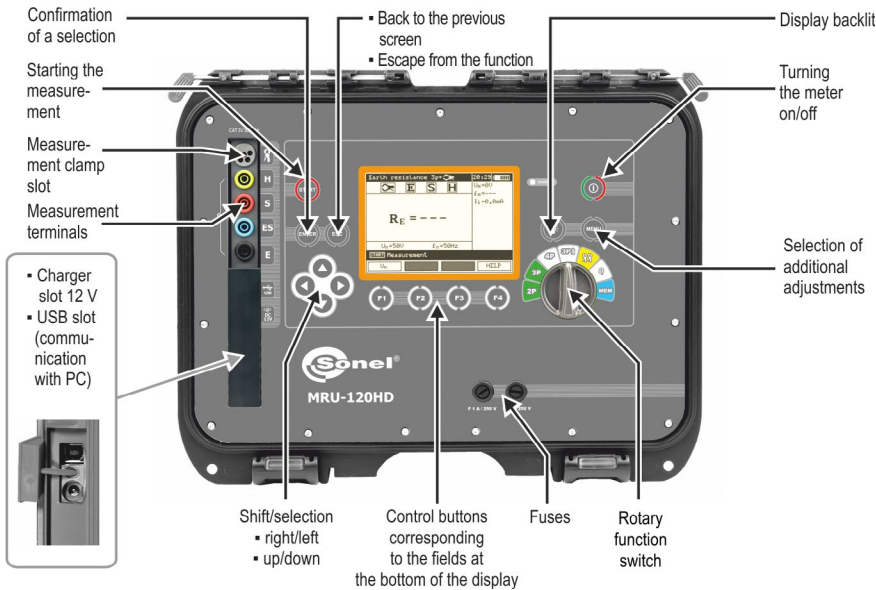




The meter is designed for measurements at interference voltages which do not exceed 24 V for R_E measurements and 3 V for R_{CONT} measurements. The voltage is measured up to 100 V, but above 40 V is indicated as dangerous. The meter must not be connected to voltages exceeding 100 V.



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

$U_N > 40V!$ The voltage on the measurement points exceeds 40 V. The measurement is blocked and a continuous sonic signal.

NOISE!

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

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

Measurement range exceeded.

LIMIT!

$I_L > max$

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

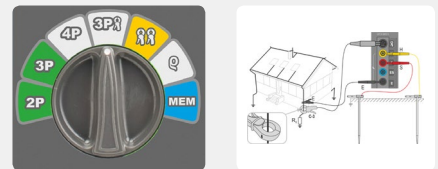
Excessive interfering current, the measurement error may exceed the basic error.

First steps

1 Turn on the meter



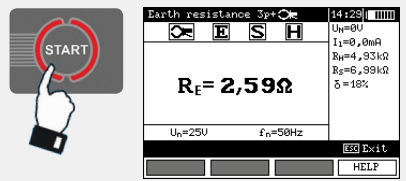
2 Select the method and connect



3 Configure



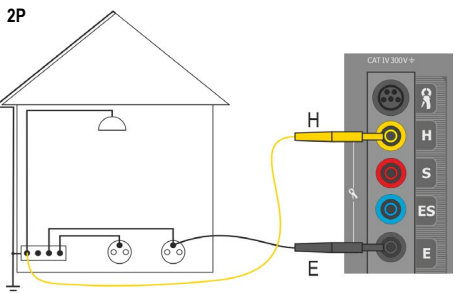
4 Obtain the result



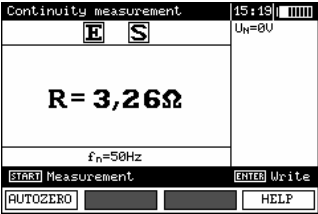
Measurements

Wire continuity measurement

Connect the meter to the measured wire.



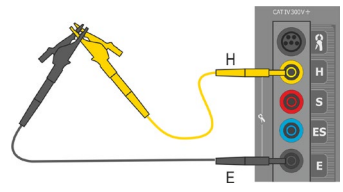
Run the measurement using **START** button.



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.

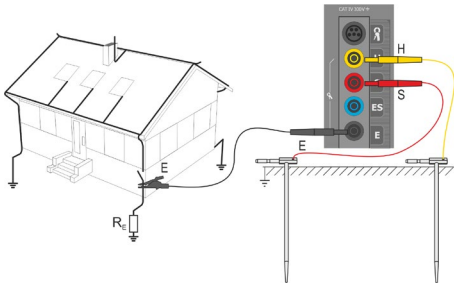
Press **START**.

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.

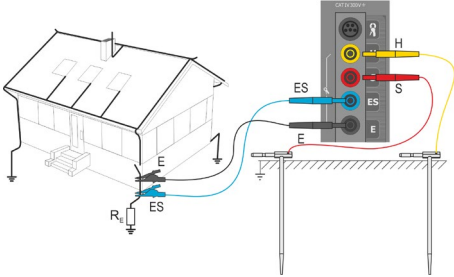


Earth resistance measurement R_E

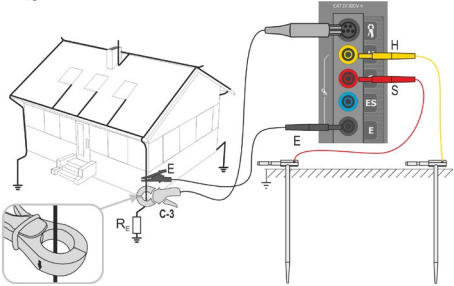
3P



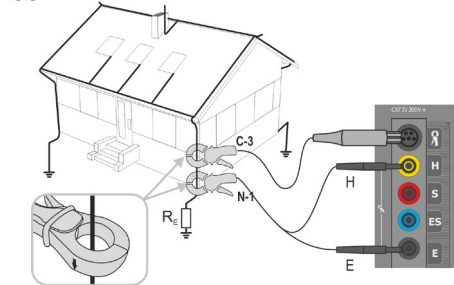
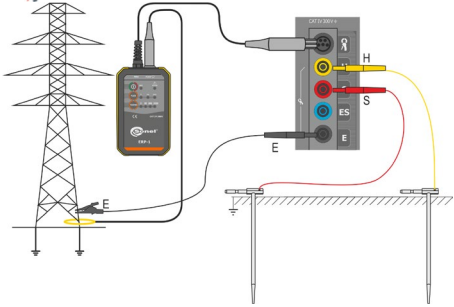
4P



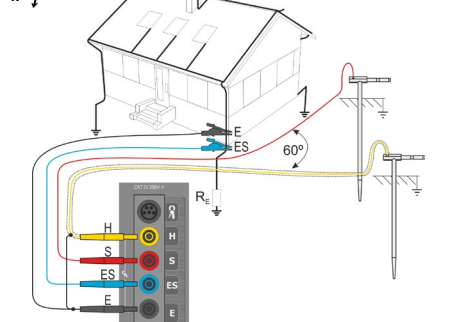
3P



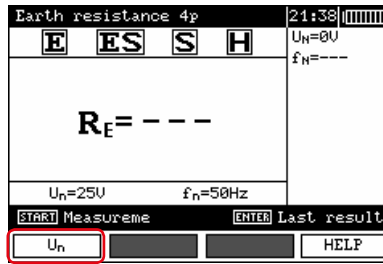
3P



4P



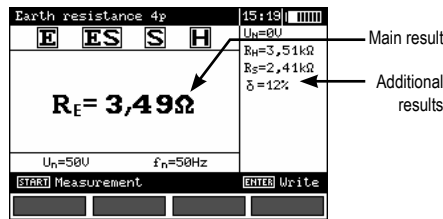
Configuration and R_E measurement



Enter settings
• F1 voltage/pulse shape



Using button **START** run the measurement.

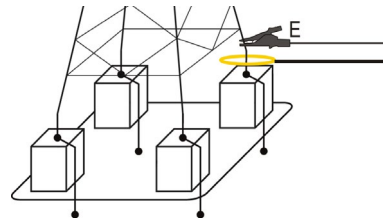


Main result
Additional results

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

Measurement of R_E of poles using ERP-1 adapter

Connect the meter to the leg of the measured pole.

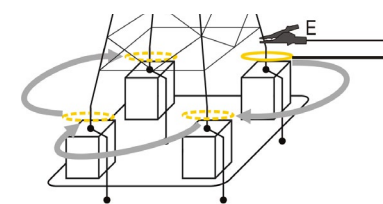


ERP-1

- 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-120HD

- Select method **3P** . Connect the flexible clamp to ERP-1 adapter. Wrap the clamp around the object's leg and its earthing tape. Select measuring voltage. Press **START**.

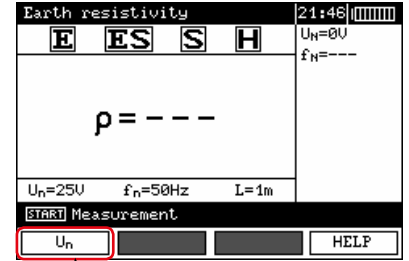
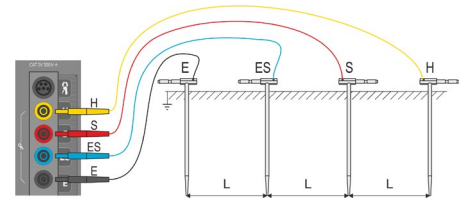


Similarly, connect the next legs of the object. Having the results of each leg measurement, you can calculate the resultant resistance of the entire object from the formula:

$$R_E = \frac{1}{\frac{1}{R_1} + \dots + \frac{1}{R_n}}$$

Earth resistivity measurement

Connect the meter to the measured earth.



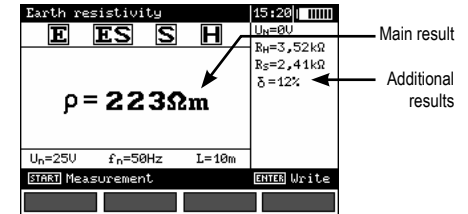
Enter settings
• F1 measuring voltage



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

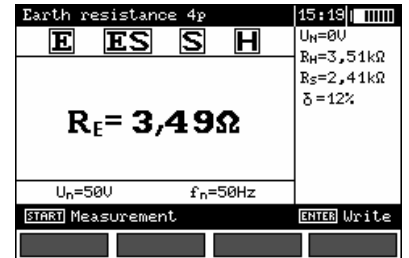


Using button **ENTER** run the measurement.



Main result
Additional results

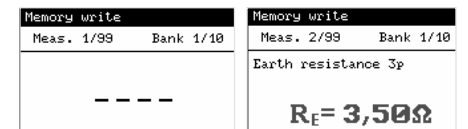
Saving a result to the memory



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