
- **PRO*Fi*TEST®*C***
- **METRISO®*C***

"System" for the following test instruments

- **SECUTEST®**(all)

Machines / systems

- **PROFiTEST 204**

All relevant data for the last executed test are stored and displayed at the "Activities" index card. Data from previous tests are overwritten in the basic module when a new test is read in (no history).

"PS3 report print-out" allocates measurement data from the last executed tests to the hierarchy levels based upon the utilized test instrument.

Additional entries can be made to the index cards after clicking the "Report Entries" button before the respective test report is printed out. Various form templates are available.

### Z531B Add-On Module

The add-on module expands the basic module to include a number of convenient functions which simplify data administration, editing and read-out, and increase efficiency. As compared with the basic module, the add-on module provides the following additional functions:

- **Deadlines Monitoring**
  "Deadlines" index card for monitoring deadlines, carrying deadlines forward and signaling past due deadlines
- **History**
  Any number of (previous) tests can be can be saved to the "Activities" index card and administered
- **Batch Printing**
  A batch function makes it possible to print out numerous reports automatically over night.
- **Forms Generator**
  Included report templates can be changed, and new templates can be created with the forms generator.
- **List Generator**
  Display of all objects which will require periodic testing in the following month, list of all of a customer's equipment with measurement values,
  list of all equipment in barcode format,
  list of all equipment which has not passed periodic testing etc.

*In order to be able to use the add-on module, the basic module and at least one device module must already be installed to the computer and enabled.*

### Additional Modules

The following additional modules are available for easy management of large volumes of data:

- The **LH Navigator** makes it possible to locate an object within any hierarchical level, and to represent it in a freely configurable list or index card.
  Bitmaps and JPEG files (letters, documents, photos and drawings) can be attached to each index card with the help of document management, whose content is made visible by the **LH Viewer**.
- The **client options** module makes it possible to manage an unlimited number of customers in the user's own file.
- Functions such as inventory management, procurement, requirements planning, deadlines monitoring, dunning etc. can be greatly simplified with the **STORE inventory management** module.
- The easy to use **REMOTE testing software module** facilitates the acquisition of measurement data, and controls SECUTEST series test instruments.
- A **network version** is available upon request.

*In order to be able to use the additional modules, the basic module, at least one device module and the add-on module must already be installed to the computer and enabled.*

### System Requirements for PS3

- Windows PC with Pentium processor, 500 MHz or faster
- MS Windows NT 4.0, 2000 or XP
- 128 MB RAM
- CD ROM drive
- Approx. 300 MB available hard disk space (without data)
- 3½" floppy disk drive or e-mail access for loading control and enabling 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** | | |
| PS3 modular software for test instruments<br>SECUTEST device module (all variants)<br>Basic module<br>Add-on module 3)<br>Additional modules 4)<br>– LHNavigator + LHViewer<br>– Client options<br>– Inventory management<br>– Outdoor function (multiple licenses)<br>– Error messaging module<br>– Barcode module<br>– Maintenance management<br>– Statistics<br>– Network (multiple licenses) | <br>Z530C<br>Z531A<br>Z531B<br><br>Z531C<br>Z531D<br>Z531E<br>Upon request<br>Upon request<br>Z531J<br>Z531K<br>Z531L<br>Upon request | <br>Z530C<br>Z531A<br>Z531B<br><br>Z531C<br>Z531D<br>Z531E<br>Upon request<br>Upon request<br>Z531J<br>Z531K<br>Z531L<br>Upon request |
| Report generation and test data management for electrical devices and equipment withSECUTEST®... and PROFiTEST 0100S-II | PS3 Compact | Z530K |
| PC software for generating reports and lists as supplement to MS Word language version German/English/French/Finnish | PC.doc-WORD™ 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 for 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 |

| Designation | Type | Article Number |
|---|---|---|
| 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 |
| 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 | Z723 |
| 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 1) | PRO-Schuko | GTZ 3228 000 R0001 |
| Test instrument for 3-phase consumers and extension cables | AT3 D) | Z745B |
| Safety tester for testing per DIN VDE 0701/0702/0751, for connection to SECUTEST®SII test instruments with feature F01, and SECUTEST®SIII | AT3-II D) | Z745Q |
| Test case for differential current measurement at 3-phase consumers for connection to SECUTEST® SII test instruments (with feature F01), SIII and M701x | AT3-III D) | Z745P |
| Test adapter for connecting 63 A consumers and cables to the AT3 | AT3-63 | Z745C |
| 3-phase adapter for 3 x CEE | 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
3)) Prerequisite: device module and basic module
4)) Prerequisite: add-on module
D)) Data sheet available



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