



The meter is designed for measurements at interference voltages which do not exceed 24 V for R_E measurements and 3 V for R_{CONT} measurements. The voltage is measured up to 100 V, but above 40 V is indicated as dangerous. The meter must not be connected to voltages exceeding 100 V.

- Charger slot 12 V
- USB slot (communication with PC)

Measure-
ment clamp
slot

Measurement
terminals

Starting the measure-
ment procedure

Confirmation
of a selection

- Back to the
previous screen
- Escape from
the function

Shift/selection
▪ right/left
▪ up/down

Control buttons
corresponding
to the fields at
the bottom of the display

Straps loops

Turning
the meter
on/off

Selection of
additional
adjustments

Display backlight

Rotary function
switch

$U_N > 24V!$

The voltage on the measurement points exceeds 24 V but is lower than 40 V. The measurement is blocked.

NOISE!

The value of the interfering signal is too high. The result may be distorted by additional uncertainty.

LIMIT!

The uncertainty of the electrode resistance $> 30\%$. Uncertainties calculated on the basis of the measured values.

$U_N > 40V!$
and a contin-
uous
sonic signal

The voltage on the measurement points exceeds 40 V. The measurement is blocked.

$R > 19,99k\Omega$
 $R_E > 19,99k\Omega$
 $R_S > 19,9k\Omega$
 $R_H > 19,9k\Omega$
 $p > 999k\Omega m$

Measurement range
exceeded.

$I_L > max$

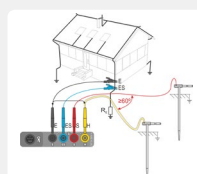
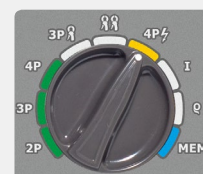
Excessive interfering
current, the measurement
error may exceed the
basic error.

First steps

1 Turn on the meter



2 Select the method and connect

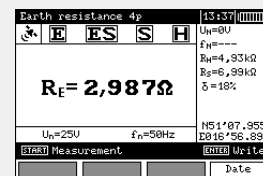


3 Configure



In MRU-200-GPS you can enable GPS.

4 Obtain the result

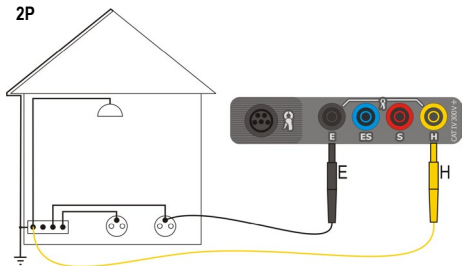


Measurements

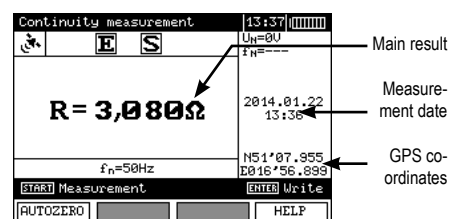
Wire continuity measurement

Connect the meter to the measured wire.

2P



Run the measurement using **START** button.



Main result

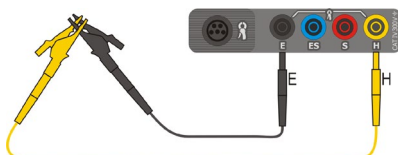
Measure-
ment date

GPS co-
ordinates

In order to eliminate the influence of the resistance of the test leads over the result of the measurement, its compensation (auto-zeroing) has to be done.

Enabling auto-zeroing

- Using button **F1** enable **AUTOZERO** mode. Short-circuit the test leads.



Press **START**.

Disabling auto-zeroing

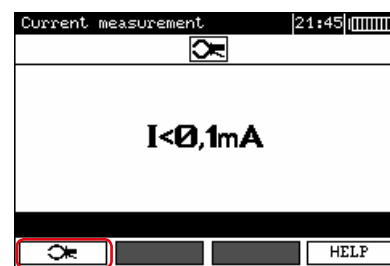
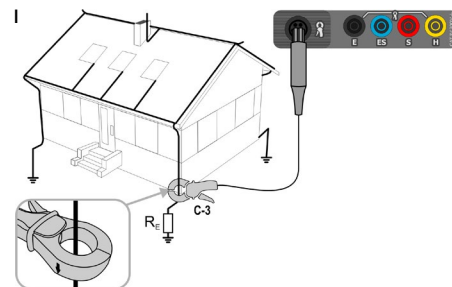
- Using button **F1** enable **AUTOZERO** mode. Separate the test leads.

Press **START**.

It is sufficient to realize compensation once for the given test leads. It is also remembered once the meter has been turned off, until the next successful auto-reset procedure.

Current measurement

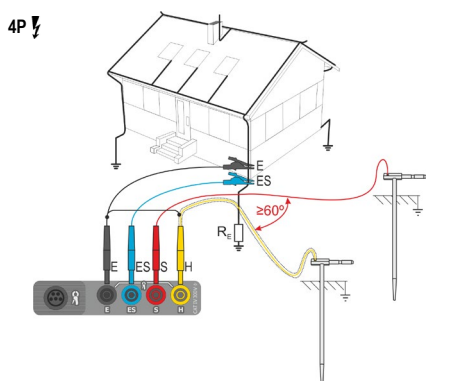
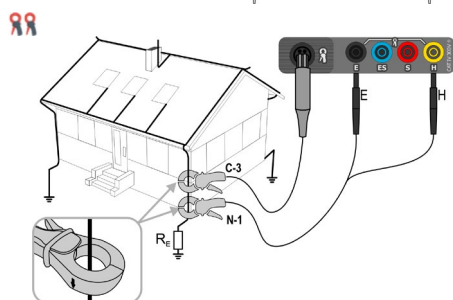
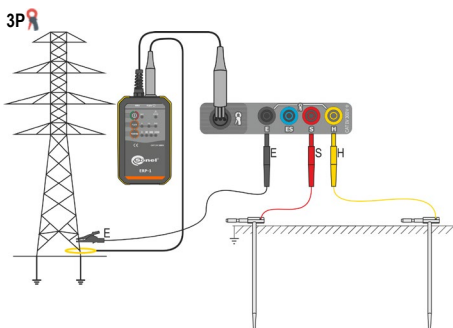
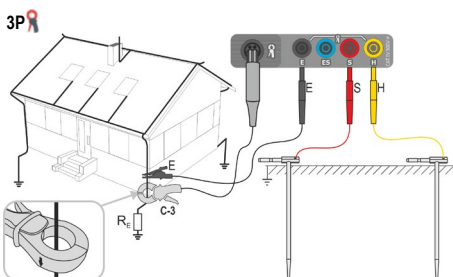
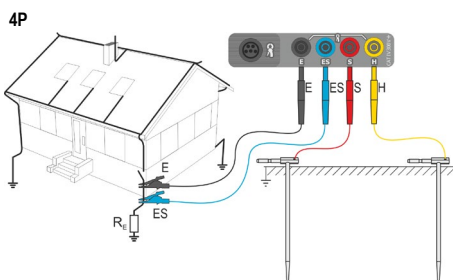
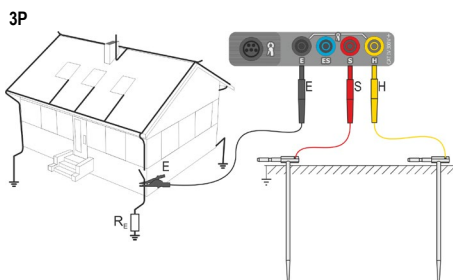
Connect the meter to the measured object using clamp.



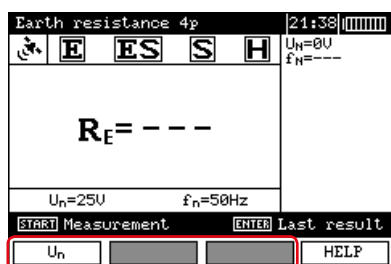
F1 select the type of clamp

Using **START** button run the measurement.

Earth resistance measurement R_E



Configuration and R_E measurement



Enter settings

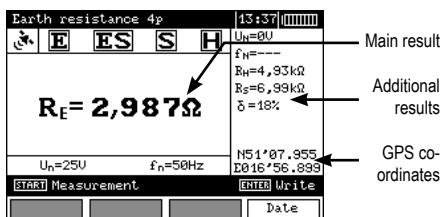
- F1 voltage/pulse shape
- F2 selection of C-3/ERP-1 (3P+clamp method)
- F3 selection of the number of pole legs (ERP-1)



Using button **START** run the measurement.



Using button **F4** display coordinates of the measured point.



U_n voltage on the measurement points

f_n interference frequency

I_n interfering current

R_H resistance of current electrode

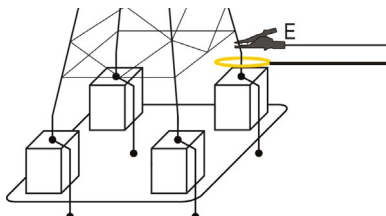
R_S resistance of voltage electrode

δ additional uncertainty caused by the resistance of the electrodes

R_1, R_2 earth resistance of the pole leg no. 1...4

Measurement of R_E of poles using ERP-1 adapter

Connect the meter to the leg of the measured pole.



ERP-1



Using **FLEX** button select the type of flexible clamps connected to the device.



Using **TURNS** button select the number of flexible clamp wraps around the pole leg.

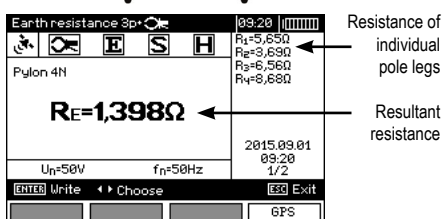
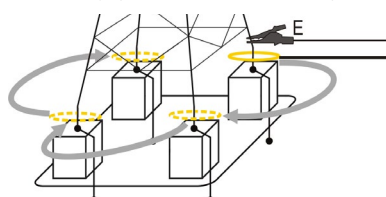
MRU-200 / MRU-200-GPS

Press **F2** and select ERP-1 adapter.



Using **START** button run the measurement.

Wrap the clamps around next legs according to instructions on the display. Keep one direction of connecting to pole legs (clockwise or counter-clockwise).

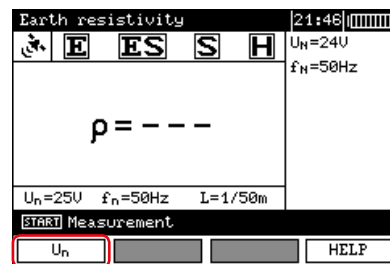
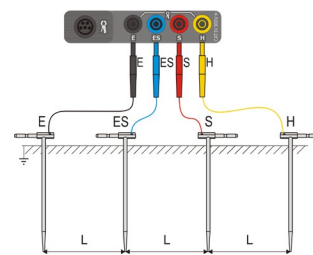


Resistance of individual pole legs

Resultant resistance

Earth resistivity measurement

Connect the meter to the measured earth.



Enter settings

- F1 measuring voltage

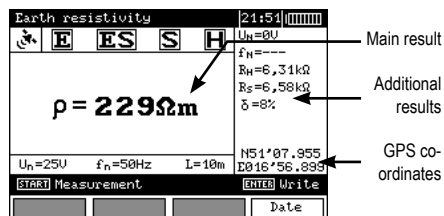


Press **START**.

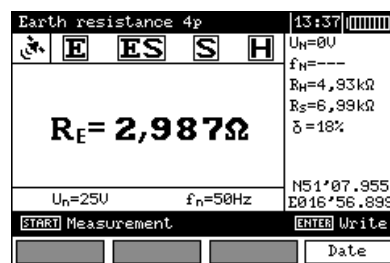
Using buttons **▲ ▼** enter the distance between electrodes.



Using button **ENTER** run the measurement.



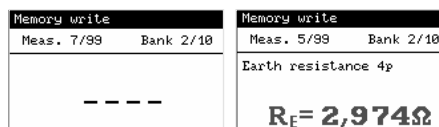
Saving a result to the memory



After the measurement press **ENTER**.



Select memory cell using buttons **▲ ▼**.
Select memory bank using buttons **◀ ▶**.



Target cell empty

Target cell occupied



Press **ENTER** to save the result.



Find more information
in the user manual
and on our website
www.sonel.com