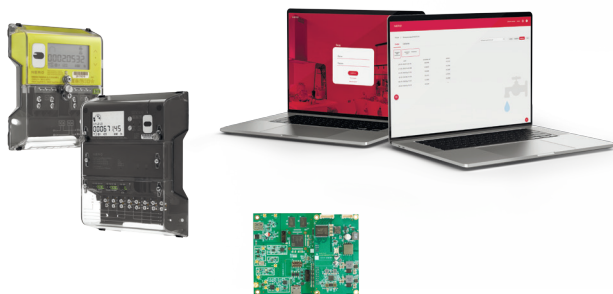


## We supply

- IoT modules, devices and components for partner's own production.
- Smart electricity meters for remote monitoring of the resources consumed.
- A full-featured smart metering system: from smart meters to data analytics in an easy-to-use personal account.



## We provide

- High-tech product to meet the demands and requirements of the market.
- Wide range of interfaces and communication protocols.
- Technical support and servicing based on many years of experience in successful launches of smart metering systems (over two million metering points in automated commercial metering systems).
- Capable to integrate with other systems and software.
- Quality assurance of supplied products and solutions.

## About company

Nero Electronics is a full-cycle Belarusian manufacturer of innovative smart metering systems and devices with communication interfaces.

The skills and experience of our specialists allow us to produce devices that meet European quality standards and are functional and versatile. Products by Nero can be used individually and as a system, combined with other developments of the company.

Special focus is on the system of multi-stage quality control, which prevents release of defective items for sale.

**1 570 000**

Smart metering points in Automated Systems of Commercial Electricity Metering systems.

**63**

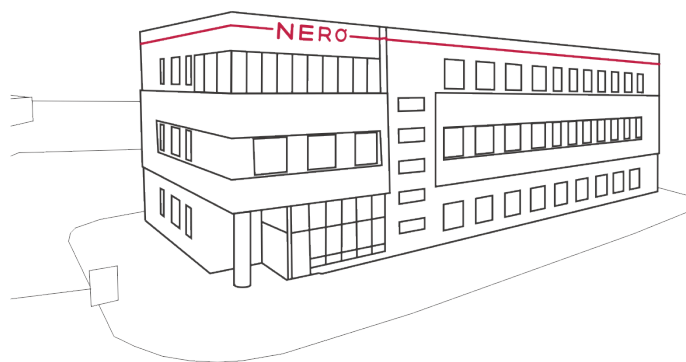
Communications and Technology Patents.

**550 000**

Modems with PLC technology and SMP protocol in Russia.

**0,05%**

Low defect rate.



**NERO**

[neroelectronics.com](http://neroelectronics.com)

**NERO**

# SMART ELECTRICITY METERING



## Single Phase Smart Electricity Meter

A multi-tariff retro-style meter combines from one to several communication interfaces with different data transmission protocols. The meter records and transmits readings of active and reactive energy, generation and consumption, powerline parameters, tampering incidents, magnet exposure, etc.



### Specific features

- Communication interfaces: Radio (RF433 or RF868), GSM/LTE, RS-485, G3-PLC, NERO-PLC, optical port;
- Data transfer protocols: SPODES, DLMS, Smart Meter Protocol; accuracy class for active and reactive energy 1;
- Sensors detecting tampering with the housing cover and the terminal block clips; relays for remote power disconnection;
- Resistance to magnetic fields up to 500 mIT, date and exposure time recording;
- Alert messages about unauthorized interventions or power failure.

More about the meter



## Single Phase Smart Electricity Meter

A compact multi-tariff meter with a built-in communication module. Measures and sends data on active and reactive energy, generation and consumption, powerline parameters, tampering incidents, magnet exposure, etc.



### Specific features

- Choice of communication interfaces: Radio (RF433 or RF868), GSM/LTE, RS-485;
- Accuracy class for active and reactive energy 1;
- Sensors detecting tampering with the housing cover and the terminal block clips; relays for remote power disconnection;
- Resistance to magnetic fields up to 500 mIT, date and exposure time recording;
- Alert messages about unauthorized interventions or power failure.

More about the meter



## Three Phase Smart Electricity Meter

A multi-tariff three-phase meter is equipped with communication interfaces for operation in systems with remote sending of readings and possibility of simultaneous data collection using different communication technologies.



### Specific features

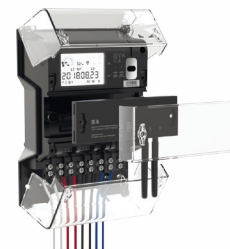
- Records active and reactive energy in the forward and reverse directions in three-phase four-wire AC circuits;
- Records the mains frequency, current and voltage in each phase, angles between the vectors of phase voltages and vectors of phase currents of voltages, power factor in each phase;
- Signals about tampering with the housing cover and the terminal block clips, exceeding the energy and power limits;
- Communication interfaces: Radio (RF433 or RF868), GSM/LTE, RS-485, PLC;
- Data transfer protocols: SPODES, DLMS, Smart Meter Protocol.
- Active energy accuracy class 0.5S/1; for reactive energy: 0.5/1;
- Removable GSM/LTE modem or DATD.

More about the meter



## Data Collection and Transmission Device

The device is used as a hub to collect data from metering devices (located in one or several nearby houses) and transfers them to the remote server of the resource supplier using Ethernet or GPRS/3G/LTE communication.



### Specific features

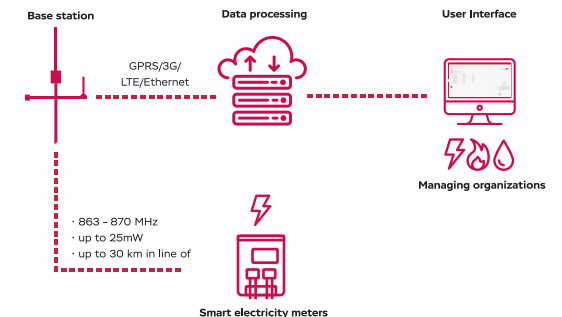
- 2 GSM/LTE modules, micro-USB, Wi-Fi module;
- Immediate access to meters via DATD protocols, storage of event logs, data review on request;
- Linux-based operating system.

More about the meter



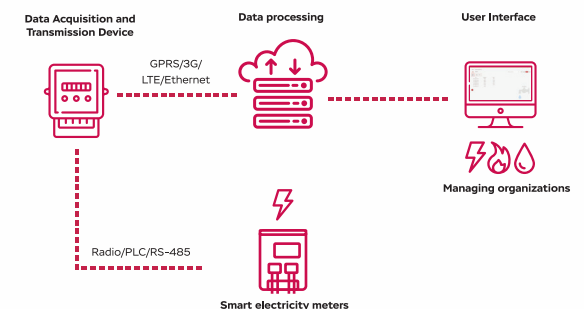
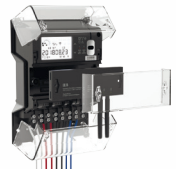
## Remote reading system using base stations

For projects involving a large number of endpoints, base station solutions are advantageous. One single base station is capable of supporting hundreds of thousands of metering points within a radius of several kilometers, which reduces the cost per one metering point.



## Remote reading system using concentrators

For smart metering in one or several nearby houses, a Data Acquisition and Transmission Device is used as a concentrator to transfer data to a cloud server.



### Available technologies

