GOSSEN METRAWATT

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)

Test Instruments for Measuring the Electrical Safety of Devices

3-447-080-03
3/5.22

- Integrated test sequences for quickly testing operating equipment (preconfigured standards-compliant series of individual tests with subsequent documentation)
- Suitable for use by trained persons
- Quick access to measuring and test functions via the double rotary switch, direct selection keys and softkeys
- Automatic detection of DUT connection and protection category
- Unique multiple measurement permits convenient recording of several measuring points.
- Testing of various types of PRCDs such as PRCD-S and PRCD-K via integrated test sequences (including protective conductor resistance measurement for variants with switched PE as well)
- Comprehensive, legally secure preparation of test reports
- Extensive data management and storage concept for test results and single measurements (up to 50,000 data records*) – allocation of measurements/tests to devices and customers USB interfaces for data entry and transmission
- High-resolution, brilliant 4.3" TFT color display
- Compact, impact resistant housing with integrated rubber protector
- Extensive setting options for international use (language, keyboard, character set, date, time)



IQ Optimized for IZYTRONIQ

product design award 2014

i-NOVO AWARDS 2015 DESIGN

MADE IN GERMANY

ilac-MRA

DAkkS Deutsche Akkreditierungsstelle D-K-15080-01-01

Optional

SECUTEST DB+ database expansion (Z853R or feature KB01)

- **Remote control** via PC (IZYTRONIQ) is possible.
- Up to **24 user-defined test sequences** (up to a total of 1200 test steps) can be created in IZYTRONIQ and uploaded to the test instrument.
- **Additional database elements:**
  - Property, building, floor and room for better structuring of large data sets
  - Department and cost center
  - Individual **test interval** for each test object
- Multi-print – **print out several/all test reports** (to a connected Z721S thermal printer) which are available for a device under test by pressing just one key
- Create user-defined **report templates** and manage them in the test instrument, including company logo
- **Export** all data (master data and measured value) as a file to a USB flash drive
- **Import** all test object master data (no measured values) to the test instrument from IZYTRONIQ, or from a USB flash drive

SECUTEST DB COMFORT database expansion (Z853S or feature KD01)

- **Additional database elements:**
  - **Medical test object** for medical DUTs, with extended entry options
  - Individual test interval for each **test object**
- **Touch-Edit** – editing can be started by pressing and holding the detail view of a test object in the main screen.
- Searches started with the **"Search All" - softkey** scan the new "UDI" field (unique device identification) for medical devices as well.
- **Move** test objects – "moving" (medical) devices within the tree can be initiated by pressing and holding the respective element in the tree display.
- **QuickEdit** – when setting up a new DUT, not only can the ID be entered – all other fields can also be filled in at the same time as well.
- **Auto-Store** – results of automatic test sequences are saved immediately under the selected test object.
- **Push-Print** – send data directly to the PC (IZYTRONIQ) (data are not stored at the instrument).

* 1 data record = 1 DUT or location node or customer or individual measurement

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

Included Features

Measuring Functions

Switch Position	Measuring Function Test Current/Voltage		Meas. Type, Connection Type
Single measurements, *rotary switch level: green*			
RPE	R_{PE}	**Protective conductor resistance**	PE(TS) - P1 passive PE(TS) - P1 active PE(mains) - P1 PE(mains) - P1 clamp [2] P1 - P2 [3]
	I	Test current (200 mA) **SECUTEST ST BASE10/PRO** & SECULIFE ST BASE: 10 A [1] (feature G01) & SECULIFE ST BASE25: 25 A [1] (feature G02)	
RINS	R_{INS}	**Insulation resistance (**PC I/PC II)	LN(TS) - PE(TS) LN(TS) - P1 P1 - P2 [3] PE(mains) - P1 PE(TS) - P1 LN(TS) - P1//PE(TS)
	U_{INS}	Test voltage	
IPE	$I_{PE\simeq}$	**Protective conductor current, RMS**	Direct Differential Alternative AT3-Adapter [2] Clamp [2]
	$I_{PE\sim}$	AC component	
	$I_{PE=}$	DC component	
	U_{LN}	Test voltage	
IT	$I_{T\simeq}$	**Touch current, RMS**	Direct Differential Alternative (P1) Permanent conn. Alternative (P1–P2)
	$I_{T\sim}$	AC component	
	$I_{T=}$	DC component	
	U_{LN}	Test voltage	
IE	$I_{E\simeq}$	**Device leakage current, RMS**	Direct Differential Alternative AT3-Adapter [2] Clamp [2]
	$I_{G\sim}$	AC component	
	$I_{E=}$	DC component	
	U_{LN}	Test voltage	
IA	$I_{A\simeq}$	**Leakage current from the applied part, RMS**	Direct (P1) Alternative (P1) Perm. conn. (P1)
	U_A	Test voltage	
IP	$I_{P\simeq}$	**Patient leakage current, RMS**	Direct (P1) Perm. conn. (P1)
	$I_{P\sim}$	AC component	
	$I_{P=}$	DC component	
	U_{LN}	Test voltage	
U	$U_{\simeq}$	**Probe voltage, TRMS**	PE - P1 PE - P1 (with mains*) * Polarity setting
	$U_{\sim}$	Alternating voltage component	
	$U_{=}$	Direct voltage component	
	$U_{\simeq}$	**Measuring voltage, TRMS** [2]	V – COM V – COM (with mains)
	$U_{\sim}$	Alternating voltage component [2]	
	$U_{=}$	Direct voltage component [2]	
tPRCD [4]	ta	PRCD time to trip for 30 mA PRCDs	
	U_{LN}	Line voltage at the test socket	
P	**Function test at the test socket**		Polarity setting
	I	Current between L and N	
	U	Voltage between L and N	
	f	Frequency	
	P	Active power	
	S	Apparent power	
	PF	Power factor	
Special measuring functions			
EL1	Extension cord with adapter: continuity, short-circuit, polarity (reversed wires [5])		EL1 adapter EL1 adapter (continuity only) AT3-IIIE adapter VL2E adapter
EXTRA	Reserved for extensions within the framework of software updates		
	°C	Temperature measurement [2] with Pt100/Pt1000	V – COM
	IZ	Current clamp measurement with current clamp sensor	V – COM

[1] 10/25 A R_{PE} measurements are only possible with line voltages of 115/230 V and line frequencies of 50/60 Hz.

[2] Voltage measuring inputs only with test instruments including feature I01 (e.g. SECUTEST ST PRO and SECULIFE ST BASE(25))

[3] Connection for 2nd test probe for two-pole measurement with test instrument including feature H01 (e.g. SECUTEST ST PRO or SECULIFE ST BASE(25))

[4] Measurement of time to trip isn't possible in IT systems.

[5] No checking for reversed wires takes place when the EL1 adapter is used.

Key:

Alternative	= alternative measurement (equivalent leakage current measurement)
Differential	= differential current measurement
Direct	= direct measurement
LN(TS)	= short-circuited L and N conductors at test socket
P1	= measurement with test probe P1
P1-P2	= 2-pole measurement with test probes P1 and P2
PE-P1	= measurement between PE and test probe P1
PE(TS)	= protective conductor at the test socket
PE(mains)	= protective conductor at the mains connection

Integrated Test Sequences

The test instrument includes preconfigured, integrated test sequences. The integrated test sequences can be used to comply with the following standards:

- VDE 0701-0702 / ÖVE E 8701 / SNR 462638
  IInspection after repair, modification of electrical appliances – Periodic inspection on electrical appliances
- IEC 62353 / EN 62353 / VDE 0751-1
  Medical electrical equipment –
  Recurrent test and test after repair of medical electrical equipment
- IEC 60974-4 / EN 60974-4 / VDE 0544-4
  Arc welding equipment
  Part 4: Periodic inspection and testing
- NEN 3140
  Bedrijfsvoering van elektrische installaties - Laagspanning
- EN 50678 / VDE 0701
  General procedure for verifying the effectiveness of the protective measures of electrical equipment after repair
- EN 50699 / VDE 0702
  Recurrent Test of Electrical Equipment
- IEC 62368 / EN 62368 / VDE 0868-1
  Audio/video, information and communication technology equipment
- IEC 62911 / EN 62911 / VDE 0868-911
  Audio, video and information technology equipment – Routine electrical safety testing in production

Availability of the individual integrated test sequences depends on the test instrument type (SECUTEST ST... or SECULIFE ST...), the selected features (order features) and the enabled extensions (activations).

The integrated test sequences are run in the orange rotary switch position. They're freely assignable, i.e. they can be individually assigned to the rotary switch positions (because there are more integrated test sequences than rotary switch positions).

The test instrument is preconfigured upon delivery and its configuration depends on numerous factors. Due to the great variety of possible combinations, listing them would go beyond the scope of this data sheet and has therefore been omitted.

Mains Connection Analysis

Line voltage and frequency are measured and compared with the data specified in the setup menu. Momentary voltage or nominal voltage in accordance with the standard is required, for instance in order to calculate measured values for the leakage current measurement.

Automatic Detection of Mains Connection Errors

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 (START/STOP key)	Display	Press START/STOP key U > 25 V key → PE; < 1 MΩ [2]	All measurements disabled
Protective conductor PE and phase conductor L reversed and/or neutral conductor N interrupted		Voltage at PE > 100 V	Not possible (no supply power)
Line voltage < 180 V / < 90 V (depending on mains)		U_{L-N} < 180 V U_{L-N} < 90 V	Possible under certain circumstances [1]
Test for IT/TN system	Display	Connection N → PE > 20 kΩ	Possible under certain circumstances

[1] 10/25 A R_{PE} measurements are only possible with line voltages of 115/230 V and line frequencies of 50/60 Hz.
[2] If the user of the test instrument is too well insulated, the following error message may appear: "Interference voltage at PE"

Analysis of DUT Connection and Condition

Depending on the measurement or how the DUT is connected, the following states are checked and displayed before measurement is begun:

Test Function		Condition
Short-circuit testL–N	Short-circuit / DUT starting current	R ≤ 2.5 Ω
	No short-circuit (AC test)	R > 2.5 Ω
Open-circuit voltage U_0 4.3 V, short-circuit current I_K < 250 mA		
Short-circuit testLN–PE	Short-circuit	R ≤ 2 kΩ
	No short-circuit (AC test)	R > 2 kΩ
Open-circuit voltage U_0 230 V AC, short-circuit current I_K < 1.5 mA		
On test	On (DUT passive)	R < 250 kΩ
	Off (DUT active)	R > 300 kΩ
Open-circuit voltage U_0 230 V AC, short-circuit current I_K < 1.5 mA		
Switchable control	Mains power switched on automatically	R > 500 Ω
	Popup (switch off DUT first)	R < 500 Ω
Probe test	No probe	R > 2 MΩ
	Probe detected	R < 500 kΩ
Protection class detection (only with country specific variant [1])		
	Protective conductor found: PC I	R < 1 Ω
	No protective conductor: PC II	R > 10 Ω
Safety shutdown		
Triggered at following residual current value (selectable)		> 10 mA / > 30 mA
Triggered at following probe current values	For leakage current measurement	> 30 mA [2]
	During protective conductor resistance measurement	> 250 mA

Test Function		Condition
Connection test (only with country specific variant [1])		
Checks whether the DUT is connected to the test socket.		
	DUT power cable found	R < 1 Ω
	No DUT power cable	R > 10 Ω
Insulation test	DUT set up in a well-insulated fashion	R ≥ 500 kΩ
	DUT set up in a poorly insulated fashion	R < 500 kΩ
PE mains – PE socket: Open-circuit voltage U_0 50 V DC, I_K < 2 mA		
Overcurrent protection		
Shutdown in the event of a continuous flow of current via the test socket at:Our SECUTEST ST BASE10/**PRO** and SECULIFE ST BASE(25) test instruments permit active testing of devices with nominal current (load current) of up to 16 A. The test socket on the respective test instrument is equipped with 16 A fuses to this end, and the switching capacity of the internal relays is also 16 A. Starting current of up to 30 A is permissible. In the case of test objects for which a starting current of greater than 30 A can be expected, we urgently recommend the use of a test adapter for larger starting currents, e.g. a test adapter from the AT3 series.		I > 16.5 A

[1] Applies to M7050 with feature B00, B09
[2] Firmware version 3.2.0 and lower: 12 mA

Features

The test instruments are available with various features. These can be selected when placing an order. The basic instruments include the following features:

	Features	SECUTEST ST BASE	SECUTEST ST BASE10	SECUTEST ST PRO	SECULIFE ST BASE	SECULIFE ST BASE25
Touchscreen / keyboard	E01			•	•	•
10 A RPE test current	G01		•	•	•	
25 A RPE test current	G02					•
2nd test probe	H01			•	•	•
Voltage measuring input *	I01			•	•	•
Integrated test sequences for EN 50678 / VDE 0701, EN 50699 / VDE 0702, IEC 62368 / EN 62368 / VDE 868-1, IEC 62911 / EN62911/ VDE 868-911	KE	•	•	•	•	•
SECUTEST DB+	KB01	o	o	•	•	•
SECUTEST DB COMFORT	KD01	o	o	o	o	•
Bluetooth®	M01					
Antimicrobial housing	—				•	•

* For voltage measurement or for connecting a current clamp sensor or an AT3 adapter, and for temperature measurement via RTD

Key: • Included, o Optional

Detailed information regarding features and accessories can be found under "Order Information" on page 12.

Automatic Detection of Measuring Point Changes

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.

Creating a Database

A test structure with data regarding customers and test objects can be created in the test instrument. This structure makes it possible to save single measurements or test sequences to devices

under test belonging to various customers. Manual single measurements can be grouped together into a so-called “manual sequence”.

Medical devices can be entered as test objects (Medical Device) with the SECUTEST DB COMFORT database expansion (Z853S or feature KD01), and individual test dates can be assigned to all test objects.

The SECUTEST DB+ database expansion (Z853R or feature KB01) extends the structure to include buildings, floors and rooms. Furthermore, the test structure can be set up conveniently at a PC with the help of IZYTRONIQ software (see “IZYTRONIQ Software” on page 4), and subsequently transferred to the test instrument.

Logging Functions

All of the values required for approval reports or device logbooks for electrical DUTs (e.g. per ZVEH) can be measured and stored with the test instrument. A due date for the next test is also determined.

Measurement data can be documented and archived thanks to the measurement and test report that can be printed with a thermal printer which has been connected to the USB port, or stored to a USB flash drive as an HTML report (see “Data Interfaces” on page 4).

Alternatively, stored measurement data can be transferred to IZYTRONIQ software (see “IZYTRONIQ Software” on page 4) in order to archive the data, add comments and create reports.

IZYTRONIQ Software

Suitable, database-driven test software is available, namely IZYTRONIQ. This software facilitates test organization and the management of test data from a broad range of test instruments.

It also provides extended functions such as remote control in connection with the respective test instrument – support for extended functions depends on the test instrument and its order features or enabled extensions (activations).

The software is included with test equipment sets (see “Order Information” on page 12). If this is not the case or if you would like to take advantage of a variant with a larger scope of functions, you can purchase IZYTRONIQ separately. Detailed information can be found on our website:

https://www.gmc-instruments.de/en/products/software-and-accessories/software/

Display with Selectable Language

The display panel consists of a backlit, color multi-display at which menus, setting options, measurement results, instructions and error messages, as well schematics and wiring diagrams appear. Sample screenshots are shown on the next page.

The display and user prompting can be set to the desired language depending on the country in which the test instrument is used.

Data Entry

Data can be entered via a displayed softkey keyboard or a convenient touch screen for test instruments including feature E01 (e.g. SECUTEST ST PRO and SECULIFE ST BASE(25)). The menu is controlled via softkeys.

Compatible barcode readers, RFID scanners, USB keyboards and printers can also be connected via USB.

Data Interfaces

The test instrument is equipped with USB interfaces which can be used for various purposes:

- Structures set up in, and measurement data saved to the test instrument can be transferred to IZYTRONIQ database software.
  Data can then be archived in the program, comments can be added and reports can be generated.
- Connection of compatible external input and output devices (see “Data Entry” on page 4)
- Data backup and restore with USB flash drive
- Report printing to USB flash drive or external printer

In the case of test instruments with Bluetooth® (feature M01), data can thus be transmitted to IZYTRONIQ and the push-print function can be used.

Updates

The test instrument is future-proof because firmware/software updates are released on a regular basis.

Scope of Delivery

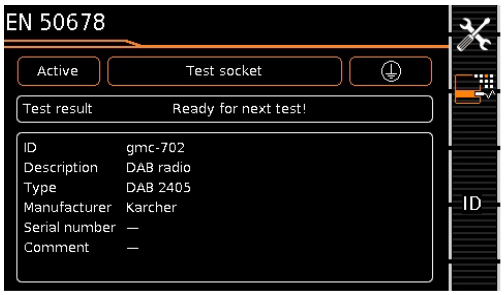
The scope of delivery varies depending on which test instrument variant has been ordered, and is country-specific. Information concerning the scope of delivery can be found under “Order Information” on page 12.

Backlit Multi-Display Samples

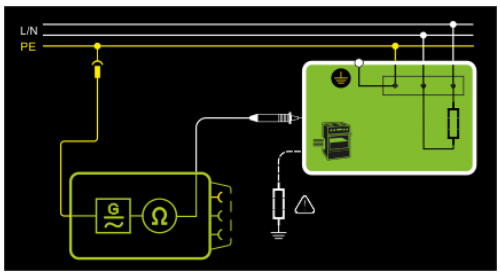
Single Test – Initial Screen with Parameters Display



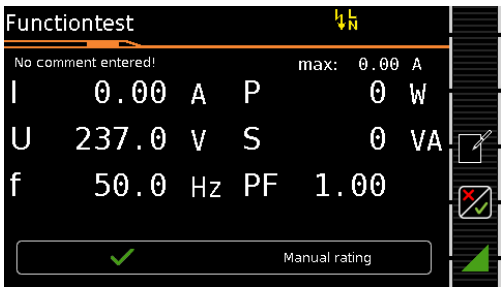
Test Sequence – Start (EN 50678 / VDE 0701)



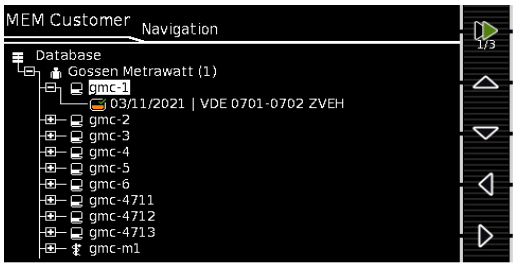
Help – Schematic and Wiring Diagram



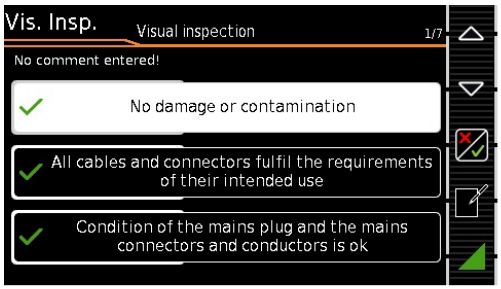
Test Sequence – Function Test



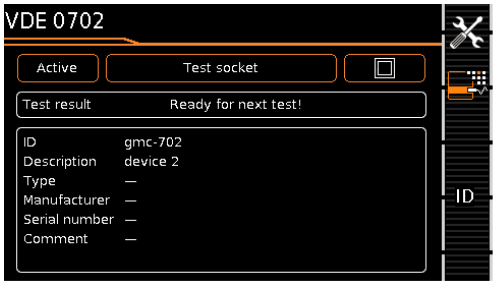
Database Structure – Customer List



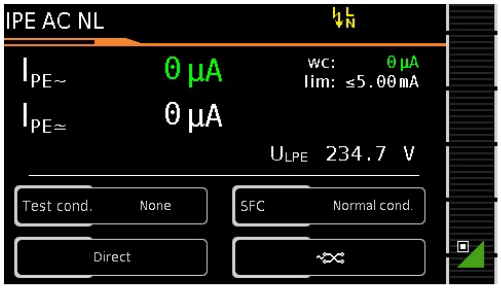
Test Sequence – Visual Inspection



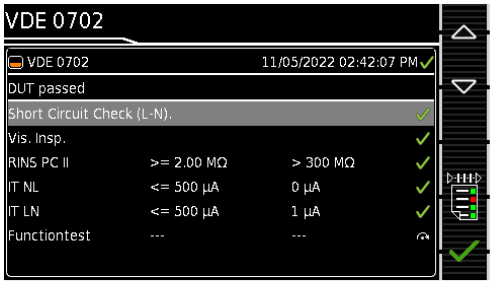
Test Sequence – Start (EN 50699 / VDE 0702)



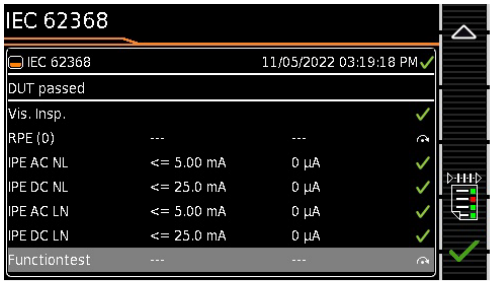
Test Sequence – IPE Measurement (IEC 62368 / EN 62368 / VDE 0868-1)



Test Sequence – Test Results (EN 50699 / VDE 0702)



Test Sequence – Test Result (IEC 62368 / EN 62368 / VDE 0868-1)



SECU**TEST ST** BASE(10) / PRO and SECU**LIFE ST** BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

Characteristic Values

Function	Measured Quantity	Display Range/ Nominal Range of Use	Resolution	Nominal Voltage U_N	Open-Circuit Voltage U_0	Nom. Current I_N	Short-Circuit Current I_{SC}	Internal Resistance R_I	Reference Resistance R_{REF}	Measuring Uncertainty	Intrinsic Uncertainty	Overload Capacity Value	Overload Capacity Time
Tests	Protective conductor resistance **RPE**	1 … 999 mΩ	1 mΩ	—	< 24 V AC or DC	—	> 200 mA AC / DC > 10 A AC [5] > 35 A AC [11]	—	—	±(15% rdg.+ 10 d) > 10 d > 10.0 Ω : ±(10% rdg.+ 10 d)	±(10% rdg.+ 10 d) > 10 d	264 V 250 mA / 16 A [5]	Cont.
		1.00 ... 9.99 Ω	10 mΩ										
		10.0 … 27.0 Ω	100 mΩ									> 42 A AC [11]	15 s
	Insulation resistance [9] **RINS**	10 … 999 kΩ	1 kΩ	50 … 500 V DC	1.0 • U_N … 1.5 • U_N	> 1 mA	> 2 mA	—	—	±(5% rdg.+ 4 d) > 10 d ≥ 20 MΩ : ±(10% rdg.+ 8 d)	±(2.5% rdg.+2 d) > 10 d ≥ 20 MΩ : ±(5% rdg.+4 d)	264 V	Cont.
		1.00 … 9.99 MΩ	10 kΩ										
		10.0 … 99.9 MΩ	100 kΩ										
		100 … 300 MΩ	1 MΩ										
	Leakage current, alternative measurement [2] **IPE, IT, IE, IA**	0 ... 99 µA	1 µA	—	50 ... 250 V~ – 20/+10%	—	< 1.5 mA	> 150 kΩ	1 kΩ ±10 Ω	±(5% rdg.+ 4 d) > 10 d > 15 mA: ±(10% rdg.+ 8 d)	±(2% rdg.+2 d) > 10 d > 15 mA: ±(5% rdg.+ 4 d)	264 V	Cont.
		100 ... 999 µA	1 µA										
		1.00 ... 9.99 mA	10 µA										
		10.0 ... 30.0 mA	100 µA										
	Leakage current, direct measurement [3] **IPE, IT, IE, IA, IP**	Ip only: 0.0 ... 99.9 µA	100 nA	—	—	—	—	1 kΩ ±10 Ω	1 kΩ	±(5% rdg.+ 4 d) > 10 d	±(2.5% rdg.+2 d) > 10 d	264 V	Cont.
		0 ... 99 µA	1 µA										
		100 ... 999 µA	1 µA										
		1.00 ... 9.99 mA	10 µA										
		10.0 ... 30.0 mA	100 µA										
	Leakage current, differential current measurement [4] **IPE, IT, IG**	0 ... 99 µA	1 µA	—	—	—	—	—	—	±(5% rdg.+ 4 d) > 10 d	±(2.5% rdg.+2 d) > 10 d	264 V	Cont.
		100 ... 999 µA	1 µA										
		1.00 ... 9.99 mA	10 µA										
		10.0 ... 30.0 mA	100 µA										
Function Test at the Test Socket	Line voltage U_{L-N} [10]	100.0 … 240.0 V~	0.1 V	—	—	—	—	—	—	—	±(2% rdg.+2 d)	264 V	Cont.
	Load current I_L	0 ... 16.00 A RMS	10 mA	—	—	—	—	—	—	—	±(2% rdg.+2 d)	16 A	Cont.
	Active power P	0 ... 3700 W	1 W	—	—	—	—	—	—	—	±(5% rdg.+10 d) > 20 d	264 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	264 V	Cont.
	Power factor PF with sinusoidal waveform: cosφ	0.00 ... 1.00	0.01	Calculated value, P / S, display > 10 W							±(10% rdg.+5 d)	264 V	Cont.
	Line frequency f	0 ... 420.0 Hz	0.1 HZ	—	—	—	—	—	—	—	±(2% rdg.+2 d)	264 V	Cont.
t PRCD	Time to trip	0.1 ... 999.0 ms	0.1 ms	—	—	30 mA	—	—	—	±5 ms	—	264 V	Cont.
Voltage Measurement	Probe voltage (probe P1 to PE) ⎓, ~ and ≂	0.0 ... 99.9 V	100 mV	—	—	—	—	3 MΩ	—	—	±(2% rdg.+2 d)	264 V	Cont.
		100 ... 264 V											
	Measuring voltage (V-COM sockets [6]) ⎓, ~ and ≂	0.0 ... 99.9 V	1 V					1 MΩ			±(2% rdg.+2 d) > 45 Hz ... 65 Hz ±(2% rdg.+5 d) > 65 Hz ... 10 kHz ±(5% rdg.+5 d) > 10 kHz ... 20 kHz	300 V ⎓, ~ and ≂	
		100 ... 300 V											
$I_{Leakage}$	Leakage current via AT3-IIIE adapter Z745S [6, 8]	0.00 ... 0.99 mA ~	0.01 mA	—	—	—	—	—	—	—	±(2% rdg.+2 d) > 10 d without adapter	253 V	Cont.
		1.0 ... 9.9 mA ~	0.1 mA										
		10 ... 20 mA ~	1 mA										
Temp	Temperature, Pt100 sensor	– 200.0 ... +850.0 °C	0.1 °C	—	< 20 V		1.1 mA	—	—	—	±(2% rdg.+1 °C)	10 V	Cont.
	Temperature, Pt1000 sensor	– 150.0 ... +850.0 °C											

Function	Measured Quantity	Display Range/ Nominal Range of Use	Resolution	Nominal Voltage U_N	Open-Circuit Voltage U_0	Nom. Current I_N	Short-Circuit Current I_{SC}	Internal Resistance R_I	Reference Resistance R_{REF}	Measuring Uncertainty	Intrinsic Uncertainty	Overload Capacity	
												Value	Time
I_{Clamp}	Current via current clamp sensor [1 mV : 1 mA] (V-COM sockets [6, 7])	1 ... 99 mA ∼	1 mA (1 mV)	—	—	—	—	—	—	—	±(2% rdg.+2 d) > 10 d 20 Hz ... 20 kHz without clamp	253 V	Cont.
		0.1 ... 0.99 A ∼	0.01 A (10 mV)										
		1.0 ... 9.9 A ∼	0.1 A (100 mV)										
		10 ... 300 A ∼	1 A (1 V)										
	Current via current clamp sensor [10 mV : 1 mA] (V-COM sockets [6, 7])	0.1 ... 9.9 mA ∼	0.1 mA (1 mV)	—	—	—	—	—	—	—			
		10 ... 99 mA ∼	1 mA (10 mV)										
		0.10 ... 0.99 A ∼	0.01 A (100 mV)										
		1.0 ... 30.0 A ∼	0.1 A (1 V)										
	Current via current clamp sensor [100 mV : 1 mA] (V-COM sockets [6, 7])	0.01 ... 0.99 mA ∼	0.01 mA (1 mV)	—	—	—	—	—	—	—			
		1.0 ... 9.9 mA ∼	0.1 mA (10 mV)										
		10 ... 99 mA ∼	1 mA (100 mV)										
		0.10 ... 3.00 A ∼	0.01 A (1 V)										
	Current via current clamp sensor [1000 mV : 1 mA] (V-COM sockets [6, 7])	1 ... 99 µA ∼	1 µA (1 mV)	—	—	—	—	—	—	—			
		0.10 ... 0.99 mA ∼	0.01 mA (10 mV)										
		1.0 ... 9.9 mA ∼	0.1 mA (100 mV)										
		10 ... 300 mA ∼	1 mA (1 V)										

[2] Known as equivalent leakage current or equivalent patient leakage current from previous standards
[3] Protective conductor current, touch current, device leakage current, patient leakage current
[4] Protective conductor current, touch current, device leakage current
[5] Only with feature G01 (e.g. SECUTEST ST BASE10/SECUTEST ST PRO and SECULIFE ST BASE)
[6] Only with feature I01 (e.g. SECUTEST ST PRO and SECULIFE ST BASE)
[7] Measurement types IPE_clamp and IE_clamp
[8] Measurement types IPE_AT3 adapter and IE_AT3 adapter
[9] The upper range limit depends on the selected test voltage.
[10] Voltage at the test socket may be lower than measured line voltage due to components which limit inrush current.
[11] Only with feature G02, e.g. SECULIFE ST BASE25

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

Testing Times, Automatic Sequence

Testing times ("measurement duration" parameter) can be set separately for each rotary switch position during configuration of the sequence parameters. Testing times are neither tested nor calibrated.

Emergency Shutdown During Leakage Current Measurement

As of 10 mA of differential current (can also be set to 30 mA), automatic shutdown ensues within 500 ms. This shutdown does not take place during leakage current measurement with clamp meter or adapter.

Influencing Quantities and Influence Error

Influencing Quantity / Sphere of Influence	Designation per IEC 61557-16	Influence Error ± … % rdg.
Change of position	E1	—
Change to test equipment supply voltage	E2	2.5
Temperature fluctuation	E3	Specified influence error valid per 10 K temperature change
0 ... 40 °C		2.5
Amount of current at DUT	E4	2.5
Low frequency magnetic fields	E5	2.5
DUT impedance	E6	2.5
Capacitance during insulation measurement	E7	2.5
Measured current waveform	E8	
49 … 51 Hz		2 with capacitive load (for equivalent leakage current)
45 … 100 Hz		1 (for touch current)
		2.5 for all other measuring ranges

Reference Ranges

Line voltage	230 V AC ±0.2%
Line frequency	50 Hz ±2 Hz
Waveform	Sine (deviation between RMS and rectified values < 0.5%)
Ambient temperature	+23 °C ±2 K
Relative humidity	40 … 60%
Load resistors	Linear

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

Nominal Ranges of Use

Nominal line voltage	90 V … 264 V AC
Nominal line frequency	50 Hz ... 400 Hz
Line voltage waveform	Sinusoidal
Temperature	0 °C … + 40 °C

Ambient Conditions

Storage temperature	– 20 °C … + 60 °C
Relative humidity	Max. 75%, no condensation allowed
Elevation	Max. 2000 m
Place of use	Indoors, except within specified ambient conditions

Power Supply

Supply network	TN, TT or IT
Line voltage	90 V … 264 V AC
Line frequency	50 Hz …400 Hz
Power consumption	200 mA DUT: Approx. 32 VA 10 A test: Approx. 105 VA 25 A test: Approx. 280 VA
Mains to test socket (e.g. during function test)	Continuous max. 3600 VA, power is conducted through the instrument only, switching capacity ≤ 16 A, ohmic load, the AT3-IIS32 (Z745X) adapter (for example) can be used for current > 16 A AC

Electrical Safety

Protection class	I per EN 61140
Nominal voltage	230 V
Test voltage	2.3 kV AC 50 Hz or 3.3 kV DC (mains circuit / test socket to mains PE terminal, USB, finger contact, probe, test socket)
Measuring category	Designed for 300 V CAT II (but reduced to 250 V CAT II through the use of fuses for increased user safety. The user-friendly fuses are replaceable and replacements are easily obtainable).
Pollution degree	2
Safety shutdown	At DUT differential current of > 10 mA, shutdown time: < 500 ms, can also be set to > 30 mA, with following probe current during: – Leakage current measurement: > 30 mA[1]~/< 500 ms – Protective conductor resistance measurement: > 250 mA~/< 1 ms in case of continuous current I > 16.5 A
Fuse links	Mains fuses: 2 ea. FF 500V/16A Probe fuse: M 250V/250mA 10 A RPE test current (feature G01 only): 1 ea. FF 500 V/16 A

[1] Firmware version 3.2.0 and lower: 12 mA

Electromagnetic Compatibility

Product standard DIN EN 61326-1
DIN EN 61326-2-2

Interference emission		Class
EN 55011		B
IEC 61000-3-2		B
IEC 61000-3-3		B
Interference immunity	**Test value ***	**Evaluation criterion**
EN 61000-4-2	Contact/atmos. – 4 kV/8 kV	B
EN 61000-4-3	10 V/m (80 MHz ... 1 GHz)	A
EN 61000-4-4	Mains connection – 2 kV	B
EN 61000-4-5	Mains connection – 1 kV (LN), 2 kV (LPE)	B
EN 61000-4-6	Mains connection – 3 V	A
EN 61000-4-8	30 A/m	A
EN 61000-4-11	0%: 1 period	B
	0%: 250/300 periods	C
	40%: 10/12 periods	C
	70%: 25/30 periods	C

USB Data Port

Type USB slave for PC connection / remote control**
Type 2 ea. USB master for data entry devices* with HID boot interface,
for USB flash drive for data backup,
for USB flash drive for saving reports as HTML files,
for printers*

* See the following page for compatible devices
** Remote control only with extension: "Remote Control via PC (IZYTRONIQ)" (included as standard feature with SECUTEST ST PRO and available with SECUTEST DB+ – Z853R or feature KB01).

Bluetooth® data interface 2.1 + EDR (test instruments with feature M01 only)

Frequency range	Max. 2.5 mW (class II)
Transmission intensity	2400 … 2483.5 MHz

Mechanical Design

Display	4.3" multi-display (9.7 x 5.5 cm), backlit, 480 x 272 pixels at 24-bit color depth (true color)
Dimensions	W × H × D: 295 × 145 ×150 mm Height with handle: 170 mm
Weight	SECUTEST ST BASE(10)/PRO: approx. 2.5 kg SECULIFE ST BASE25: approx. 4.0 kg (depending on test instrument version)
Protection	Housing: IP 40 (protection against ingress of solid foreign objects ≥ 1.0 mm diameter, no protection against ingress of water) Test socket: IP 20 (protection against ingress of solid foreign objects ≥ 12.5 mm diameter, no protection against ingress of water) (per EN 60529) SECULIFE ST BASE(25): Housing with antimicrobial properties per JIS standard Z 2801

Database

Number of data records 50000 (1 data record = 1 DUT or location node or customer or individual measurement)

Regulations and standards in accordance with which the test instrument is manufactured and tested:

EN 61010-1	Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements
EN 60529/	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)
EN 61326-1	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements
EN 61326-2-2	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-2: Particular requirements – Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications
EN 61557-16	Electrical safety in low voltage distribution systems up to 1000 V AC and 1500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 16: Devices for testing the effectiveness of protective measures of electrical devices and/or electrical medical devices

Accessories

The accessories listed below are usually not included in the scope of delivery. This does not apply in the case of instrument sets which include accessories.

Order information for accessories can be found under “Order Information” on page 12.

Barcode Scanner (Z751A)

For reading 1 and 2D codes, for example barcodes and QR codes. This makes it possible to conveniently insert the ID numbers of DUTs into single measurements and test sequences.

This device is based on the concept of an instinctive scanning distance and provides best possible reading performance. Green Spot technology provides a “good-read” projection directly on the code. The device is connected via USB.



Barcode Printer (Z721E)

For printing barcode labels: Code39, Code128, EAN13, text, QR Code*, Micro QR Code, DataMatrix, Aztec.

The device is connected via USB.



Thermal Printer (Z721S)

For printing test reports on thermal paper (accessory Z722S).

The device is connected via USB.



SCANBASE RFID (Z751E) (RFID reader/writer)

Compact device for reading and writing RFID tags (13.56 MHz transponder in accordance with ISO 15693).

The device is connected via USB.



CEE Adapter for Testing Single and 3-Phase Electrical Devices (Z745A)

The Z745A CEE adapter allows for quick and efficient testing of devices equipped with a CEE plug. The adapter is equipped with the following CEE attachment outlets: 5-pole 16 A, 5-pole 32 A and 3-pole 16 A. Furthermore, the adapter includes five 4 mm safety sockets to which 3-phase devices without permanently attached plug or conventional measurement cables can be connected, e.g. by means of quick clamp terminals (not included).

The following tests can be performed on devices with CEE plugs with the help of the adapter:

- Testing of protective conductor continuity
- Insulation resistance, alternative leakage current (equivalent leakage current)
- Function test (3-pole CEE outlet only)

The Z745A CEE adapter may also be used as an adapter for connecting devices with 3-pole CEE plugs to common earthing contact outlets.

VL2 E (Z745W) /

Test adapter with single and 3-phase plug connectors up to CEE 32A for the performance of measurements and tests at electrical devices and extension cords with CEE plug connectors.



AT16-DI (Z750A) 3-phase 16 A Differential Current Adapter

Devices which are equipped with a 5-pole, 16 A / 6 h CEE plug can be quickly and efficiently tested with the AT16-DI CEE adapter.

The following tests can be performed on devices with CEE plugs with the help of the AT16-DI CEE adapter:



- Testing of protective conductor continuity
- Insulation resistance, alternative leakage current (equivalent leakage current)
- Measurement of protective conductor resistance with the following methods: equivalent leakage current / residual current / direct
- Function test

This differential current adapter is also available in a variant with a 5-pole 32 A / 6 h CEE plug with the designation AT32-DI CEE adapter.

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

AT3-III-E 3-Phase Current Adapter (Z745S)



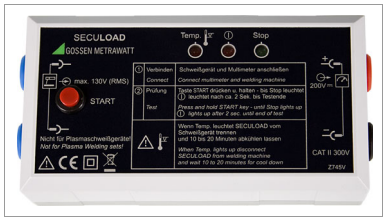
Test adapter for active and passive testing of single and three-phase electrical devices and extension cords in conjunction with the test instrument.

Operation is simple and safe. The test adapter is connected to a 3-phase 16 A mains outlet, and to the respective test instrument. Testing is performed without reversing polarity at the device under test, either automatically or manually, and is controlled by the test sequence of the utilized test instrument. Safety shutdown occurs if the default residual current value is exceeded.

EL1 Adapter for Testing Single-Phase Extension Cords (Z723A)



SECULOAD-N Test Adapter (Z745R)



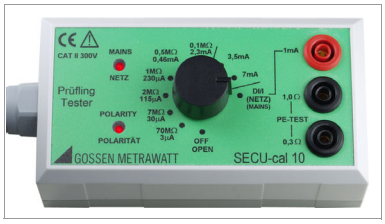
Test adapter for testing open-circuit voltage at welding units per IEC 60974-4 / EN 60974-4 / VDE 0544-4.

In combination with a test instrument, the test adapter is used for testing welding units per IEC 60974-4 / EN 60974-4 / VDE 0544-4. This standard stipulates that peak values for open-circuit voltage may not exceed the limit values, regardless of the utilized settings.

A test sequence for testing welding units with the help of this adapter is integrated into the test instrument.

The peak-value rectifier in the SECULOAD-N uses the 1N4007 rectifier diode recommended in the standard. This is a mains rectifier diode which, due to its design, is only suitable for voltage sources with low cycle rates within the range of the line frequency, or for voltage sources with conventional transformer.

SECU-cal 10 Calibration Adapter (Z715A)



The calibration adapter is used for testing the measuring uncertainty of test instruments in accordance with DIN EN 61557-16 / VDE 0413-16 (previously DIN VDE 0404). 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 DGUV accident prevention regulation 3.

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

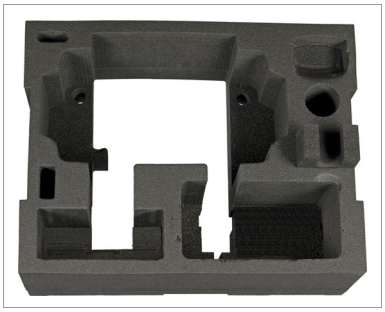
SORTIMO L-BOXX (Z503D)



Plastic system case, outside dimensions:
W × H × D
450 × 255 × 355 mm

Z701D foam insert for test instrument and accessories must be ordered separately (see below).

Foam Insert for SORTIMO L-BOXX (Z701D)



Foam insert for test instrument and accessories.

F2030 System Soft-Case (Z700H)



Outside dimensions:
W × H × D
393 × 275 × 248 mm
(without handle and carrying strap)

F2000 Universal Carrying Pouch (Z700D)



Outside dimensions:
W × H × D
380 × 310 × 200 mm
(without buckles, handle or carrying strap)

F2010 Universal Carrying Pouch (Z700G)



Outside dimensions:
W × H × D
380 × 230 × 270 mm
(without carrying strap)

F2020 Universal Carrying Pouch (Z700F)



Sample Content

Outside dimensions:
W × H × D
430 × 310 × 300 mm
(without buckles, handle or carrying strap)

Further information regarding accessories can be found:

- In our Measuring Instruments and Testers catalog
- On the Internet at www.gossenmetrawatt.com

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

Order Information

SECUTEST ST BASE, SECUTEST ST PRO, SECULIFE ST BASE and SECULIFE ST BASE25 test instruments are available with various features and accessories, and can be ideally matched to your requirements. When ordering you can select from amongst:

- A standard model (frequently selected combinations of basic instruments and features)
- An instrument set (instrument with features and accessories which are ideally matched to a specific application
- A customized variant (instrument with features you select yourself)

Accessories can of course be purchased individually along with your instrument or at a later point in time.

Standard Models

Standard Models	Article No.	Features
SECUTEST ST BASE	M707A	Schuko variant (test socket and mains plug), selectable user interface language (default setting: German), protective conductor test current: 200 mA
SECUTEST ST PRO	M707B	Same as M707A but with 10 A protective conductor test current, with touchscreen, voltage measuring inputs, connection for 2nd test probe and SECUTEST DB+ database expansion
SECUTEST ST PRO BT comfort	M707C	Same as M707B but with Bluetooth® port and SECUTEST DB COMFORT database expansion
Included with each instrument: Mains power cable, test probe, USB cable, plug-on alligator clip, KS17-ONE cable set for voltage measuring inputs (only with SECUTEST ST PRO and SECULIFE ST BASE(25)), travel adapter for international power supply, condensed operating instructions in printed format (complete operating instructions available for download from Internet), **DAkkS calibration certificate** in German, English and French, **IZYTRONIQ BUSINESS Starter** database and report generating software for PC (as registration card for access to download from the Internet)		

Instrument Sets

Type	Designation					Article No.
Starter Package SECUTEST ST BASE	See scope of delivery below. **Including IZYTRONIQ BUSINESS ADVANCED**					M708A
PRO PACKAGE SECUTEST ST PRO	See scope of delivery below. **Including IZYTRONIQ BUSINESS PROFESSIONAL**					M708B
COMFORT PACKAGE SECUTEST PRO	See scope of delivery below. **Including IZYTRONIQ BUSINESS PROFESSIONAL**					M708C
WELDER's/ 3-PHASE CURRENT PACKAGE SECUTEST ST PRO	See scope of delivery below. **Including IZYTRONIQ BUSINESS PROFESSIONAL**					M708D
Accessories	For use with the following test packages:	**STARTER PACKAGE**	**PRO PACKAGE**	**COMFORT PACKAGE**	**WELDER's/ 3-PHASE CURRENT PACKAGE**	
SECUTEST ST BASE	SECUTEST variant	■				
SECUTEST ST PRO	SECUTEST variant		■		■	
SECUTEST ST PRO BT comfort	SECUTEST variant			■		
SORTIMO L-BOXX	Plastic system case	■	■	■	2 × ■	Z503D
Foam SORTIMO L-BOXX Secutest4	Foam insert for SORTIMO L-BOXX with compartments for test instrument and accessories	■	■	■	■	Z701D
FOAM SORTIMO L-BOXX Adapter	Foam insert for SORTIMO L-BOXX with compartment for adapter				■	Z701E
EL1	Adapter for testing single-phase extension cords	■	■	■	■	Z723A
Brush probe	Probe for measuring protective conductor resistance, e.g. at rotating devices under test	■	□	□	□	Z745G
SECULOAD N	Test adapter for testing welding units in accordance with IEC 60974-4 / EN 60974-4 / VDE 0544-4	□	□	□	■	Z745R
AT16-DI	3-phase 16 A differential current adapter	□	□	□	■	Z750A
PC2	Probe with test tip and 2 m probe cable	□	■	■	■	Z745D
Adapter cable CEE16/CEE32	Adapter cable, red CEE 5-pole 16 A plug to red CEE 5-pole 32 A coupling	□	□	□	■	Z750F
Barcode reader	Barcode reader for 1 and 2D codes (e.g. barcodes and QR codes), with USB connection	□	■	■	■	Z751A
		Key: ■ Included □ Optional				

* Including DB+ database expansion

Order Features

Basic Instrument Article Number			M7050				
Device Variants			SECUTEST ST BASE (M7050 AA06 E00 G00 H00 I00 J00 KB00 M00)	SECUTEST ST BASE10 (M7050 AA07 E00 G01 H00 I00 J00 KB00 M00)	SECUTEST ST PRO (M7050 AA08 E01 G01 H01 I01 J00 KB01 M00)	SECULIFE ST BASE (M7050 A01 AA11 E01 G01 H01 I01 J00 KB01 KC00 M00)	SECULIFE ST BASE 25 (M7050 A01 AA12 E01 G02 H01 I01 J00 KB01 KD01 M00)
		Article No. → Feature ↓	AA06	AA07	AA08	AA11	AA12
Connections – country-specific mains plug and test socket							
	Germany with detection of connection and protection categories	B00	■	■	■	■	■
	UK	B01	▷	▷	▷	▷	▷
	FR/CZ/PL	B03	▷	▷	▷	▷	▷
	China	B04	▷	▷	▷	▷	▷
	USA	B05	▷	▷	▷	▷	▷
	AUS	B06	▷	▷	▷	▷	▷
	DK	B07	▷	▷	▷	▷	▷
	IT	B08	▷	▷	▷	▷	▷
	CH with detection of connection and protection category	B09	▷	▷	▷	▷	▷
	Universal adapter for test socket, Germany (B00) (for DUTs with different country-specific plugs)	B11	□	□	□	□	□
User interface language (default language which can be subsequently changed to any of the other languages listed below)							
	German	C00	■	■	■	■	■
	English	C01	▷	▷	▷	▷	▷
	French	C02	▷	▷	▷	▷	▷
	Italian	C03	▷	▷	▷	▷	▷
	Spanish	C04	▷	▷	▷	▷	▷
	Czech	C05	▷	▷	▷	▷	▷
	Dutch	C06	▷	▷	▷	▷	▷
	Polish	C07	▷	▷	▷	▷	▷
	Portuguese	C12	▷	▷	▷	▷	▷
Data entry via touchscreen							
	None	E00	■	■			
	Included	E01			■	■	■
R-PE test current for protective conductor measurement							
	200 mA	G00	■				
	200 mA and 10 A [1] (not in combination with G02)	G01		■	■	■	
	200 mA and 25 A	G02					■
Connection for 2nd test probe							
	None	H00	■	■			
	Included	H01			■	■	■
DVM function (digital voltmeter) with 2 additional measurement inputs, COM–V							
	None	I00	■	■			
	Included	I01			■	■	■
Jacks for applied parts							
	None	J00	■	■	■	■	■
Additional test sequences							
	None	KA00	■	■	■	■	■
SECUTEST DB+ database expansion (corresponds to Z853R)							
	None	KB00	■	■			
	Included	KB01	□	□	■	■	■
SECUTEST DB COMFORT database expansion (corresponds to Z853S)							
	None	KD00					
	Included	KD01	□	□	□	□	■
Bluetooth®							
	None	M00	■	■	■	■	■
	Included	M01	□	□	□	□	□
DAkkS calibration certificate (language combinations)							
	In D/GB/F	P00	■	■	■	■	■
	In D/GB/PL	P01	▷	▷	▷	▷	▷
	In D/GB/IT	P02	▷	▷	▷	▷	▷

Key: ■ Default □ Optional ▷ Alternative | Fixed standard feature

[1] 10/25 A R_{PE} measurements are only possible with line voltages of 115/230 V and line frequencies of 50/60 Hz.

Sample Order

Sample order for a SECUTEST ST BASE10 with English user interface:
M7050 AA02 C01 G01

AA02: SECUTEST BASE10 device variant
C01: English user interface, keyboard layout and test sequences
G01: R-PE test current for protective conductor measurement: 200 mA and 10 A

Accessories

Designation	Type	Article No.
Mains cable		
Cable set for connecting test instruments to the mains without using a an earthing contact outlet, and for connecting DUTs. Consists of coupling socket with 3 permanently connected cables, 3 measurement cables, 3 plug-on pick-up clips and 2 plug-on test probes.	KS13	GTY3624065P01
Adapter for Testing 3-Phase Current Consumers		
Adapter for connecting DUTs: 3-pole 16 A, 5-pole 16 A + 32 A, 5 ea. 4 mm socket – For all tests without mains voltage For single and 3-phase electrical devices – For leakage current measurement, direct or differential current method	CEE adapter	Z745A
16 A/32 A 3-phase current adapter (test case) – For all tests without mains voltage For single and 3-phase electrical devices – For tests at single and 3-phase extension cords – For leakage current measurement, direct method – For leakage current measurement, differential current method [1]	AT3-III-E [D]	Z745S
Test adapter for testing devices with CEE16 and CEE32 connectors (max. load capacity: 20 A)	AT3-IIS [D, 1]	Z745T
Test adapter for testing devices with CEE16 and CEE32 connectors (max. load capacity: 32 A)	AT3-II S32 [D, 1]	Z745X
3-phase 16 A differential current adapter	AT16-DI	Z750A
3-phase 32 A differential current adapter	AT32-DI	Z750B
Test adapter with single and 3-phase plug connectors up to CEE 32A – For all tests without mains voltage For single and 3-phase electrical devices – For tests at single and 3-phase extension cords	VL2E	Z745W
Adapter cable, red CEE 5-pole 16 A plug to red CEE 5-pole 32 A coupling, 0.5 m, 5 × 1.5 mm²	CEE16/CEE32 adapter cable	Z750F
Adapter for Testing Single-Phase Extension Cords		
Leakage current clamp meter (current clamp) for SECUTEST ST PRO 0.1 mA … 25 mA AC Frequency range: 50 Hz … 1 MHz, transformation ratio: 100 mV / mA, clamp opening: 40 mm max. cable dia.	SECUTEST CLIP	Z745H
Adapter for testing single-phase extension cords including earth contact and inlet plug inserts	EL1	Z723A
Plug insert for using the EL1 adapter in Switzerland	PRO-CH	GTZ3225000R0001
Adapter for Testing Welding Units		
Test adapter in combination with SECUTEST ST... for testing welding units in accordance with IEC 60974-4 / EN 60974-4 / VDE 0544-4. The peak-value rectifier in the SECULOAD-N uses the 1N4007 rectifier diode recommended in the standard. This is a mains rectifier diode which, due to its design, is only suitable for voltage sources with low cycle rates within the range of the line frequency, or for voltage sources with conventional transformer. Includes 4 measurement cables and 2 alligator clips.	SECULOAD-N	Z745R

Designation	Type	Article No.
Calibration Adapter		
Calibration adapter for test instruments per DIN EN 61557-16 / VDE 0413-16 (previously DIN VDE 0404) (max. 200 mA) **not for use with 10 A protective conductor test current**	SECU-cal 10	Z715A
Probe Cables		
Probe cable with test probe and 2 m probe cable (not coiled), 300 V CAT II 16 A	PC2	Z745D
Probe cable with test probe and 2 m probe cable (coiled), 300 V CAT II 16 A	SK2W	Z745N
5 m probe cable for protective conductor measurement, 300 V CAT II 16 A	PC5	Z745O
Brush probe	Z745G	Z745G
Distributor for connecting five 4 mm and five 2 mm test probes for measuring multiple, accessible housing parts or applied parts	SV5	Z745J
Cable set (1 pair of measurement cables) 1.2 m, with VDE-GS mark, 600 V CAT IV 1 A *, 1000 V CAT III 1 A * 1000 V CAT II 16 A ** * With plugged on safety caps ** Without plugged on safety caps	KS17-2	GTY3620034P0002
2 pieces in a plastic bag, diameter: 4 mm, length: 1.0 m, 1000 V CAT III, 19 A, blue	Measuring cable set, blue	Z746A
2 pieces in a plastic bag, diameter: 4 mm, length: 1.0 m, 1000 V CAT III, 19 A, black/red	Measuring cable set, black/red	Z746B
Current Clamp Sensors for SECUTEST ST PRO/SECULIFE ST BASE(25)		
Switchable current clamp 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, clamp opening: 15 mm max. cable dia.	WZ12C [D]	Z219C
Leakage current clamp meter, 0.1 mA … 25 mA, 100 mV/mA	SECUTEST CLIP [D]	Z745H
Temperature Sensors for SECUTEST ST PRO/SECULIFE ST BASE(25)		
Pt100 temperature sensor, -40 … +500 °C for surface and immersion measurements	Z3409	GTZ3409000R0001
Pt1000 temperature sensor, class B, for measurement in gases and liquids, -50 … +220 °C	TF220	Z102A
Pt100 oven sensor, -50 ... +550 °C	TF550	GTZ3408000R0001
Dip-stick oil temperature sensor, Pt1000 class B, -50 … +500 °C, sensor: 3 mm dia. × 810 mm long	TF400CAR	Z102C
Pouches and Cases		
Carrying pouch for the test instrument	F2000 [D]	Z700D
Large carrying pouch for test instrument sets	F2020	Z700F
Universal carrying pouch with flexible compartments and display guard for the test instrument	F2010	Z700G
System soft-case	F2030	Z700H
Plastic system case	SORTIMO L-BOXX	Z503D
Foam insert for SORTIMO L-BOXX with compartments for test instrument and accessories	Foam SORTIMO L-BOXX Secutest4	Z701D
Foam insert for SORTIMO L-BOXX GM with compartment for adapter	Foam SORTIMO L-BOXX adapter	Z701E

SECUTEST ST BASE(10) / PRO and SECULIFE ST BASE(25)
Test Instruments for Measuring the Electrical Safety of Devices

Designation	Type	Article No.
Data Storage Accessories		
Database expansion: Remote control, 24 user-defined test sequences, additional database elements, individual test interval, multi-print, user-defined report templates, data import/export	SECUTEST DB+	Z853R *
Database expansion: Medical test object, individual test interval, Touch-Edit, move test objects, QuickEdit, auto-store, push-print – sends data directly to the PC (IZYTRONIQ).	SECUTEST DB COMFORT	Z853S *
Report Generating Accessories		
RFID System		
RFID reader/writer for USB connection (frequency: 13.56 MHz)	SCANBASE RFID	Z751E
RFID tags per ISO 15693, approx. 22 mm dia., self-adhesive, 500 pcs.	Z751R	Z751R
RFID tags per ISO 15693, approx. 30 mm dia., 2 mm thick with 3 mm hole, 500 pcs.	Z751S	Z751S
RFID tag per ISO 15693, pigeon ring, approx. 7.5 mm dia., 250 pcs.	Z751T	Z751T
Barcode Scanner		
Barcode scanner for USB connection	Z751A	Z751A
Barcode Printer		
Barcode and label printer including software with USB connection for PC or test instrument Encryption: Code39, Code128, EAN13, Text, QR Code, Micro QR Code, DataMatrix, Aztec	Z721E	Z721E
Label set for Z721D barcode and label printer (qty. × width: 3 × 24 / 1 × 18 / 1 × 9 mm, 8 m long)	Z722D	Z722D
Label set for Z721D barcode and label printer (qty. × width: 5 × 18 mm, 8 m long)	Z722E	Z722E
Thermal Printer		
Thermal printer for printing test reports including user manual on CD-ROM, lithium battery, power pack and mains cable, USB cable, 1 roll of thermal paper	Z721S	Z721S
Thermal paper for Z721S, 10 rolls of thermal paper, 12/50 mm dia., 30 m × 112 mm, coating on outside	Z722S [D]	Z722S
See also separate ID systems data sheet for RFID scanner, barcode reader and printer		

* The test instrument's serial number must be included with the order.
D Data sheet available
1 Only with feature I01(e.g. SECUTEST ST PRO and SECULIFE ST BASE)