

GT-650, GT-900

New portable appliance tester (PAT tester) for tests in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3)

Appliance Testing: Measuring and documenting today – even faster, even easier

By improving the automatic test function (AUTO-TESTS) and transferring test information from the software directly into the database of the appliance tester, it is especially easy to carry out periodic inspections (GT-900 only).

The possibilities of customer-specific test procedures have also been extended. Now customer-specific test procedures can be secured by means of a USB stick or simply copied from one appliance tester to another (GT-900 only).

With this portable appliance tester, you have a universal and efficient solution with all the features for checking portable appliances. Each measuring function is selectable

with a rotary switch. This is much clearer and faster than using buttons, menus or a touch screen and allows for faster and more efficient operation.

The new appliance tester is designed in a compact and rugged case. This protects the tester during measurements, during transport and also provides sufficient space for accessories.

Features

- **NEW! Database in the PAT tester** allows importing a database and test information from the software directly into the tester
- **Automatic and pre-installed test procedures (AUTO TESTS)**
- **Creation of customer-specific test procedures (AUTO TESTS)** including measurement times and limit values
- **Quick and easy testing of PRCD, PRCD-S, PRCD-S + and PRCD-K** using automatic test procedure
- **Connection for external current clamp** e.g. for measurements on three-phase appliances
- **Detachable lid** for easier handling during operation
- **3 USB ports: 1x for PC and 2x HID compatible** for connection of USB keyboard, USB barcode scanner, USB memory or Bluetooth devices with USB dongle



GT-900

Portable appliance tester for testing in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3)



GT-650

Portable appliance tester for testing in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3)

GT-650, GT-900

Appliance testing in accordance with DIN VDE 0701-0702

Two new portable appliance testers for testing in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3)

Measurement functions

- **Visual inspection** as an separate function.
- **Protective earth bond test (RPE)**, test current 0.2 A and 5 A AC. Highlight: the tests can be carried out on appliances with mains plug or on permanently connected appliances.
- **Insulation resistance test (RINS)**, test voltage 500 VDC (additionally 250 VDC for GT-900). Testing of appliances with protective conductor (protection class I), without protective conductor (protection class II) and SELV/PELV appliances (protection class III). Highlight: the insulation resistance test can be carried out on appliances with mains plugs or on permanently connected appliances.
- **Substitute leakage current test (ISUB)** (Earth leakage current measurement and touch leakage current measurement using the alternative measuring method), test voltage approx. 45 V AC. Testing of appliances of protection class I and protection class II.
- **Earth Leakage Current Test (IPE Δ)** using the differential measurement method
- **Touch Leakage Current Test (ITC)**; direct measuring method
- **Functional test (P/IPE)** Apparent power (VA), active power (P), mains voltage at the tested appliance (U), load current (IPE), power factor (cos φ)
- **Current measurement via external current clamp** – particularly suitable for 3-phase appliances (Earth leakage current test using direct measuring method, differential current measurement method and load current measurement) (GT 900 only)
- **Direct testing of IEC CORDs** without adapter (protective earth bond resistance, test current 0.2 A and 5 A AC, insulation resistance, L-conductor continuity, N-conductor continuity, L/N-short circuit).
- **Testing of extension leads, multiple sockets and cable reels** (protective earth bond resistance, test current 0.2 A and 5 A AC, insulation resistance, L-conductor continuity, N-conductor continuity, L/N-short circuit).
- **Automatic testing of portable RCDs** (PRCD, PRCD-S, PRCD-S +, PRCD-K) (protective earth bond resistance, test current 0.2 A and 5 A AC, TEST button, insulation resistance, earth leakage current test, functional test at L and N shutdown), trip time (AC and DS puls test) and tripping current at $I_{\Delta N}$ (GT-900 only).
- **Measurement of safety extra-low voltage** (SELV/PELV).
- **Automatic test procedure** (AUTO TEST), factory-programmed AUTO TESTS and customer-specific AUTO TESTS (GT-900 only). For customer-specific AUTO TESTS, up to 8 predefined visual inspections and a total of up to 30 individual test steps can be created.

Appliance information

- **Convenient software** "es control professional" is available with database and logging capability (optional)
- **Database in the tester** (GT-900 only) Transfer of test information from the software directly to the tester. Approximately 10,000 appliances to be tested can be managed. Up to 12 predefined attributes of each appliance/dataset can be displayed.
- **Measurement storage** for approx. 5,000 test results/appliances in the tester (GT-900 only, approx. 500 for GT-650)
- **Three storage levels** (customer, location, department)
- **Easy operation** via rotary switch and START/STOP button
- **Automatic start and storage function** for protective earth bond resistance test allows two-handed measurements on hard-to-reach measuring objects.
- **Compensation of the test leads** for protective earth bond resistance test up to 11 Ohms
- **Calculation of the limit values** of the protective earth bond resistance by entering the cross-section and the length of the conductor.
- **Automatic reversal** of the polarity of the mains voltage for earth leakage current and touch leakage current measurements (GT-900 only).
- **Integrated interface** (USB 2.0) for transferring the test results to the PC and transferring the database / test information to the tester
- **Two separate interfaces** (USB 2.0 HID compatible) for connecting input devices such as USB keyboard, USB barcode scanner, USB memory or Bluetooth devices with USB dongle
- **Graphic LC display** for test results, limits and parameters
- **Adjustable limits** for all features (except P/IL and IL current clamp).
- **Clear indication** "test OK/not OK" / "PASS/FAIL"
- **Visual and audible** warnings when limits are exceeded.
- **Real-time clock** for the documentation of the test results.
- **Single measurements or continuous measurements.**
- **Adjustable measuring times** for single measurements.
- **Combined test/mains socket**
- **Selectable languages:** German and English (French in preparation).
- **Compact and robust** case with accessories storage compartment
- **Connection diagrams and limits** in the lid of the tester
- **Detachable lid** for easier handling during the test
- **Country-specific predefined limits** for the region outside/within the UK.



Tester highlights

- **Easy operation** via rotary switch and START/STOP button
- **Database** in the tester (GT-900 only)
- **Test current** for protective earth bond resistance 5 A and 0.2 A (AC)
- **Differential measurement method** for earth leakage current test
- **Direct measurement method** for touch leakage current
- **Fast safety** and functional testing of IEC cord
- **Suitable** for trained persons, clear ok/not ok indication
- **Connection** for barcode scanners for reading of appliances numbers

GT-900 also offers

- **Database** in the tester, test information (attributes) available for each appliance to be tested.
- **Automatic test procedure** (AUTO TEST), also with input of customer-specific test sequences. The customer-specific test procedures can be saved on a USB stick and copied from tester to tester.
- **Connection** for external current clamp for measuring earth leakage currents and load currents, even on 3-phase appliances.
- **Testing** of portable RCDs (PRCD, PRCD-S, PRCD-S +, PRCD-K). During this test, upstream RCD of installation will not be tripped.
- **Selectable test voltage** for insulation measurement 250/500 V
- **Automatic** reversal of polarity of the mains socket





Testing of portable RCDs (PRCD, PRCD-S, PRCD-S+, PRCD-K) (GT-900 only).



Connection for external current clamp (optional Beha-Amprobe CHB 1) for measuring earth leakage currents, even on 3-phase appliances (GT-900 only).



Three separate USB interfaces for simultaneous connection to PC and input devices such as USB keyboard, USB barcode scanner, USB memory or Bluetooth devices with USB dongle (optional)

Order information	GT-650-D	GT-900-D	GT-900-CH
Specifications			
Display	Graphical LCD, 128 x 64 pixels	Graphical LCD, 128 x 64 pixels	Graphical LCD, 128 x 64 pixels
Visual inspection	•	•	•
Protective earth bond test (RPE)	0.00...11.00 Ω	0.00...11.00 Ω	0.00...11.00 Ω
Test current / voltage	> 200 mA / ca. 6 V AC; > 5 A / ca. 6 V AC	> 200 mA / ca. 6 V AC; > 5 A / ca. 6 V AC	> 200 mA / ca. 6 V AC; > 5 A / ca. 6 V AC
Insulation resistance (RISO)	0.00...100 MΩ	0.00...100 MΩ	0.00...100 MΩ
Test voltage/current	500 V DC / > 1 mA	500 V DC / > 1 mA / 250 V DC / > 1 mA	500 V DC / > 1 mA / 250 V DC / > 1 mA
Substitute leakage current (ISL)	0.02...20.00 mA	0.02...20.00 mA	0.02...20.00 mA
Test voltage/current	approx. 45 V AC / ca. 300 mA	approx. 45 V AC / ca. 300 mA	approx. 45 V AC / ca. 300 mA
Earth leakage current (IPE)	0.05...20.00 mA (Differential current measurement method)	0.05...20.00 mA (Differential current measurement method)	0.05...20.00 mA (Differential current measurement method)
Touch leakage current (ITC)	0.01...20.00 mA (Direct measurement method)	0.01...20.00 mA (Direct measurement method)	0.01...20.00 mA (Direct measurement method)
Functional test (P/I_{PE})			
Apparent/Active Power	0,0 VA...5,06 kVA / 0,0 W...5,06 kW	0,0 VA...5,06 kVA / 0,0 W...5,06 kW	0,0 VA...5,06 kVA / 0,0 W...5,06 kW
Load current	0,00...20,0 A	0,00...20,0 A	0,00...20,0 A
Line voltage of DUT	195...253 V	195...253 V	195...253 V
Power factor	0,00...1,00	0,00...1,00	0,00...1,00
Voltage measurement SELV/PELV	10,0...100,0 V AC/DC	10,0...100,0 V AC/DC	10,0...100,0 V AC/DC
External current clamp input	–	0,5 ... 20,0 mA / 0,2 ... 60,0 A, for current clamp 1000:1	0,5 ... 20,0 mA / 0,2 ... 60,0 A, for current clamp 1000:1
Test function for IEC-cords	•	•	•
Protective earth bond test (RPE)	•	•	•
Insulation resistance (RISO)	•	•	•
Functional test	L/N continuity, short circuit	L/N continuity, short circuit	L/N continuity, short circuit
Test function PRCD	–	•	GT-900 CH: only with optional PRCD adapter
PRCD types	–	2-pole, 3-pole, type S, type S+ and type K	2-pole, 3-pole, type S, type S+ and type K
Protective earth bond test (RPE)	–	•	•
Insulation resistance (RISO)	–	•	•
Earth leakage and touch leakage current (IPE and ITC)	–	•	•
TEST button	–	•	•
RCD test (10 and 30 mA)	–	Trip time (test with alternating current and pulsating direct current) and trip current (ramp) at I _{ΔN}	Trip time (test with alternating current and pulsating direct current) and trip current (ramp) at I _{ΔN}
Functional test	–	according to manufacturer specifications	according to manufacturer specifications
General information			
Measurement storage	approx. 500 test results/appliances	approx. 5,000 test results/appliances	approx. 5,000 test results/appliances
Database storage	approx. 1,000 attributes/dataset	approx. 10,000 attributes/dataset (expandable by saving multiple files to USB memory)	approx. 10,000 attributes/dataset (expandable by saving multiple files to USB memory)
Interface (USB 2.0)	1x for PC; 2x HID compatible for e.g. keyboard, barcode scanner or memory	1x for PC; 2x HID compatible for e.g. keyboard, barcode scanner or memory	1x for PC; 2x HID compatible for e.g. Keyboard, barcode scanner or memory
Manufactured according to	DIN VDE 0411-1 / EN 61010-1, DIN VDE 0413 / EN 61557 parts 1, 2, 4, 10, 16	DIN VDE 0411-1 / EN 61010-1, DIN VDE 0413 / EN 61557 parts 1, 2, 4, 10, 16	DIN VDE 0411-1 / EN 61010-1, DIN VDE 0413 / EN 61557 parts 1, 2, 4, 10, 16
Measurement category	CAT II/300 V	CAT II/300 V	CAT II/300 V
IP rating	IP 40	IP 40	IP 40
Power supply	230 V +10%/-15% 50/60 Hz	230 V +10%/-15% 50/60 Hz	230 V +10%/-15% 50/60 Hz
Power consumption	approx. 45 VA	approx. 45 VA	approx. 45 VA
Mains connection	IEC	IEC	Type 12
Test/Mains socket	IEC	IEC	Type 23
Dimensions	300 x 250 x 130 mm	300 x 250 x 130 mm	300 x 250 x 130 mm
Weight	Approx. 4.5 kg	Approx. 4.5 kg	Approx. 4.5 kg


GT-650-D

Appliance tester for tests in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3) with Schuko Mains cable and Schuko test/mains socket. (not available as Swiss version).


GT-900-D

Appliance tester for tests in accordance with DIN VDE 0701-0702 and DGUV regulation 3 (BGV A3) with Schuko Mains cable and Schuko test/mains socket.


GT-900-CH

Appliance tester for tests in accordance with SNR 462638 and electrosuisse info 3024 d with Swiss mains cable (type 12) and test/mains socket (type 23).



0701/0702/0113

Software

es control professional



BC-1250G, black
Barcode-Scanner
including USB-cable



KBGE-MT2045
USB keyboard



CHB1
Leakage current clamp



ACF-6A
**Adapter cable
for current clamp**



1235D/1236D
**Differential
Measurement Adapter**
CEE 5-pole 16 A 1235D
CEE 5-pole 32 A 1236D



1240D/1241D
**Three Phase Test
Adapter**
CEE 5-pole 16 A 1240D
CEE 5-pole 32 A 1241D



1142D
**Three Phase Test
Adapter**



PA-1
**Adapter IEC to clover
leaf (IEC C6-C13)**



**ADAPTER-PE
for earth bond
measurement**



ADPTR-PE-EUR
**Socket Check
Adapter for earth
bond measurement**



VLP-5
**Test Adapter for Three
Phase Extensions Leads**



AT-BRUSH brush-type test probe
4 mm plug-in technology



All Beha-Amprobe meters and testers, including the GT-650/GT-900, have been thoroughly tested for safety, accuracy, reliability and ruggedness in our state-of-the-art test laboratories. In addition, Beha-Amprobe products that measure electrical quantities are tested by an external safety laboratory. This system ensures that Beha-Amprobe products meet or exceed safety standards and work reliably for many years, even in harsh and commercial environments.