GOSSEN METRAWATT

SECUTEST | BASE, BASE10 and XTRA

Test Instruments for Measuring Electrical Safety of Devices per VDE 0701-0702, IEC 62353 and IEC 60974-43

3-349-753-03
4/2.14

- 8 pre-set test sequences per standard
  to perform standardized Tests
  for electrical, medical and welding instruments
  one freely configurable test sequence for special duties
- Automatic evaluation of executed test sequences
  in consideration of measuring uncertainty
- Pioneering operating concept with double rotary switch,
  direct selection keys and softkeys
- Revolutionary data management and storage concept
  for automated test sequences and single measurements
  with memory for up to 50,000 data records
- Automatic DUT connection and protection class detection
- Voltage measurement up to 300 V for testing SELV/PELV circuits
- Measurement of leakage current with a bandwidth
  of up to 1 MHz
- Compact, impact resistant housing with integrated rubber
  protector

Quality Management System
DQS Certified per DIN EN ISO 9001

product design award 2014

Features

- State-of-the-art, multi-channel measuring technology for fast measured value acquisition. Measured values are acquired via 16 channels simultaneously, so that all measured values are available at the same time.
- Active (direct) measurement of leakage current from the application part via the test probe with an option for selecting the phase angle to mains power.
- Quick export of the database
- The test list view provides an outline of all executed tests along with their results and respective evaluations.
- Multiple measurement is a user-optimized measuring process which allows for convenient recording of several measuring points.
- Quick execution of the most important functions via “direct selection lists”
- Direct printout of test reports or test report management with free ETC software

Standards for the Use of SECUTEST BASE, BASE10 and XTRA Test Instruments

	Testing after Repairs / Periodic Testing		
DUTs to be tested in accordance with the following standards	DIN VDE 0701-0702	IEC 62353:2007 DIN EN 62353:2008 (VDE 0751-1)	IEC 60974-4 DIN EN 60974-4 VDE 0544-4
Electric devices	•		
Work devices	•		
Mains operated electronic devices	•		
Hand-held electric tools	•		
Extension cords	•		
Household appliances	•		
Data processing devices	•		
Electrical medical devices, application parts		•	
Welding units	•		•

SECUTEST | BASE, BASE10 and XTRA
Test Instruments for Measuring Electrical Safety of Devices

Overview of Features Included with SECUTEST BASE, BASE10 and XTRA Test Instruments

Switch Setting	Meas. Variant	Measuring Function, Test Current/Voltage	
Single measurements, *rotary switch level: green*			
Measurements at voltage-free objects			
RPE		R_{PE}	**Protective conductor resistance**
		I	Protective conductor current (200 mA) **SECUTEST BASE10/XTRA**: 10 A [1]
RISO	PC I PC II	R_{ISO}	**Insulation resistance**
		U_{ISO}	Test voltage
Measurements at DUTs with line voltage			
IPE	DIR DIF ELC	$I_{PE\simeq}$	**Protective conductor current, RMS value**
		$I_{PE\sim}$	AC component
		$I_{PE=}$	DC component
		U_{LN}	Test voltage
IB	DIR DIF ELC	$I_{T\simeq}$	**Touch current, RMS value**
		$I_{T\sim}$	AC component
		$I_{T=}$	DC component
		U_{LN}	Test voltage
IG	DIR DIF ELC	$I_{E\simeq}$	**Device leakage current, RMS value**
		$I_{E\sim}$	AC component
		$I_{E=}$	DC component
		U_{LN}	Test voltage
IA	DIR ELC	$I_{A\simeq}$	**Leakage current from the application part**
		U_A	Test voltage
IP	DIR with probe	$I_{P\simeq}$	**Patient leakage current, RMS value**
		$I_{P\sim}$	AC component
		$I_{P=}$	DC component
		U_{LN}	Test voltage
U		$U_{\simeq}$	**Probe voltage, RMS**
		$U_{\sim}$	Alternating voltage component
		$U_{=}$	Direct voltage component
tA		t_B	PRCD time to trip for 30 mA PRCDs
		U_{LN}	Line voltage at the test socket
P		**Function test at the test socket**	
		I	Current between L and N
		U	Voltage between L and N
		f	Frequency
		P	Active power
		S	Apparent power
		PF	Power factor
Probe measuring functions			
EL1		Extension cords with EL1 adapter: continuity, short-circuit, polarity (wire reversal)	
EXTRA		Reserved for expansion during the course of software updates	

Key

DIR = direct measurement,
DIF = differential current measurement,
ALT = alternative measurement (equivalent leakage current measurement)

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

Switch Setting	Standard	Measurement Type, Connection Type
Automated test sequences, *rotary switch level: orange*		
Preconfigured (freely configurable) test sequences		
A1	**VDE 0701-0702**	Passive measuring method, test socket
A2	**VDE 0701-0702**	Active measurement type, test socket
A3	**VDE 0701-0702**	Parameters configuration for EDP (active)
A4	**IEC 62353** (VDE 0751)	Passive measurement type
A5	**IEC 62353** (VDE 0751)	Active measurement type
A6	**IEC 60974-4**	Connection type: test socket
A7	**IEC 60974-4**	Connection type: AT16-DI/AT32-DI
A8	**VDE 0701-0702**	Messart Verlängerungsleitung (RPE, RISO), Adapter EL1
AUTO	Freely selectable standard	Freely selectable measurement type and connection type

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 schematic and wiring diagrams appear.

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, for example, via a barcode reader connected to the USB port, a USB keyboard, or via the softkey keyboard when it appears at the display.

Creating a Database

A complete test structure with data regarding customers and test objects can be created in the test instrument. This structure makes it possible to assign 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”.

Data Interfaces

Structures set up in, and measurement data saved to the test instrument can be imported to ETC report generating software via the USB slave port. Data can then be archived at the PC, comments can be added with the software and reports can be generated.

The following input and output devices can be connected to the two integrated USB master ports:

- An external keyboard and a barcode reader
- A printer

Software Update

The test instrument can always be kept current thanks to firmware which can be updated via the USB slave port. Software is updated during the course of recalibration by our service department, or directly by the customer.

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.

All measured data can be documented and archived thanks to the measurement and test report that can be printed with a thermal printer connected to the USB port, or stored to a PC.

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.

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 extrapolate 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 Connection Error	Message	Condition	Measurements
Voltage at protective conductor PE to finger contact (**START**/ STOP key)	Display at the instrument	Press START/STOP button U > 25 V	All measurements disabled
Protective conductor PE & phase conductor L reversed and/or neutral conductor N interrupted		Voltage at PE > 100 V	Impossible (no supply power)
Line voltage < 180 V / < 90 V (depending on mains)	Reference Voltage adjustable in setup menu	U_{L-N} < 180 V U_{L-N} < 90 V (Reference Voltage adjustable in setup menu)	Possible under certain circumstances

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

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.

Control Function		Condition
Short-circuit test	Short-circuit / starting current	R ≤ 1.5 Ω
	No short-circuit (AC test)	R > 1.5 Ω
On test	On (passive DUT)	R < 250 kΩ
	Off (active DUT)	R > 300 kΩ
Special test	No probe	R > 2 MΩ
	Probe detected	R < 500 kΩ
Protection class detection	Protective conductor exists: 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 residual current values (selectable)		
	During leakage current measurement	> 10 mA
	During protective conductor resistance meas.	> 250 mA
Connection test		
Checks whether the DUT is connected to the test socket. In the case of protection class I: checks whether the two protective conductor terminals are short-circuited.		
	Protective conductor exists	R < 1 Ω
	No protective conductor	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

Application

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

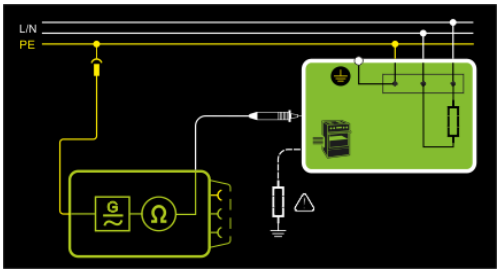
IEC/EN 61010-1:2010 VDE 0411-1:2011	Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements
DIN VDE 0404, part 1: 2002	Test and measuring equipment for testing the electrical safety of electrical devices – General requirements
DIN VDE 0404, part 2: 2002	– Equipment for testing after repairs and modifications, or periodic testing
DIN VDE 0404, part 3: 2005	– Equipment for periodic tests and tests prior to commissioning medical electrical devices or systems
DIN EN 60529/ VDE 0470, part 1	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)
DIN EN 61326-1 VDE 0843-20-1	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements

SECUTEST | BASE, BASE10 and XTRA
Test Instruments for Measuring Electrical Safety of Devices

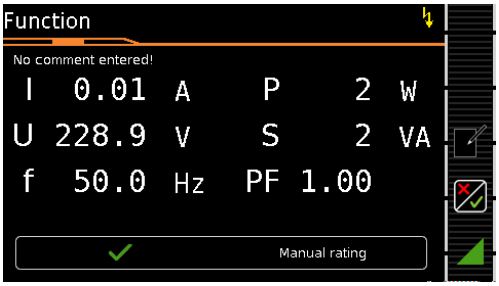
Backlit Multi-Display Samples

Single Test – Initial Screen with Parameters Display

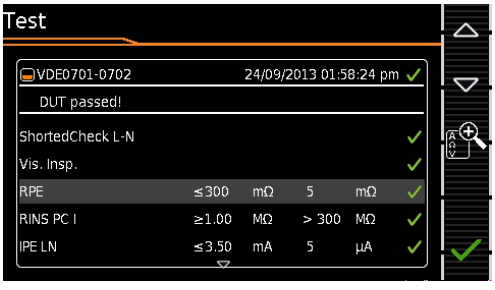
Help – Schematic and Wiring Diagram



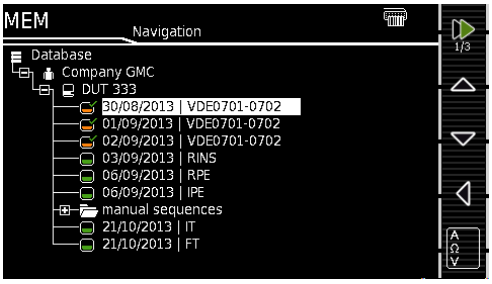
Test Function for Test Step in the Test Sequence



Results of a Test Sequence per VDE 0701-0702



Database Structure – List of Test Results



Scope of Delivery

Standard version (country-specific)

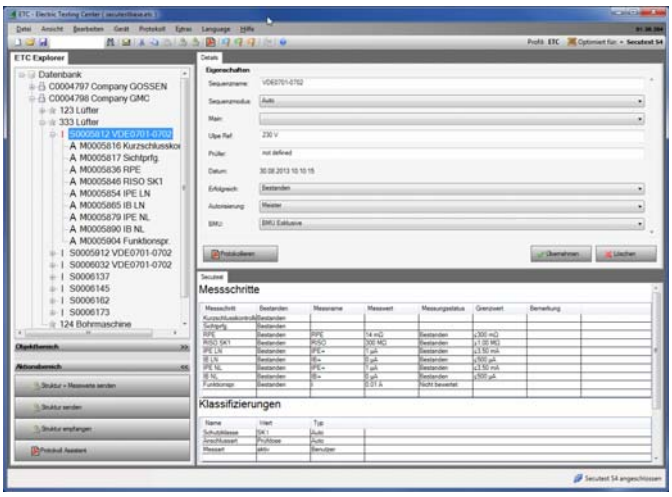
1 **SECUTEST BASE**, **SECUTEST BASE10** or **XTRA** test instrument
1 Mains power cable
1 Test probe, 2 m, not coiled
1 USB cable, USB A to USB B, 1.5 m long
1 Plug-on alligator clip
1 Calibration certificate
1 Condensed operating instructions
1 Full operating instructions available on the Internet
1 ETC report software available on the Internet

The most up-to-date version of ETC can be downloaded free of charge from the **mygmc** page of our website as a ZIP file, if you have registered your test instrument:
http://www.gossenmetrawatt.com
→ Products → Software → Software for Testers → Report Software without Database → **ETC** → myGMC

ETC user Software for PC

ETC offers a wide variety of support options for data acquisition and management.

- Amongst other things, the software acquires all data for reports in accordance with DIN VDE 0701-0702.
- Test reports (ZVEH) can be generated automatically.
- Created structures can be saved.
- Data can be exported to Excel, CSV and XML formats.
- Device selection lists can be edited.



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 Current I_K	Internal Resistance R_I	Reference Resistance R_{REF}	Measuring Uncertainty [1]	Intrinsic Error [1]	Overload Capacity Value	Overload Capacity Time
Tests, 62638 (DIN VDE 0701-0702) / IEC 62353 (VDE 0751)	Protective conductor resistance **RPE**	000 … 999 mΩ	1 mΩ	—	< 24 V AC or DC	—	>200 mA AC or DC	—	—	±(15% rdg.+ 10 d) > 10 d	±(10% rdg.+ 10 d) > 10 d	264 V 250 mA	Cont.
		1.00 ... 999 Ω	10 mΩ										
		10.0 … 30.0 Ω	100 mΩ				> 10 A AC [5]					16 A [5]	
	Insulation resistance **RISO**	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	±(2.5% rdg.+2 d) > 10 d	264 V	Cont.
		1.00 … 9.99 MΩ	10 kΩ										
		10.0 … 99.9 MΩ	100 kΩ							≥ 20 MΩ: ±(10% rdg.+ 8 d)	≥ 20 MΩ: ±(5% rdg.+4 d)		
		100 … 300 MΩ	1 MΩ										
	Leakage current, alternative measurement [2] **IPE, IB, IG, IA**	0.0 ... 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, IB, IG, IA, IP**	Only Ip: 0.0 ... 99.9 µA	100 nA	—	—	—	—	1 kΩ ±10 Ω	—	±(5% rdg.+ 4 d) > 10 d	±(2.5% rdg.+2 d) > 10 d	264 V	Cont.
		0.0 ... 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, IB, IG**	0 ... 99 µA	1 µA	—	—	—	—	1 kΩ ±10 Ω	—	±(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	Line voltage U_{L-N}	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		
	Power factor PF with sinusoidal waveform: cosφ	0.00 … 1.00	0.01	Calculated value, P / S, display > 10 W							±(10% rdg.+5 d)		
UPROBE	Probe voltage (phase search) ⎓, ~ and ≂	0.0 … 99.9 V	100 mV	—	—		—		—	—	±(2% rdg.+2 d)	264 V	Cont.
		100 ... 300 V	1 V										
t_A PRCD	Time to trip at 30 mA	0.1 ... 999 ms	0.1 ms	—	—	—	—	—	—	±5 ms			

1 Specified values are only valid for the display at the test instrument. Data transmitted via the USB port may deviate from these values.
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 **SECUTEST BASE10** and **SECUTEST XTRA** with feature G01

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

Test Times, Automated Sequence

Test time > 2 s, exception: device protective conductor resistance RPE: > 7 s. Test times are not checked or calibrated, but rather determined on the basis of processor cycle times.

Emergency Shutdown During Leakage Current Measurement

As of 10 mA of differential current (can also be set to 30 mA), automatic shutdown ensues within 100 ms.

Test Instruments for Measuring Electrical Safety of Devices

Influencing Quantities and Influence Error

Influencing Quantity / Sphere of Influence	Designation per DIN VDE 0404	Influence Error ± … % rdg.
Change of position	E1	—
Change to test equipment supply voltage	E2	2.5
Temperature fluctuation	E3	Specified influence error valid starting with temperature changes as of 10 K:
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
Waveform of measured current	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 effective and rectified value < 0.5%)	
Ambient temperature	+23 °C ±2 K
Relative humidity	40 … 60%
Load resistance	Linear

Nominal Ranges of Use

Nominal line voltage	100 V … 240 V AC
Nominal line frequency	50 Hz ... 400 Hz
Line voltage waveform	Sinusoidal
Temperature	0 °C … + 50 °C

Ambient Conditions

Storage temperature	– 20 °C … + 60 °C
Operating temperature	– 5 °C … + 40 °C
Accuracy range	0 °C … + 40 °C
Relative humidity	Max. 75%, no condensation allowed
Elevation	Max. 2000 m
Deployment	Indoors, except within specified ambient conditions

Power Supply

Electrical system	TN or TT
Line voltage	100 V … 240 V AC
Line frequency	50 Hz ... 400 Hz
Power consumption	200 mA test: approx. 32 VA 10 A test: approx. 105 VA
For function test	Continuous max. 3600 VA, power is conducted through the instrument only, switching capacity ≤ 16 A, ohmic load

Electrical Safety

Protection class	I per IEC 61010-1/EN 61010-1/ VDE 0411-1
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	250 V CAT II
Pollution degree	2
Safety shutdown	At DUT differential current of > 10 mA, shutdown time: < 100 ms, can also be set to > 30 mA with following probe current during: – Leakage current meas.: > 10 mA~/< 5 ms – Protective conductor resistance meas.: > 250 mA~/< 1 ms
Fuse links	Mains fuses: 2 ea. 500 V/16 A FF Probe fuse: 250 V/250 mA MT **SECUTEST BASE10**: Additionally 1 ea. 500 V/16 A FF

Electromagnetic Compatibility

Product standard DIN EN 61326-1

Interference Emission		Class
EN 55011		B
Interference immunity	**Test value**	**Evaluation criterion**
EN 61000-4-2	Contact/atmos. – 4 kV/8 kV	A
EN 61000-4-3	3 V/m or 1 V/m	A
EN 61000-4-4	1 kV	B
EN 61000-4-5	1 kV or 2 kV	A
EN 61000-4-6	3 V/m	A
EN 61000-4-11	0.5/1/25 periods	A
	250 periods	C

USB Data Interface

Type	USB slave for PC connection
Type	2 ea. USB master for external keyboard, for barcode reader, for USB stick for data backup, for printer

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 x H x D: 295 x 145 x 150 mm Height with handle: 170 mm
Weight	Approx. 2.5 kg
Protection	Housing: IP 40 Test socket: IP 20 per DIN VDE 0470, part 1/EN 60529,

Table Excerpt Regarding Significance of IP Codes

IP XY (1st digit X)	Protection Against Foreign Object Ingress	IP XY (2nd digit Y)	Protection Against Penetration by Water
2	≥ 12.5 mm dia.	0	Not protected
4	≥ 1.0 mm dia.	0	Not protected

Accessories (not included)

Z751A Barcode Reader

For connection to the USB master port at the **SECUTEST BASE(10)/XTRA** test instrument, and for reading in barcodes. This makes it possible to conveniently insert the ID numbers of DUTs into single measurements and test sequences.

This device is based upon the concept of an instinctive scanning distance and provides best possible reading performance at distances of up to 20 cm. Green Spot technology provides a "good-read" projection directly on the code. The device is equipped with a USB port.

Z721S Thermal Printer

For connection to the USB master port at the **SECUTEST BASE(10)/XTRA** test instrument, and for printing out test reports.

EL1 Adapter for Testing Single-Phase Extension Cables

CEE Adapter for Testing Single and 3-Phase Electrical Devices

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 flush-type socket 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, alternatively 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.

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, alternatively leakage current (equivalent leakage current)
- Measurement of protective conductor resistance with the following methods:
  equivalent leakage current / differential 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.

SECU-cal 10 Calibration Adapter

The calibration adapter is used for testing the measuring uncertainty of test instruments in accordance with DIN VDE 0701-0702 / IEC 62353 (VDE 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 VBG 4).

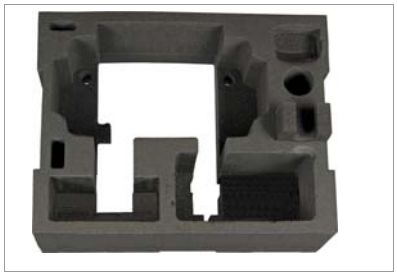
All limit values for the required tests per DIN VDE, as well as protective conductor resistance, insulation resistance, equivalent leakage current, differential and/or touch as well as housing leakage current, must be tested.

SECUTEST | BASE, BASE10 and XTRA
Test Instruments for Measuring Electrical Safety of Devices

SORTIMO L-BOXX (Z503D)

Plastic system case Outside dimensions:
W x H x D
450 x 255 x 355 mm
Foam insert Z503E for tester and accessories, has to be ordered seperately, see below.

Foam insert for SORTIMO L-BOXX (Z701D)



F2000 Universal Carrying Pouch (Z700D)

Test instrument, plug inserts, measuring adapters, replacement batteries, recording charts etc. can be stored in a clear-cut fashion and conveniently transported in the F2000 carrying pouch.
Outside dimensions:
380 x 310 x 200 mm
(without buckles, handle and carrying strap)

Order Information

SECUTEST BASE and SECUTEST BASE10 Standard Models

Standard Model	Article Number	Features
SECUTEST BASE	M7050-V001	Schuko variant (test socket and mains plug), selectable user interface language (default setting: German), protective conductor test current: 200 mA, calibration certificate in D/GB/F, printed condensed operating instructions in German
SECUTEST BASE10	M7050-V002	Schuko variant (test socket and mains plug), selectable user interface language (default setting: German), protective conductor test current: 200 mA and 10 A, calibration certificate in D/GB/F, printed condensed operating instructions in German

Feature-Dependent SECUTEST XTRA Test Instrument Variants

Test instrument with 8 pre-set test sequences per standard and one freely configurable test sequence, selectable user interface language, country-specific test socket, probe cable with test probe, plug-on alligator clip, USB ports, calibration certificate, printed condensed operating instructions, operating instructions for test instrument ETC report software on the Internet.

List of Features

Feature	Test socket and mains plug, country specific	Language for pre-set user interface	R-PE test current	Calibration certificate, language combination
M7050	**B**	**C**	**G**	**P**
00	Schuko	German	**200 mA**	**D/GB/F**
01	UK	English	**10 A** [1]	**D/GB/PL**
02	CH	French		**D/GB/IT**
03	FR/CZ	Italian		
04	China	Spanish		
05	USA	Czech		
06	AUS	Dutch		
07	DK	Polish		
08	Italy			

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

Cells with gray grid: reserved for planned expansions

Designation	Article number	Features
SECUTEST XTRA	M7050 ...	Country-specific variant (test socket and mains plug), selectable user interface language, language selected as a feature is pre-set upon shipment, protective conductor test current: 200 mA or additionally 10 A depending on feature, calibration certificate with language combination depending on feature, printed condensed operating instructions in user interface language if available, otherwise GB

Order example: M7050 B03 C07 G01 P01

SECUTEST XTRA = M7050
B03: test socket and mains plug for F and CZ,
C07: user prompting, keyboard layout and test sequences in polish
P01: calibration certificate in GB/PL

Order Information for Accessories

Designation	Type	Article number
PC analysis software		
Further information regarding software is available on the Internet at: http://www.gossenmetrawatt.com (→ Products → Software → Software for Testers)		
Data Storage / Report Generating Accessories		
Thermal printer for printing out test reports; inkl. manual on CD, Lithium-Batterie, power supply adapter, mains cable, USB cable, 1 role of Thermopaper	Z721S	Z721S
Thermo paper for Z721S; 10 roll of thermo paper, Ø 12/50mm, 30 m x 112 mm, coating outside	Z722S	Z722S
Barcode and label printer including software, for USB connection to the PC or test instrument SECUTEST BASE(10) or XTRA	Z721D	Z721D
Label set for Z721D barcode and label printer (quantity x width: 3 x 24, 1 x 18, 1 x 9 mm, length: 8 m each)	Z722D	Z722D
Label set for Z721D barcode and label printer (qty. x width: 5 x 18 mm, 8 m long each)	Z722E	Z722E
Barcode scanner for USB connection	Z751A	Z751A
See also separate ID systems data sheet regarding barcode scanners and printers.		
Accessory Probes, Sensors, Adapters and 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
Adapter for testing single-phase extension cables including earth contact and inlet plug inserts	EL1	Z723A
Test adapter with single and 3-phase plug connectors up to CEE 32A – For all tests per DIN VDE without line voltage at single and 3-phase electrical devices – For tests per DIN VDE at single and 3-phase extension cords	VL2E	Z745W
Adapter for connecting DUTs: 3-pole 16 A, 5-pole 16 A + 32 A, 5 ea. 4 mm socket – For all tests per DIN VDE without line voltage at single and 3-phase electrical devices	CEE Adapter	Z745A
3-phase 16 A differential current adapter	AT16-DI	Z750A
3-phase 32 A differential current adapter	AT32-DI	Z750B
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

Designation	Type	Article number
Additional Accessories		
Calibration adapter for test instruments per DIN VDE 0701-0702/IEC 62353 (VDE 0751) (max. 200 mA) **cannot be used for 10 A protective conductor test current**	SECU-cal 10	Z715A
Test adapter in combination with SECUTEST... for testing welding units per DIN EN 60974-4:2007. The peak value for open circuit voltage is determined in the SECULOAD by means of a peak value rectifier with very fast diodes. As a result, the actual peak value for open-circuit voltage is also read out for pulsed voltage sources with cycle rates within a range of several 10 kHz in consideration of the filter stipulated in the standard. Includes 4 measurement cables and 2 alligator clips.	SECULOAD	Z745V
Test adapter in combination with SECUTEST... for testing welding units per DIN EN 60974-4:2007. 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 voltage sources with conventional transformer. Includes 4 measurement cables and 2 alligator clips.	SECULOAD-N	Z745R
Plastic system case	SORTIMO L-BOXX	Z503D
Foam insert for SORTIMO L-BOXX with divider for SECUTEST BASE(10) or XTRA	Foam SORTIMO L-BOXX Secutest4	Z701D
Carrying pouch for all SECUTEST... instruments without HV module	F2000 [D]	Z700D

[D] Data sheet available

For additional information regarding accessories please refer to

- Measuring Instruments and Testers catalog
- www.gossenmetrawatt.com

SECUTEST | BASE, BASE10 and XTRA
Test Instruments for Measuring Electrical Safety of Devices

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