PAT-85 / 80

Sonel®

CAT II
300 V

IEC
**61557**

IP40

WiFi

TOUCH SCREEN

QR CODE SYSTEM

Safety guardian on the post

Features

- Extensive measuring system enables:
  - protective conductor resistance measurement using current: 200 mA, 10 A (**PAT-85**), 25 A (**PAT-85**),
  - measurement of insulation resistance using voltage: 100 V (**PAT-85**), 250 V, 500 V, 1000 V (**PAT-85**),
  - measurement of substitute, differential and touch leakage current,
  - functional test,
  - test of RCD and PRCD switches,
  - ...and much more.
- Intuitive user interface.
- Cooperation with a label printer and QR code scanner.
- Robust, compact housing.
- Operation time at rechargeable battery power supply: up to 1 hour.
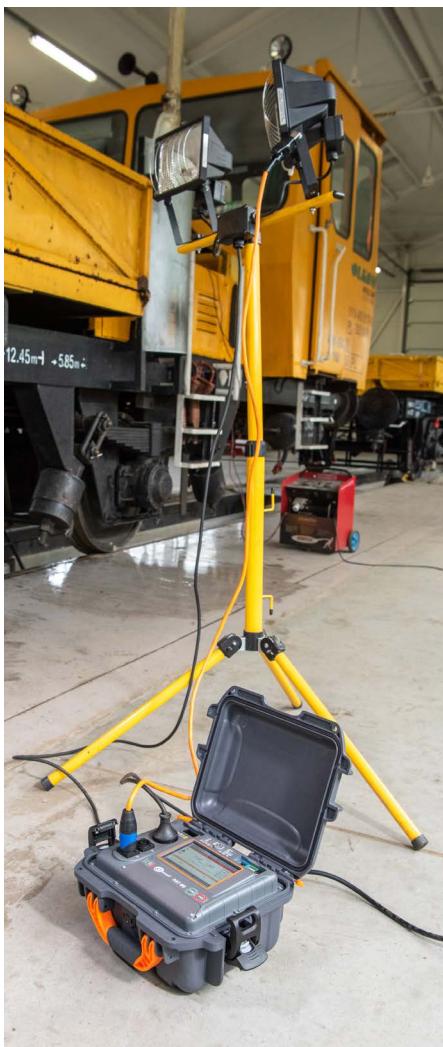
Application

The device is used wherever safety is the most important thing. Ideally suited to situations where it is necessary to check welders, power tools, three-phase devices and household appliances.

Capabilities

Thanks to the extensive measuring part, the device enables comprehensive checking of electrical devices. The touch screen and autoprocedures section make testing quick and efficient.

The meter cooperates with a label printer and QR scanner, which greatly facilitates the recordkeeping of tools. The following printouts are available:
• initial measurement report,
• QR code, where information on performed tests and the parameters of the tested device are saved.
These data can be read and added to the meter memory using the optional QR code scanner.

The whole picture is complemented by a compact and durable housing. It provides instrument protection during both measurements and transport.
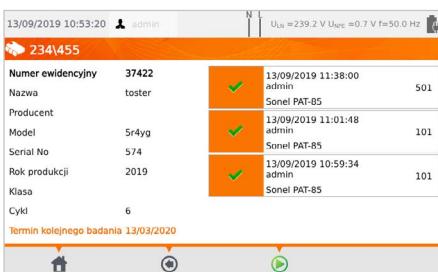
Memory

The memory has a tree structure. For each device tested it contains its description, location of measurements, customer data and registration number.
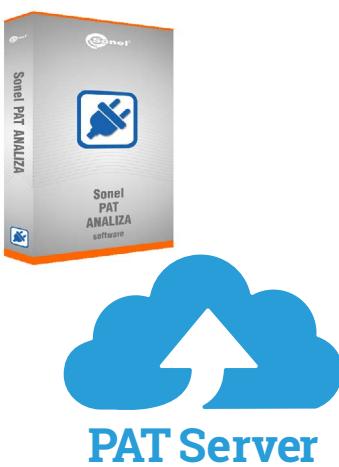
Communication

The meter provides many modes of transmission of measurement results: via USB, LAN and WiFi. In addition, it is possible to upload the results to a USB stick.

Dedicated **PAT Analysis** software allows for data management and also reports preparation - in several versions, depending on the user's needs. In addition, it is possible to use the **PAT Server** solution. This system allows you to work in many modes, including:
• smooth data management,
• online upload to server,
• work through a web browser,
• work in task ordering mode,
• storing copies of data on the server.

Standard accessories

Power cord

WAPRZZAS1

L-11 carrying case

WAFUTL11

2x 5x20 mm, 16 A fuse

WAPOZB16PAT

Test lead 1.8 m (crocodile clip)

WAPRZ1X8ORKS

USB cable

WAPRZUSB

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

PAT-3F-PE adapter for leakage current measurement

WAADAPAT3FPE

Pin probe 1 kV CAT III/1000 V CAT IV/600 V (banana socket) red

WASONREOGB1

Pin probe 1 kV CAT III/1000 V CAT IV/600 V (banana socket) blue

WASONBUOGB1

Kelvin clip 1 kV 25 A

WAKROKELK06

High-current pin pin probe (banana sockets)

WASONSPGB1

Brush probe (banana socket)

WASONSZ1

C-3 current clamp (Ø 52 mm)

WACEGC3OKR

Double-wire test lead

1.5 m (PAT plug/banana plugs)
WAPRZ1X5DZBB

2.1 m (IEC C13/banana plugs)
WAPRZ2X1DZIECB

IEC/Uni Schuko adapter for extension cords testing

WAADAPATIEC2

IEC 60320 C6 to C13 adapter

WAADAPATIEC1

Report / barcode printer (USB, portable)

WAADAD2

Accessories for SATO printer

Tape / paper (glued)
WANAKD2

Ink tape
WANAKD2BAR

Report / barcode printer (Wi-Fi / D3, portable)

WAADAD3

Accessories for Brother printer

Ink tape
WANAKD3

Barcode scanner (USB)

WAADACK2D

Sonel PAT Analysis

WAPROSONPAT3

Technical specification

Measurement functions	Range	Resolution	Accuracy ±(% m.v. + digits)
Resistance of protective conductor (PE) PAT-80: I = 200 mA PAT-85: I = 200 mA / 10 A / 25 A	up to 19.99 Ω	from 1 mΩ	from ±(3% m.v. + 4 digits)
Insulation resistance PAT-80: U_{ISO} = 250 V / 500 V PAT-85: U_{ISO} = 100 V / 250 V / 500 V / 1000 V	up to 599.9 MΩ	from 1 kΩ	±(5% m.v. + 8 digits)
Current (clamp measurement)	up to 24.9 A	from 1 mA	±(5% m.v. + 5 digits)
Visual test	✓		
Continuity check of protective conductor (PE)	✓		
Insulation resistance measurement at three points	✓		
IEC cable test	✓		
Functional test			
Apparent power S	up to 3.99 kVA	from 1 VA	±(5% m.v. + 3 digits)
Active power P	up to 3.99 kW	from 1 W	±(5% m.v. + 3 digits)
Reactive power Q	up to 3.99 kvar	from 1 var	±(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)
THD for voltage and current	up to 99.9%	0.1%	±(5% m.v. + 5 digits)
Cosφ	up to 1.0	0.1	±(5% m.v. + 5 digits)
Leakage current measurement			
PE leakage current and differential leakage current	up to 19.9 mA	0.01 mA	±(5% m.v. + 2 digits)
Substitute leakage current	up to 19.9 mA	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 and PRCD 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)
Frequency	up to 55.0 Hz	0.1 Hz	±(2% m.v. + 2 digits)

Technical data

Technical data	TFT 5.6" 800 x 480 px
Power supply	195...265 V, 50 / 60 Hz mains NiMH 7.2 V / 2 Ah rechargeable battery
Load current	max. 16 A (230 V)

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	318 x 257 x 152 mm
Weight	ca. 5 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, Wi-Fi, LAN

Other information

Quality standard - development, design and production	ISO 9001 ISO 14001 ISO 45001
The product meets the EMC (emission for industrial environment) requirements according to standards	EN 61326-1 EN 61326-2-2

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