

TESTERS – Electrical Equipment

Test Instruments for Testing the Electrical Safety of Electrical Equipment at the Workplace and in Production

The fulfillment of legal requirements such as occupational safety legislation, medical device regulations and product safety law necessitates comprehensive measurements and testing in accordance with stipulations set forth in DIN VDE, as well as EN and IEC standards, for example:

- As an equipment manufacturer per IEC / EN 61010, 60601, 60950, 60335
- For service work or as the operating company
 - ◆ For electric equipment per IEC 62638 E, (DIN VDE 0701-0702)
 - ◆ For medical devices IEC 62353 (VDE 0751)
 - ◆ For welding equipment per IEC 60974-4 (VDE 0544-4)



Overview: Testers

Type	MINITEST			METRA-TESTER 5+	SECUTEST		SECUTEST SIII+/ SECULIFE ST	SECUSTAR FM+/ SECULIFE SB	SECULIFE SR
	BASE	PRO	MASTER		S2 N+ / +10	S2 N+w			
Article number	M712C	M712D	M712U	M700D	M7010-V031/32	M7010-V033	Configurable	M761A/M691A	M692A
Applications, Target Groups									
BGV A3, VDE 0701-0702, BetrSichV	■	■	■	—	■	■	■	■	■
For trained persons	■	■	■	—	■	■	■	■	—
Repairs and service	—	—	—	■	■	■	■	■	■
Production	—	—	—	—	—	—	■	—	—
Tooling expenditures	■	—	—	—	■	■	—	—	—
Medical technology, VDE 0751, IEC 62353	—	—	—	—	■	■	■	■	■
Medical technology, IEC 60601 (SFC conditions)	—	—	—	—	—	—	■	—	—
Welding technology, IEC 60974-4 (VDE 0544-4)	—	—	—	—	—	■	—	■	—
Interfaces									
USB (m = master, s = slave)	—	s	s	—	—	—	—	4 × m	s
Ethernet	—	—	—	—	—	—	—	■	—
CF connection	—	—	—	—	—	—	—	■	—
RS 232C	—	—	■	—	—	■	■	—	—
Test sequences	—	—	—	—	Fixed, per standard			—	Programmable
Data storage (devices under test)	—	—	2000 meas. values	—	125 (PSI option: approx. 400; SECUSTORE: 1000)			Approx. 3000*	—
Software (optional)	Comprehensive information is available on Page 89.								
Functions / Measurements									
Visual inspection	—	—	—	—	■	■	■	Programmable	—
Protective conductor resistance	200 mA				200 mA / 10 A		200 mA 10 / 25 A	200 mA	200 mA
Insulation resistance	■	■	■	■	Adjustable voltage				
Leakage Current Test Methods d = direct, E = equivalent, Δ = differential									
Protective conductor current	Δ (AC)	Δ (AC)	Δ (AC)	E, Δ (AC)	E, Δ (AC)	E, Δ (AC)	d (AC, DC, RMS) E, Δ (AC)	d (RMS) E, Δ (AC)	
Touch current	d (AC)	d (AC)	d (AC)	d (AC)	d (AC, DC, RMS)	d (AC, DC, RMS)	d (AC, DC, RMS) E (AC)	d (AC, DC, RMS) E, Δ (AC)	
Patient leakage current	—	—	—	—	d (AC, DC, RMS)	d (AC, DC, RMS)	d (AC, DC, RMS) E (AC)	d (AC, DC, RMS)	
Leakage current from the application part	—	—	—	—	E (AC)	E (AC)	d (AC) E (AC)	E (AC)	
Device leakage current	—	—	—	—	d (AC, DC, RMS) E, Δ (AC)	d (AC, DC, RMS) E, Δ (AC)	d (AC, DC, RMS) E, Δ (AC)	d (RMS) E, Δ (AC)	
Function Test U = line voltage, I = current consumption, P = power; PF = power factor									
	—	—	—	U, I	U, I, P, PF				
Other Measurements									
High-voltage test	—	—	—	—	—	—	■	—	—
RCD test (time)	—	—	—	—	—	—	—	■	—
Voltage measurement	—	—	—	—	■	■	■	—	—
Temperature: Pt 100 / Pt 1000 (optional)	—	—	—	—	■	■	■	—	—
Miscellaneous									
Display	LED	2-line LCD		Customer specific	Black and white dot matrix			Color touch-screen	Black and white dot matrix
Operation	Rotary switch, save key			Rotary switch	Rotary switch, scroll keys			Touch-screen, keys	Keys
Mains power	230 V / 50 Hz			230 V / 50 Hz	230 V / 50 Hz		230 V / 50 Hz 115 V / 60 Hz	Battery 90 V to 250 V 40 Hz to 400 Hz	90 V to 250 V 40 Hz to 400 Hz

* > 3000 performance reduction



SECUTEST S2N+ / +10 / SECUTEST S2N+w



DAkKS
Calibration Certificate

Test Instrument for BGV A3 and MPG

Universal Test Instrument for Testing the Electrical Safety of Electrical Devices in Accordance with Safety Legislation, Medical Device Regulations and BGV A3

Automatic test sequences per:

- IEC 62638 E (VDE 0701-0702)
 - ◆ Testing of extension cables
 - ◆ Passive test sequence (device is not started up)
 - ◆ Active test sequence (device is started up)
 - ◆ Testing of computer equipment
- IEC 62353 (VDE 0751),
testing of electrical medical devices

or

- IEC 60974-4 (VDE 0544-4),
testing of arc welding equipment

Expanded functionality:

- Safety for the user thanks to integrated safety switch – suitable for persons with basic electro-technical instruction
- Menu driven test sequences in compliance with the standards including automatic detection of protection classes I + II
- Voltage measurement at SELV PELV circuits included in the test sequence
- Convenient memory and report generating functions (optional with S2N+)
- Expanded data storage and reports generating via optional, external memory
- Expandable with optional accessories for 3-phase devices

Scope of delivery:

- Probe cable with test probe
- Alligator clip
- DAkKS calibration certificate
- Carrying strap

Optional accessories beginning on Page 82



Photo shows optional SI+ module.



SECUTEST S2N+w with optional SI+ module

Standard Models

SECUTEST S2N+ Article: M7010-V031

- IEC 62638 E (VDE 0701-0702)
 - ◆ Testing of extension cables
 - ◆ Passive test sequence (device is not started up)
 - ◆ Active test sequence (device is started up)
 - ◆ Testing of computer equipment
- IEC 62353 (VDE 0751),
testing of electrical medical devices

SECUTEST S2N+10 Article: M7010-V032

same as M7010-V031 plus:

- 200 mA/10 A test current

SECUTEST S2N+W Article: M7010-V033

same as M7010-V032, but instead of IEC 62353 (VDE 0751):

- IEC 60974-4 (VDE 0544-4),
testing of arc welding equipment



(PACKAGE EXAMPLE: M702P) – ACCESSORIES BEGINNING ON PAGE 82

 More information at:
www.gossenmetrawatt.com

SOFTWARE – SECU-UP Article: Z713C/Z713D

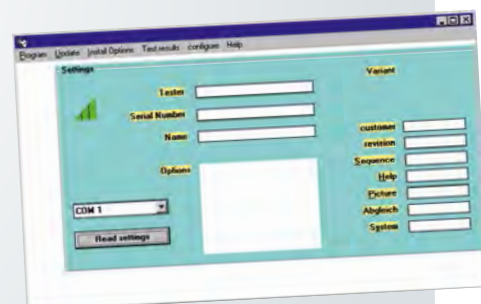
Firmware Update for all SECUTEST SIII..., SIII+... and -SII+...

Not for SECUTEST SII, DC, med, SECUTEST 0701 or SECUTEST 0701/0702S.

Software for reading out data from the SECUTEST and generating simple reports.

The software includes:

- Device software update resulting from further development – **free of charge** within a given primary version. Simply download and install the software, or send your instrument to GMC-I Service GmbH.
- **For a fee** – for instruments with older versions. Just ask our service department for an update appointment, and the instrument can be recalibrated at the same time if required.
- Language selection for operating and help menus – included languages: D, GB, F, I, E, NL, CZ
- Updating of optional device functions if enabled
- Enabling of options after purchasing an enabling code



SECUTEST | SIII+ Article: M7010... / SECULIFE | ST Article: M693A...



Universal Test Instrument for Testing the Electrical Safety of Electrical Devices in Accordance with Safety Legislation, Medical Device Regulations and BGV A3, as well as Final Inspection Testing in Production

Automatic test sequences per:

- IEC 62638 E (VDE 0701-0702), testing of electrical devices
- IEC 62353 (VDE 0751), testing of electrical medical devices
- IEC 60601, routine testing of electrical medical devices (optional/configurable)
- IEC 60335, routine testing of household appliances
- IEC 61010, routine testing of laboratory equipment
- IEC 60950, routine testing of IT equipment

Expanded functionality:

- Menu driven test sequences in compliance with the standards including automatic detection of protection classes I + II
- Automatic adaptation to either 110V / 60 Hz or 230V / 50 Hz mains power
- Convenient memory and report generating functions
- Expanded data storage and reports generating via optional, external memory
- Expandable with optional accessories for 3-phase devices
- Application-specific configuration

Plus the following with Seculife ST:

- Up to 10 application parts can be connected
- Test sequence per IEC 60601 with SFC conditions

Standard models available from stock:

Secutest SIII+H

Seculife ST (M693A)

- Internal memory for 125 test results (entry of ID number and designation via barcode/RFID)
- Direct printing
- Detection of probe at protective conductor
- IEC 60601, routine testing of electrical medical devices (optional/configurable)

Seculife ST HV (M693C)

- Including high-voltage test up to 6000V DC (at SC II devices)
- AC test current for 25 A protective conductor measurement

Scope of delivery:

- Probe cable with test probe / alligator clip
- DAKkS calibration certificate

Optional accessories: see SECUTEST S2N+ / S2N+ | 10

SECULIFE | ST with option for connecting up to 10 application parts



DAKkS Calibration Certificate



Designation	Basic Instrument = All 00 Features	M7010	M6930	
		Standard Model		
		M7010-V013	M693A	
Connectors and plugs for mains power and socket for device under test	Germany	■ B00	■ B00	
	Germany, additionally with service socket	B01	B01	
	UK	B02	B02	
	France / Czech Republic	B03	B03	
	Denmark	B05	B05	
		B06	B06	
		B07	B07	
	Other countries upon request	China / Australia	B08	B08
		Switzerland	B09	B09
		Adapter set for international use (equipped with feature B01)	B11	B11
	Language for user prompting	German	■ C00	■ C00
English		C01	C01	
French		C02	C02	
Italian		C03	C03	
Spanish		C04	C04	
Czech		C05	C05	
Dutch		C06	C06	
HV test	None	F00	■ F00	
	With HV test, setpoint: max. 4 kV AC – test voltage output: max. 6.126 kV DC	■ F02	F02	
AC test current for protective conductor measurement	10 A	G00	■ G00	
	25 A	■ G01	G01	
	Without AC test current	G02	G02	
Test sequence for IEC 60601	None	KA00	■	
	With (recommended with J01)	KA01	■	
Data memory for up to 125 tests	None	KB00	■	
	With	■ KB01	■	
Detection of probe at protective conductor	None	KD00	■	
	With (including SK5 probe, 5m)	■ KD01	■	
Direct printing	None	KE00	■	
	Direct printing after each measurement for automatic test sequences	■ KE01	■	

SECUSTAR | **FM+** Article: M761ASECULIFE | **SB** Article: M691A

Modular Measuring and Test System for User-Controlled Execution of Legally Required or Company Specified Work Procedures and Directives, e.g. Occupational Safety Legislation and Medical Device Regulations

- Suitable for use by trained persons
- **Predefined test sequences for**
 - ◆ Electrical devices (**IEC 62353 / DIN VDE 0701-0702**)
 - ◆ Electrical medical devices (**IEC 62353 / DIN VDE 0751**)
 - ◆ Arc welding equipment (**IEC 60974-4**)
- Can be easily supplemented with freely programmable test steps and test sequences
- Operation via color touch-screen
- Mains-independent operation with rechargeable batteries
- Data storage and data management for more than 2000 objects
- Integrated deadlines management
- Data interfaces: 4-socket USB hub for connecting PC, printer or sensor
- USB, CF connection for data exchange; Ethernet connection for hook-up within the LAN

Scope of delivery:

- Mains connection at the test instrument: via 16 A inlet plug – country-specific at the mains end
- Probe cable with test probe/alligator clip
- Compact flash card type II

Starter set (M702W)

- SECUSTAR FM+
- Bagstar carrying pouch
- Barcode scanner (Z751A)
- PC.doc-ACCESS for testing in accordance with DIN VDE 0701-0702

Optional accessories beginning on Page 82

- Package of 3 wands (Z753A): for data entry via the LCD touch-screen
- Package of 2 retaining clips (Z753B)
- DAkKs calibration certificate (Z752A)

SECULIFE | **SR** Article: M692A

Universal, PC Controlled Measuring Instrument

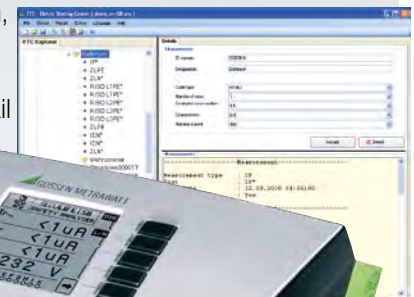
Used for testing the electrical safety of electrical medical devices after repair or modification, and for conducting periodic tests at regular intervals.

- Streamlined, time-saving tests thanks to direct measurement start-up by pressing a key
- USB data interface
- Connection of 10 application parts (via 4 mm sockets)
- Supports all measuring methods for leakage current (direct, differential, equivalent)
- Connection option for 10A test probe (PGS10 – Z745Y)

ETC data management software (included)

- Tests can be remote controlled with ETC software
- Convenient reports generation (as PDF file, export to WORD or EXCEL)
- Test results displayed as a list by simply pressing a key

- Programmable test sequences
- Creates tree structure for devices under test (customer, building, room, floor, type etc.)
- Tree structure interchangeable via e-mail



METRATESTER I5+ Article: M700D

Instrument for Testing the Electrical Safety of Electrical Equipment per DIN VDE 0701-0702

- Large, digital LCD panel
- Mains connection testing with finger contact and indicator lamp
- Differential current measurement per DIN VDE 0701-0702
- All measured values appear clearly at a large digital display
- Exceeded limit values are indicated optically and acoustically
- Dimensions (W x H x D): 190 x 140 x 95 mm, weight: approx. 1.3 kg

- Panel mount variant: METRATESTER 5-F-E (M700T)

Scope of delivery:

- Factory calibration certificate

Test	Measuring Range
Protective conductor resistance	0 ... 19.99 Ω
Insulation resistance	0 ... 19.99 M Ω
Equivalent leakage current	0 ... 19.99 mA ~
Absence of voltage	0 ... 1.999 mA ~
Differential current	0.01 ... 19.99 mA ~
Line voltage	207V ... 253V ~
Load current	0 ... 16.00A ~



METRATESTER I5+3P Article: M700K

Test Case with M700D for Testing Devices in Accordance with DIN VDE 0701-0702, can also be used as a Workshop Test Panel per DIN VDE 0104. For testing the electrical safety of single and 3-phase electrical equipment in accordance with the regulations:

The test case complies with "guidelines for equipment required for electrical installation operations" issued by the Federal Committee for Electrical Installations, ZVEH, WFE and electrical power utilities.

- **Mains connection:** The test case can be connected either to an earthing contact outlet with the two included power cables, or to a 16 A CEE mains outlet.
- **Test types:** DIN VDE tests without mains operation: protective conductor resistance, insulation resistance, equivalent leakage current; DIN VDE tests with mains operation at all single and 3-phase devices: differential current, touch current. Function tests with measurement of current consumption and voltage

in phases L1, L2 and L3. Protective conductor measurement is performed correctly in accordance with DIN VDE 0104.

- **Convenient testing:** All safety and function tests are executed in a practical fashion by switching mains voltage or the individual phases to the device under test with selector switches.
- **Rugged case design:** Test case consisting of an aluminum shell and a removable, lockable lid; ample space is provided for connection adapters and operating instructions.
- **Dimensions:** Approx. 380 x 300 x 220 mm, weight: approx. 8 kg

Scope of delivery:

- Test case including test instrument
- Mains cable with earthing contact plug and coupling socket
- Mains cable with CEE 16 A, 5-pole mains plug and coupling socket
- Optional accessories beginning on Page 82





MINITEST 3P MASTER

**Scope of delivery:****MINITEST BASE**

- Test instrument
- Probe cable

Additional features for MINITEST PRO/MASTER:

- USB connector cable
- CD ROM with software

Additional features for MINITEST 3P MASTER:

- Adapter: CEE 32 to Schuko
- Adapter: CEE 32 to 16 x 3
- Adapter: CEE 32 to 16 x 1
- Adapter: CEE 32 to 32 x 1

Optional accessories beginning on

- PC.doc-WORD/EXCEL analysis software beginning on Page 91

MINITEST I Base MINITEST I Pro

Article: see description

MINITEST BASE (M712C)

Test instrument for DIN VDE 0701-0702, for testing and measurement of repaired or modified devices by measuring:

- Protective conductor resistance
- Insulation resistance
- Protective conductor current – differential current method
- Touch current – direct measurement method
- Indication of limit value violations by means of color LEDs
- The probe cable is protected by means of a fuse link.

MINITEST PRO (M712D)

Test instrument for DIN VDE 0701-0702, for testing and measuring repaired or modified devices.

Same as MINITEST BASE plus:

- Measured values appear at a large digital display.
- USB interface for report generation with data
- MINITEST software included on CD ROM
- Extensive safety features
- RCCB in the plug on the mains cable

MINITEST I 3P Master MINITEST I Master

MINITEST 3P MASTER (M712X)

Same as MINITEST MASTER plus:

- CEE 16A test socket and mains outlet, single and 3-phase
- CEE 32A test socket and mains outlet, single and 3-phase

MINITEST MASTER (M712U)

Same as MINITEST PRO plus:

- Memory for 2000 tests with up to 10 measured values each



MINITEST BASE

MINITEST PRO

MINITEST MASTER

