

# MI 3310 25A SigmaGT/PAT

- **25 A** Earth bond
- **PRCD** type  
AC, A, **B, S, K**
- Support for active  
**3-phase Adapter**  
**A 1322, A 1422**  
**(VDE 0544-4)**

**Easy to use**

**aPAT**

**Bluetooth™**

ANDROID APP ON  
**Google play**

**Multifunctional  
PAT tester**

**NEW**  
mains and battery  
powered



The MI 3310 25A SigmaGT is a multifunctional portable test instrument intended to perform all measurements for complete testing the electrical safety of portable electrical equipment. The instrument can operate from mains power or batteries.

Built-in Bluetooth technology enables support of aPAT, revolutionary Portable Appliance Testing software tool. An Android device with the aPAT application creates flexibility by serving as a link between PAT tester, QR code scanner and / or QR code printer. The application also uses a smart phone's built in camera as a barcode reader.

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.

### 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.

### 25 A Earth Bond test.

### Support for active 3-Phase adapters.

Multifunctional test adapters are designed for troubleshooting, as well as for periodic testing on 3-phase appliances, machinery and ARC welding equipment.

### RCD test + Voltage function for checking adequacy 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.
- Bluetooth communication with aPAT application.
- Soft touch keyboard with cursor keys.
- Built-in real time clock.
- Fully compatible with PATLink PRO PC software package.
- Support for Android application aPAT.

## POWERFUL FUNCTIONS FOR FAST AND EFFICIENT PERIODIC TESTING:

- Preprogrammed test sequences.
- Fast testing with QR code identification systems.
- Test data can be uploaded from android application aPAT or from PC.
- Comparison between old and new test results can be performed on site.
- On-site printing of QR test labels.



## THE 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
- Professional 3-phase portable appliance testing (with 3-phase adapter)
- Testing of single and 3-phase ARC Welding equipment (with 3-phase adapter)

## 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 (10 A, 25 A)

Earth bond resistance readout (test current set to 25 A)

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

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

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

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

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

## 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 I $\Delta$ N) | 1 ms       |          |
| 0 ms ÷ 300 ms (I $\Delta$ N)     | 1 ms       | ±3 ms    |
| 0 ms ÷ 40 ms (5 x I $\Delta$ N)  | 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, 50 Hz/60 Hz |
| 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)<br>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 3310 25A



- Instrument MI 3310 25A 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                                       |
|       | S 2062    | Zebra BT label printer set                                  |
|       | A 1450    | Spare label role for S 2062                                 |
|       | A 1321    | Barcode scanner (Bluetooth)                                 |
|       | A 1105    | Barcode scanner   |
|       | A 1107    | RFID reader / writer  |
|       | A 1108    | RFID tags, self-stick, 25 pcs<br>RFID tags, key-tag, 25 pcs |
|       | A 1207    | Three phase adapter   |
|       | A 1203    | A 1203 Upgrade code<br>PAT Link PRO to PAT Link<br>PRO Plus |
|       | A 1331    | Test lead with crocodile<br>black 1.5 m                     |
|       | A 1316    | Three phase adapter<br>(16A CEE-Schuko)                     |
|       | A 1317    | Three phase adapter<br>(32A CEE-Schuko)                     |
|       | A 1322    | Active 3-phase Adapter                                      |
|       | A 1422    | Active 3-phase Adapter<br>Plus                              |
|       | A 1434    | A 1434 aPAT Android   |
|       | A 1488    | BT LABEL PRINTER Able                                       |
|       | A 1520    | Labels for Able printer,<br>(250 labels per roll)           |

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