Portable appliance tester

# PAT-820

index: WMGBPAT820


CAT II 300 V

IEC 61557

IP40

TOUCH SCREEN

FLASH TEST

QR CODE SYSTEM

## Take care of safety of the power tools!

## Product features

- advanced measuring unit enabling measurements of:
  - protective conductor resistance
  - of insulation resistance
  - of RCD circuit breaker parameters
  - of equivalent leakage current,
  - of differential leakage current,
  - of touch leakage current
  - of power
  - of power consumption
  - IEC cable test
  - of mains voltage and frequency.
  - flashtest - high voltage test
- a very intuitive user interface
- support for label printer and QR code scanner
- have duty housing (with IP67 flap closed)
- clear colour touchscreen

## Application

Digital PAT-820 series meters are designed for parameter measurements of all kinds electrical devices, such as power tools, household appliances, etc. The device is dedicated to the facility maintenance departments, companies providing power tool measurement services, hotels and public institutions services. PAT should be used in every place where the safety of using power tools is one of the inseparable elements of taking care of the user's safety against electric shock.

## Device capabilities

The PAT-820 series devices thanks to the advanced measuring unit enable comprehensive testing of power tools. Due to the expanded interface, it enables the recording of large amounts of measurement data, and the use of additional functions to facilitate work. Support for QR code scanner, label printer or communication with PC is not a problem. The measurements are carried out in an intuitive and widely configurable manner.

## Intuitive operation

The large, touch screen and graphic layout makes work on the device is intuitive and pleasant. The built-in help guides the user when building the correct measurement system. The work related to data records is based on a tree- structure memory that enables the construction of a transparent and extensive database.

## Tree-structure memory

Writing to the memory with the initial description of the tested devices, a location of measurements, customer data, assignment of the serial number and index to the tested device, possibility of introducing comments to the tested device.

## Have duty housing

Durable case with IP67 protection (with closed lead). It provides reliability during measurement, transport and storage.

# Technical specification

| Measurement functions | Range | Resolution | Accuracy ±(% m.v. + digits) |
|---|---|---|---|
| **Resistance of protective conductor (PE)** I = 200 mA / 10 A / 25 A | up to 19.99 Ω | from 1 mΩ | from ±(3% m.v. + 4 digits) |
| **Insulation resistance** $U_{ISO}$ = 100 V / 250 V / 500 V | up to 599.9 MΩ | from 1 kΩ | ±(5% m.v. + 8 digits) |
| **Visual test** | | ✓ | |
| **Continuity check of protective conductor (PE)** | | ✓ | |
| **Insulation resistance measurement at three points** | | ✓ | |
| **Durability of insulation (Flash Test)** | | ✓ | |
| **IEC cable test** | | ✓ | |
| **Fuse test** | | ✓ | |
| **Functional test** | | | |
| Apparent power S | up to 3.99 kVA | from 1 VA | from ±(5% m.v. + 3 digits) |
| Active power P | up to 3.99 kW | from 1 W | from ±(5% m.v. + 3 digits) |
| Power Factor (PF) | up to 1.00 | 0.01 | ±(10% m.v. + 5 digits) |
| Current consumption for power measurement | up to 15.99 A | 0.01 A | ±(2% m.v. + 3 digits) |
| **Leakage current measurement** | | | |
| PE leakage current and differential leakage current | up to 19.9 mA | from 0.01 mA | ±(5% m.v. + 2 digits) |
| Substitute leakage current | up to 19.9 mA | from 0.01 mA | ±(5% m.v. + 2 digits) |
| Touch leakage current | up to 4.999 mA | 0.001 mA | ±(5% m.v. + 3 digits) |
| **RCD switch test** | | | |
| Measurement of RCD parameters according to IEC 61557 | up to 300 ms | 1 ms | ±(2% m.v. + 2 digits) |
| Measurement of RCD tripping current $I_A$ for sinusoidal residual current (AC type) | up to 30 mA | 0.1 mA | ±5% $I_{\Delta n}$ |
| **Measurement of power network parameters** | | | |
| Voltage | up to 265.0 V | 0.1 V | ±(2% m.v. + 2 digits) |
| Voltage of PE in power network | up to 59.9 V | 0.1 V | ±(2% m.v. + 2 digits) |
| Frequency | up to 55.0 Hz | 0.1 Hz | ±(2% m.v. + 2 digits) |

## Technical data

| | |
|---|---|
| **Display** | TFT 7” 800 x 480 px |
| **Power supply** | 195…265 V 50 Hz mains |
| **Load current** | max. 16 A (230 V) |

# Technical specification

| Safety and work conditions | |
|---|---|
| **Measuring category according to EN 61010** | II 300 V |
| **Ingress protection** | IP40 |
| **Type of insulation according to EN 61010-1 and IEC 61557** | double |
| **Dimensions** | 390 x 308 x 172 mm |
| **Weight** | ca. 5.7 kg |
| **Operating temperature** | -10...+50°C |
| **Storage temperature** | -20...+70°C |
| **Humidity** | 20...80% |
| **Nominal temperature** | +20...+25°C |
| **Reference humidity** | 40%...60% |
| **Altitude a.s.l.** | <2000 m |

| Memory and communication | |
|---|---|
| **Memory of measurement results** | min. 4 GB |
| **Data transmission** | USB 2.0 |

| Other information | |
|---|---|
| **Measurement standards** | EN 50678<br>EN 50699 |
| **Quality standard - development, design and production** | ISO 9001<br>ISO 14001<br>ISO 45001 |
| **The product meets the EMC (emission for industrial environment) requirements according to standards** | EN 61326-1<br>EN 61326-2-2 |

## Standard accesories

**2x pin probe, red 5 kV (banana socket)**

WASONREOGB2

**Test lead 1,8 m, orange, (10 A / 25 A, terminated in a crocodile clip)**

WAPRZ1X8ORKS

**2x test lead 1,8 m, red, 11 kV (banana plugs)**

WAPRZ1X8REBB

**Mains cable with IEC C19 plug**

WAPRZZAS1

**USB transmission cable**

WAPRZUSB

**2x fuse 0314 015. VXP 15 A 250 VAC 6.3x32 mm Littlefuse**

WAPOZB15PAT

## Optional accessories

**Three-phase socket adapter 16 A**

**5P**
WAADAPAT16P

**5P switchable**
WAADAPAT16PR

**4P**
WAADAPAT16C

**4P switchable**
WAADAPAT16CPR

**Three-phase socket adapter 32 A**

**5P**
WAADAPAT32P

**5P switchable**
WAADAPAT32PR

**4P**
WAADAPAT32C

**4P switchable**
WAADAPAT32CPR

**3P industrial socket adapter**

**16 A**
WAADAPAT16F1

**32 A**
WAADAPAT32F1

**IEC test adapter (Shuko)**

WAADAPATIEC1

**Pin probe, red 1 kV (banana socket)**

WASONREOGB1

**Crocodile clip 1 kV 20 A**

**red**
WAKRORE20K02
**blue**
WAKROBU20K02

**Kelvin clamp, 1 kV, 25 A**

WAKROKELK06

**Double-wire test lead 2.1 m (IEC C13 / banana plug)**

WAPRZ2X1DZIECB

**Double-wire test lead 1.5 m (PAT/ banana plug)**

WAPRZ1X5DZBB

**IEC C6 to C13 adapter**

WAADAPATIEC2

**High-current pin probe 1 kV (banana sockets)**

WASONSPGB1

**C-3 current clamp (Φ=52 mm)**

WACEGC3OKR

**Barcode scanner 2D (USB)**

WAADACK2D

**Report / barcode printer (USB, portable)**

WAADAD2

**Accessories for SATO printer**

**Tape / paper (glued)**
WANAKD2

**Ink tape**
WANAKD2BAR

**Sonel PAT Analysis**

WAPROSONPAT3