



CAT II

300 V

IEC

61557

IP40

WiFi

TOUCH SCREEN

FLASH TEST

QR CODE SYSTEM

Take care of Safety of the power tools with Sonel's PAT!

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 _{Δn}
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, Wi-Fi

Other information

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

Standard accessories



**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 (ba-
nana sockets)**
WASONSPGB1



**C-3 current clamps
(Φ=52 mm)**
WACEGC30KR



**Barcode scan-
ner 2D (USB)**
WAADACK2D



**Report / barcode
printer (USB,
portable)**
WAADAD2



**Accessories for
SATO printer**

Tape / paper (glued)
WANAKD2

Ink tape
WANAKD2BAR



Sonel PAT Analysis
WAPROSONPAT3