Sonel PAT-10 / 2E / 2
Portable Appliance Tester

Sonel®

v1.01 | 08.03.2019 CE

Power supply socket

IEC test socket

T1 and **T2** test sockets on the top of the housing

Selection of the test procedure

Turning on/off
- the tester
- display backlit

Function buttons
- **ESC** - back, exit the function
- **SET/SEL** - selection of additional tester settings
- **MEM** - tester memory, report printing

USB socket on the side of the housing

Signalling of the active measurement procedure

Evaluation and warning diodes

Visual test positive result button

Evaluation and warning diodes

Visual test negative result button

Fuse sockets on the bottom of the housing

ENTER
- confirming the selecton
- saving to memory

Operating buttons
- right/left
- up/down

START / STOP starting or stopping the test procedure

rtSt	Time to the next performance of tests
AtSt	Autotests
bEEP	Audio messages
AoFF	Auto-off time
rF	Wireless communication
Prnt	Report printing
APrn	Automatic report printing
Prnt ConF ►ENTER	Printer configuration
Un	Voltage of the power supply network
Fr	Frequency of the power supply network
r Ln	L-N circuit resistance measurement
IEC L×N	Reaction for swapped L and N lines
dAtE ►ENTER	Date DD/MM/RRRR ►ENTER
t 12:08	Time HH/MM
FACt SEtt ►ENTER	Restoring factory settings ►ENTER
UPdt ►ENTER	Firmware update ►ENTER

First steps

① Turn the tester on

② Select firmware language

▲ ▼

SoFt
En

ENTER

③ Configure the tester

2 s

Turn off → Turn on while holding **SET/SEL** → Switch parameters to change

Choose settings → Exit settings

ENTER ESC
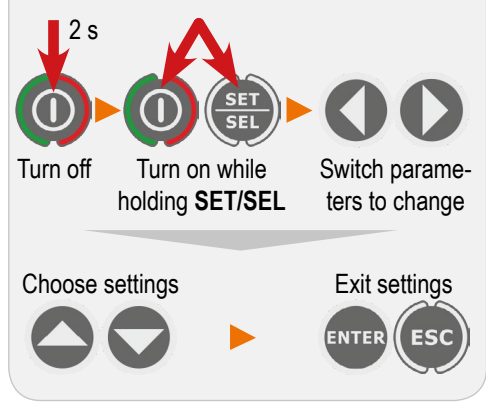
④ Select the test procedure

MANUAL — Manual tests
- switch subsequent test modes

CL I — Autotests
- class I appliances

CL II — Autotests
- class II and III appliances

IEC — Autotests
- IEC power cords

PRCD — Autotests
- portable RCD breakers

⑤ Connect the tested object

⑥ Obtain the test result and save it

START STOP — Run the test

✓ Positive result

✗ Negative result

ENTER — Enter the mode of data saving

Select the memory bank and cell

ENTER — Save the result

Manual tests
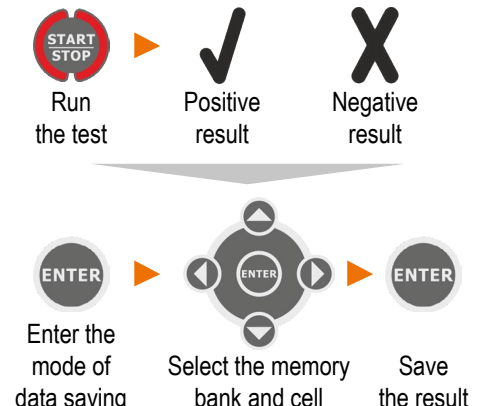
👁 Visual test

If the $r\ Ln$ measurement is active, connect the examined object to the tester in order to determine the resistance of the L-N circuit

T_1
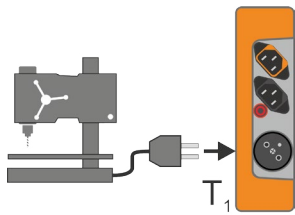
Run the procedure.

Perform a visual inspection of the object and enter the evaluation manually.

✓ PASS
✗ FAIL

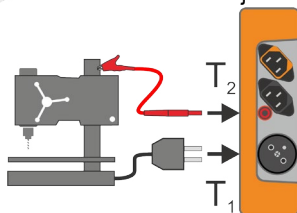### R_{PE} PE conductor resistance

R_{PE} **200 mA**

MANUAL +1 R_{PE} **10 A** **PAT-10**

Enter settings.

Set:
- upper limit of R_{PE},
- duration of the measurement.

Confirm settings and connect the object.

T_2
T_1

Run the measurement and wait for the result.

R_{ISO} Insulation resistance

R_{ISO} **250 V** **PAT-10** **PAT-2E**

MANUAL +1 R_{ISO} **500 V**

Enter settings.

Set:
- lower limit of R_{ISO},
- duration of the measurement.
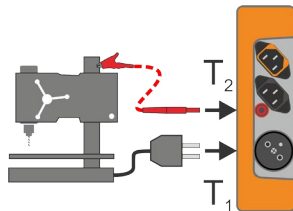
Confirm settings and connect the object. Turn it on.

T_2 T_1 T_2 T_1
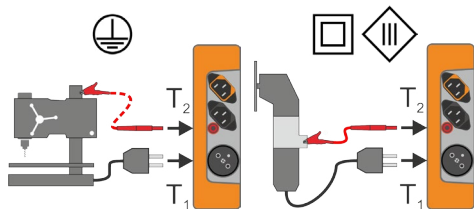
Run the measurement and wait for the result.

I_{SUB} Substitute leakage current

Enter settings.

Set:
- upper limit of I_{SUB},
- duration of the measurement.

Confirm settings and connect the object. Turn it on.

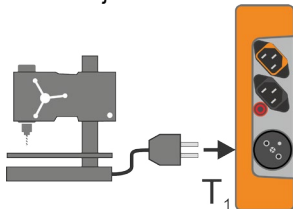T_2
T_1

Run the measurement and wait for the result.

I_Δ Differential leakage current

PAT-10 **PAT-2E**

Enter settings.

Set:
- upper limit of I_Δ,
- duration of the measurement.

Confirm settings and connect the object. Turn it on.

T_1

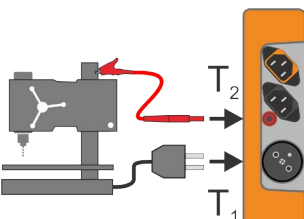**Run the measurement** and wait for the result.

I_T Touch leakage current

PAT-10 **PAT-2E**

Enter settings.

Set:
- upper limit of I_T,
- duration of the measurement.

Confirm settings and connect the object. Turn it on.

T_2
T_1

Run the measurement and wait for the result.

Autotests

Select the type of autotest.

(CL I) (CL II) (IEC) (PRCD)

For the chosen procedure adjust test settings:
- presence of visual test
- measuring current for R_{PE}
- upper limit of R_{PE}
- duration of the R_{PE} measurement
- measuring current for R_{ISO}
- lower limit of R_{ISO}
- duration of the R_{ISO} measurement
- upper limit of I_{SUB}
- duration of the I_{SUB} measurement
- presence of polarity check
- RCD tests **PAT-10** **PAT-2E**:
  - $I_{\Delta n}$ x 1 - initial phase of 0°
  - $I_{\Delta n}$ x 1 - initial phase of 180°
  - $I_{\Delta n}$ x 5 - initial phase of 0°
  - $I_{\Delta n}$ x 5 - initial phase of 180°
  - breaker type (standard / S)

Confirm changes.

Connect the tested object. Run the procedure.

In the visual test perform a visual inspection of the object and enter the evaluation manually.

✓ PASS
✗ FAIL

$\sqrt{R_{PE}}$
$\sqrt{R_{ISO}}$
$\sqrt{I_{SUB}}$
- Tests are carried out automatically.
- If the function $AtSt$ is inactive, after each measurement press **START/STOP** to go to the next test of the procedure.

If the icon 🔌 appears:
- connect power supply to the tester or
- **PAT-10** **PAT-2E** hold the autotest button for 3 s (powering the measurement from battery).

$turn$ In PRCD mode, the need to re-enable the tested RCD is signalled.

X The first negative result in the series of measurements terminates the procedure.

$\sqrt{👁}$
$\sqrt{R_{PE}}$
$\sqrt{R_{ISO}}$
$\sqrt{I_{SUB}}$
$\sqrt{I_\Delta}$
AUTO-TEST 13:12
$\sqrt{}$ **PASS**
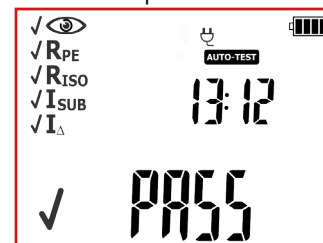
After completion of the procedure, a collective test result appears.

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Find more information in the user manual and on our website www.**sonel**.pl/en