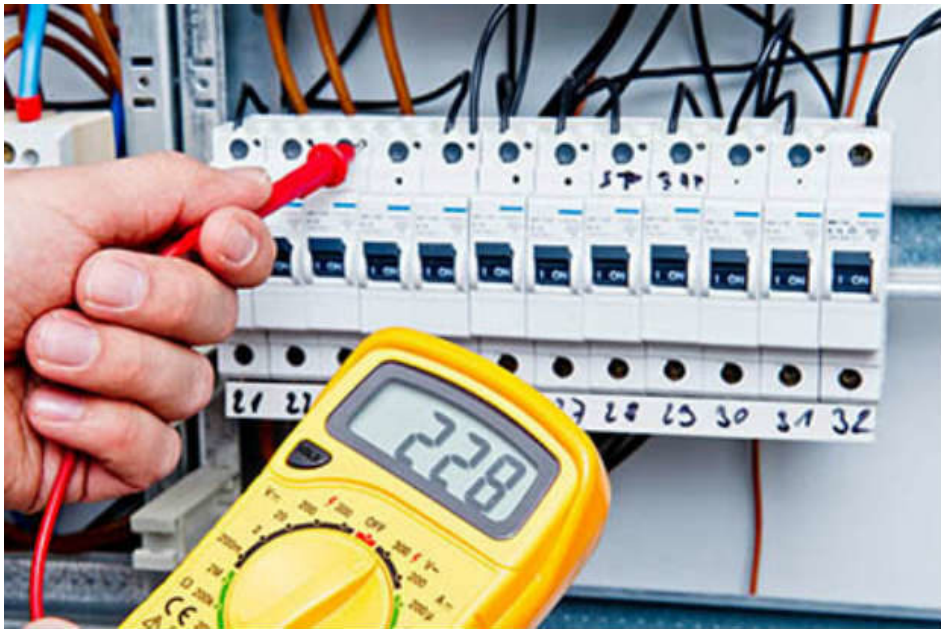
Electrical resistivity measurements, grounding and lightning protection measurements

Voltage measurements of the power supply must be carried out in order to put buildings into operation. Electricity voltage measurements are required both by the Construction Board and the State Fire and Rescue Service.

A certified specialist carries out voltage measurements when scanning an object and drawing up an isolation resistance protocol.



Insulation resistance measurements

Performing an insulation resistance measurement makes it possible to pinpoint the electrical condition of electrical wiring, cables and electrical equipment. Measuring insulation resistance helps to protect electrical equipment from short-circuiting.

Electrical measurements are an important step in the construction of residential, industrial and administrative facilities. The results of the electrical and electrical safety test help to obtain permission for the commissioning of the facility.

SIA "Solution Expert" offers complex equipment for measuring insulation of electrical equipment and electrical networks. Measurements are carried out by qualified technicians using certified equipment.

Electrical measurements and tests include:

- measuring the insulation resistance of the installation;
- electrical resistance insulation measurement;
- Transformer insulation resistance measurement;
- electric motor insulation resistance measurement;
- Generator Stator Winding Insulation Resistance Measurement.

The price of insulation resistance measurement depends on the amount of work and the distance of the object.

Following the measurement, the customer receives a report on the insulation resistance protocol, which contains a list of measurement readings, a list of criticisms and recommendations (with problem solving).

Measurement of grounding resistance

Grounding is a technical device or an electrical connection to the ground with a grounding conductor. Artificial earthing consists of an earthing and a grounding conductor connecting the earth connection with the earthworm. A peasant can be a simple metal bar or a complex complex of special shapes. A special copper wire or strip is used as a ground wire.

At the natural earthen it is accepted to attribute to its construction, the structure of which provides for permanent presence on the ground. The natural grounding resistance is not regulated and its requirements are not subject to any requirements.
Natural earth systems can not be used as electrical grounding.
Natural landfills are subject to underground communications, water pipe pipes, reinforced concrete reinforcement.

Grounding is required to be installed on all AC and DC electrical equipment with a voltage of up to 1 kV and more. It helps to ensure the safe and timely operation of electrical protective equipment in the event of a short-circuited connection to the equipment housing.

Electrical safety regulations have common requirements for earthing systems and for the protection of people from electric injuries in the event of electrical insulation damage.

Earthing resistance

The grounding resistance is the ratio of the voltage to the grounding voltage to the current that goes from ground to ground. The grounding resistance unit is Oms and must be of a minimum size.

All electrical equipment and electronics are designed using standardized values of earth impedance = 0.5, 1, 2, 4, 8, 10, 20, 30 and 60 ohms.

Private homes connected to 220 V / 380 V mains supply require local grounding with a resistance of no more than 30 ohms;

In case of private house gasification, standard grounding with 30 Ohms should be installed. Using hazardous equipment (gas boiler), it is necessary to use local grounding with a resistance of no more than 10 ohms;

the earth resistance to connect lightning receivers must not exceed 10 ohms;

the grounding resistance of the power source (generator or transformer) must be no greater than 2, 4 and 8 ohms;

the grounding resistance of the telecommunication connection must be no greater than 2 or 4 Ohms.

Measurement of grounding resistance

SIA "Solution Expert" will measure the ground resistance to determine its compliance with regulatory requirements and technical documents. Measurement of grounding resistance must be carried out by qualified technicians with professional equipment.

The landing check includes:

- visual inspection of the earth system;
- landing compliance check for the project and regulatory documentation;
- grounding element resistance measurement;
- loop "phase-zero" full impedance measurement;
- grounding contour resistance measurement.



Except for earthing, visual inspection of the visible parts of the earthing and measurements of the insulation resistance of the conductors are performed. Such diagnostic measures should be performed not less than twice a year.

The most important of the Cabinet of Ministers regulations "Fire Safety Regulations" No. https:// m.likumi.lv/doc.php?id=281646): ">238 (
https://m.likumi.lv/doc.php?id=281646
):

4. Fire safety requirements for engineering networks

4.1. Electrical installation, electrical equipment and electrical equipment

54. Electrical wiring (including grounding and lightning protection device) complies with the technical design solution, maintained in operation and operated according to the electrical installation

