

MI 3310A SigmaGT

Easy to use



- **10 A** Earth bond
- PRCD type **AC, A, B, S, K**
- Support for active **3-phase Adapter A 1322**



**Multifunctional
VDE 0701-0702 tester**



The multifunctional portable test instrument SigmaGT is intended to perform all measurements for testing the electrical safety of portable electrical equipment. The operation of the unit is clear and simple, the operator does not need any special training to operate the instrument. The instrument has a powerful test data management system where auto tests and single tests can be stored in approximately 6000 memory locations.

The instrument can operate from mains power or batteries, it has built-in battery charger, soft Qwerty keypad, and large bright graphic display. Instrument's extended communication facility supports use of RS232 and Bluetooth label printer and RS232 and Bluetooth barcode scanner. In addition it has the support for reading / writing RFID tags. Powerful data management system PC SW PATLink PRO enables upload and download of test results and parameters for further data handling, trend analysis and test report creation.

INNOVATIVE TEST FUNCTIONS:

New solution for testing of portable RCDs and RCD protected cables.

Simple connection for PRCD test - via mains test socket and IEC cord.

A complete testing (Earth Bond + Leakage + PRCD test + Polarity) can be performed without reconnection of tested item.

Active polarity function allows to test cords / leads with integrated RCD protection while voltage is applied to the tested item.

This function enables RCD operation during the test, since most of PRCDs must be powered to be switched ON.

Insulation-S and Substitute-S subfunctions for testing Class II devices.

These functions enable consistent testing of Class II parts of combined (Class I + Class II) appliances.

10 A Earth Bond test.

RCD test + Voltage function for checking properness of mains connection point.

Instrument has also the solution for measurements on fixed installed appliances due to installed test terminals and clamp current test.

KEY FEATURES:

- Large graphic LCD display with resolution of 240 x 128 dots with backlight.
- Over 6000 memory locations in data flash memory for storing test results and parameters.
- Three communication ports (USB and 2 x RS232C) for communication with PC, barcode scanner and printer.
- Bluetooth communication with printer, barcode scanner and PC.
- Soft touch keyboard with cursor keys.
- Built-in real time clock.
- Fully compatible with PATLink PRO PC software package.

POWERFUL FUNCTIONS FOR FAST AND EFFICIENT PERIODIC TESTING:

- Preprogrammed test sequences.
- Fast testing with barcode and/or RFID tag identification systems.
- Test data can be uploaded from PC.
- Comparison between old and new test results can be performed on site.
- On-site printing of test labels.



FOLLOWING TESTS CAN BE PERFORMED:

- Earth bond / continuity resistance,
- Insulation resistance,
- Insulation resistance of isolated accessible conductive parts,
- Substitute leakage current,
- Substitute leakage current of isolated accessible conductive parts,
- Differential leakage current,
- Touch leakage current,
- IEC cord polarity test,
- Leakage and TRMS load currents with current clamp,
- Portable RCD testing,
- RCD testing,
- Functional test.

APPLICATION:

- Professional portable appliance testing
- General portable appliance testing
- Multi-location portable appliance testing

STANDARDS APPLIED

Electromagnetic compatibility (EMC)

EN 61326-1

Safety (LVD)

EN 61010-1; EN 61010-031; EN 61010-2-032

Functionality

VDE 0404-1; VDE 0404-2; VDE 0701-0702; EN 60204-1 Ed.5; EN 60439

EN 61439-1; AS / NZS 3760; NEN 3140

Technical specifications

Earth bond resistance (200 mA, 10 A)

Earth bond resistance readout (test current set to 10 A)

| Range | Resolution | Accuracy |
|------------------|------------|------------------------------|
| 0.00 Ω ÷ 1.99 Ω | 0.01 Ω | ±(5 % of reading + 3 digits) |
| 2.00 Ω ÷ 19.99 Ω | 0.01 Ω | ±10 % |

Earth bond resistance readout (test current set to 200 mA)

| Range | Resolution | Accuracy |
|-----------------|------------|------------------------------|
| 0.00 Ω ÷ 1.99 Ω | 0.01 Ω | ±(5 % of reading + 3 digits) |
| 2.00 Ω ÷ 9.99 Ω | 0.01 Ω | ±10 % |
| 10.0 Ω ÷ 19.9 Ω | 0.1 Ω | ±10 % |

Insulation resistance, Insulation – S resistance (250 Vdc, 500 Vdc)

| Range | Resolution | Accuracy |
|---------------------|------------|-------------------------------|
| 0.000 MΩ ÷ 0.500 MΩ | 0.001 MΩ | ±(10 % of reading + 5 digits) |
| 0.501 MΩ ÷ 1.999 MΩ | 0.001 MΩ | |
| 2.00 MΩ ÷ 19.99 MΩ | 0.01 MΩ | ±(5 % of reading + 3 digits) |
| 20.0 MΩ ÷ 199.9 MΩ | 0.1 MΩ | |

Differential leakage current (230 VAc)

| Range | Resolution | Accuracy |
|--------------------|------------|------------------------------|
| 0.00 mA ÷ 19.99 mA | 0.01 mA | ±(5 % of reading + 5 digits) |

Touch leakage current (230 VAc)

| Range | Resolution | Accuracy |
|-------------------|------------|-------------------------------|
| 0.00 mA ÷ 3.99 mA | 0.01 mA | ±(10 % of reading + 5 digits) |

Subleakage current, Subleakage – S current (40 VAc)

| Range | Resolution | Accuracy |
|--------------------|------------|------------------------------|
| 0.00 mA ÷ 19.99 mA | 0.01 mA | ±(5 % of reading + 5 digits) |

Power / Functional test (230 VAc)

| Range | Resolution | Accuracy |
|---------------------|------------|------------------------------|
| 0.00 kVA ÷ 4.00 kVA | 0.01 kVA | ±(5 % of reading + 3 digits) |

Clamp current

| Range | Resolution | Accuracy |
|-------------------|------------|-------------------------------|
| 0.00 mA ÷ 9.99 mA | 0.01 mA | ±(5 % of reading + 10 digits) |
| 10.0 mA ÷ 99.9 mA | 0.1 mA | ±(5 % of reading + 5 digits) |
| 100 mA ÷ 999 mA | 1 mA | ±(5 % of reading + 5 digits) |
| 1.00 A ÷ 9.99 A | 0.01 A | ±(5 % of reading + 5 digits) |
| 10.0 A ÷ 24.9 A | 0.1 A | ±(5 % of reading + 5 digits) |

(P)RCD testing - single, autotest (10 mA, 15 mA, 30 mA)

| Range | Resolution | Accuracy |
|-------------------------|------------|----------|
| 0 ms ÷ 300 ms (½ x IΔN) | 1 ms | |
| 0 ms ÷ 300 ms (IΔN) | 1 ms | ±3 ms |
| 0 ms ÷ 40 ms (5 x IΔN) | 1 ms | |

Polarity test Standard test (<50 VAc); **Active test** (230 VAc)

General data

| | |
|--------------------------------|--|
| Power supply voltage: | 9 Vdc (6x1.5 V battery or accu, size C), 230 VAc |
| Operation: | 10 h |
| Working temperature range: | 0 °C ÷ 40 °C |
| Maximum relative humidity: | 85 % RH (0 °C ÷ 40 °C), non-condensing |
| Display: | 240 x 128 dots matrix display with backlight |
| Memory: | 6000 memory locations |
| Communication port: | 2 x RS232 (9 pin D sub, female) USB (connector Typ B) |
| Overvoltage category: | CAT II / 300 V |
| Protection classification: | Double insulation |
| Protection degree: | case IP 50 / connectors IP 20 |
| Dimensions (w x h x d): | 31 cm x 13 cm x 25 cm |
| Weight (with st. accessories): | 5 kg |



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Ordering information:

Standard set

Part No. MI 3310A



- Instrument MI 3310A SigmaGT (with bluetooth)
- Small soft carrying bag
- Test lead, brown, green, black, 1.5 m
- Crocodile clip, brown, green, black
- Test probe, brown, green, black
- PC software PATLink PRO
- RS232 cable, USB cable
- Instruction manual, short instruction manual
- Calibration certificate
- NiMH rechargeable batteries, type C, 6 pcs
- IEC test cable, 2 m
- Mains cable 16 A

Optional accessories:

| Photo | Order No. | Acc. description |
|-------|-----------|---|
| | A 1283 | Leakage current clamp |
| | A 1276 | Label printer (RS232) |
| | A 1318 | Label printer (Bluetooth) |
| | A 1295 | Labels for A 1276, A 1318 printers |
| | A 1328 | HI-Q Labels for A 1276, A 1318 printers |
| | A 1321 | Barcode scanner (Bluetooth) |
| | A 1105 | Barcode scanner |
| | A 1107 | RFID reader / writer |
| | A 1108 | RFID tags, self-stick, 25 pcs |
| | A 1337 | RFID tags, key-tag, 25 pcs |
| | A 1337 | RFID tags, self-stick, 50 pcs |
| | A 1207 | Three phase adapter |
| | A 1203 | A 1203 Upgrade code PAT Link PRO to PAT Link PRO Plus |
| | A 1289 | Soft carrying bag |
| | A 1331 | Test lead with crocodile black 1.5 m |
| | A 1316 | Three phase adapter (16A CEE-Schuko) |
| | A 1317 | Three phase adapter (32A CEE-Schuko) |
| | A 1322 | Active 3-phase Adapter |

Note! Photographs in this catalogue may slightly differ from the instruments at the time of delivery. Subject to technical change without notice.