



ELGAMA - ELEKTRONIKA



Electricity meters and AMR systems



Introduction

Lithuania

Lithuania, as a part of the former Soviet Union, was famous for its high quality of goods and products, especially with mechanical and electronic devices. Such products were widely distributed not only in the former Soviet Union, but also in many countries around the world.

Lithuania is a member state of the EU now, recognized as a reliable political, cultural and economical partner. Geopolitical changes did not affect the quality of the products made in Lithuania and their recognition around the globe is only increasing.

The company

ELGAMA-ELEKTRONIKA, which was established in 1992, in Vilnius, Lithuania, is the regional leader in metering products. More than 100 people work in our company – from high skilled production workers to experienced R&D engineers. We design, develop and produce products, devices and systems for electricity measurement, control and management, and collection of the metering data. Public and private electricity companies, industrial and commercial companies as well as residential segment use our innovative products and systems.



ELGAMA-ELEKTRONIKA Ltd.

Milestones

- 1992 Company EMH ELGAMA Ltd. was established.
- 1993 The first three phase meters for industry and utilities were manufactured.
- 1994 The export of meters to Baltic States and Latin America markets starts.
- 1995 Started first Automated Meter Reading System in Lithuania that used our company electronic meters.
- 1996 First multi-tariff meters LZKM and LZQM for measurement of active and reactive energy are produced.
- The export of meters to Eastern Europe and Middle East starts.
- 1997 The meters with two communication interfaces are developed.
- 1998 Certification Institute TÜV Cert certifies company's quality management system according to the Standard ISO 9001:1994.
- 1999 Company joins the international DLMS association.
- 2000 New multi-tariff three-phase electronic electricity meter EMS is developed.
- First Lithuanian one-phase multi-tariff electronic meter GEM is developed.
- 2001 National Accreditation Bureau accredits Company's Calibration Laboratory according to the Standard LST EN 45001.

Certification Institute TÜV Cert certifies company's quality management system according to the Standard EN ISO 9001:2000;

- 2002 Company's name is changed to „ELGAMA-ELEKTRONIKA“ Ltd;

National Accreditation Bureau accredits Company's Calibration Laboratory according to the Standard ISO/IEC 17025.

A new generation multifunctional electricity meter EPQS with power quality monitoring features and universal portable testing device PTD-3G is presented to customers.

Company has established an environmental management system according to the Standard LST EN ISO 14001.

- 2003 Company started to manufacture products with CE sign.

- 2004 All Lithuanian electricity generation and distribution companies implement AMR solution to read electricity meters in transformer stations. More than 15'000 ELGAMA-ELEKTRONIKA meters are installed during the implementation of this solution and data from them is read every 15 minutes.

- 2006 First field tests of PLC solution for residential market together with German company iAd GmbH were made for the customers in Germany.

Experience

Research and Development

ELGAMA-ELEKTRONIKA believes that the research and development [R&D] is the key to the success in the market today and in the future, success of the company and its customers.

Our R&D department is the place where information from customers, future market trend indications and world technical development knowledge is gathered, analyzed and the best suitable products and solutions are developed. Over 10% of employed workforce and investments of more than 5% of annual revenue budget lets us go hand in hand with the rapid changes in the world markets and our customer needs.



Quality

ELGAMA-ELEKTRONIKA does not talk about the quality. Quality is what we do everyday. And it is not just about having ISO 9001 quality management system, adoption of European metrology legislation, thorough supplier selection, production, the right to calibrate and test its products without constant supervision of governmental authorities in its accredited metrology laboratory, and the timely delivery to the customer. It is also all the processes in the customer service, company and information management, constant employee training, and new products and solutions development.

These everyday efforts in achieving quality are recognised by approvals of our products in many countries by official certification institutions as well as world known independent laboratories as KEMA. Still the most important recognition to us is the trust of our customers in the quality of ELGAMA-ELEKTRONIKA products and solutions.

Environment

ELGAMA-ELEKTRONIKA is a nature friendly company. We design and manufacture our products so that their negative environmental impact is minimised throughout their life cycle. We care not only about today, we seek that our products are easy recycled in the future, after the users change them. Our operations are certified with ISO 14001 certificates, our manufacturing equipment and technology completely fulfil requirements of ROHS directive by European Union what proves that ELGAMA-ELEKTRONIKA's efforts in environmental care meet international standards.

efficiency
efficiency

Efficient

Products and solutions

Rapidly changing the electricity market in the world raises the demand of smart meters and the Automated Meter Reading (AMR) systems for utilities, industrial and commercial companies, and for residential customers. Electricity meters now count not only kilowatt-hours they became multifunctional devices. The meters must have many technical features, be reliable with versatile security from unauthorized actions, have the possibility to be read from the distance using AMR systems via mediums like GSM, GPRS, PLC, RF and others.

ELGAMA-ELEKTRONIKA offers a complete line of electronic electricity meters and devices that satisfy the needs of customers in all areas of application of electrical energy measurement.



Three-phase meters

Grid and industrial metering

EPQS



EPQS is three-phase electronic four-quadrant meter with power quality monitoring capabilities. Meters are designed either for direct [accuracy class 1.0] or via transformer connection [accuracy class 0.5s] into 3- or 4-wire networks. EPQS meters are suitable for electricity generation, transmission and distribution companies, and for industrial companies. EPQS meter can easily be integrated into various Automated Meter Reading systems.

Meter measures, registers and collects data on active energy in both directions [+A, -A], reactive energy in four quadrants [RI, RII, RIII, RIV], and apparent energy in both directions [+W, -W]. Having comprehensive structure of tariff module, meter can register metering data for up to 8 rates per day independently for energy and maximum demands. Any of 26 instantaneous values registered by EPQS meter can be stored into 16 freely programmable channels. Meter monitors voltage quality according to IEC 50160 standard and store weekly reports for almost 5 years.

EPQM

EPQM series electronic fully programmable multifunctional meter provides maximum data and features for user's convenience. The meter enables electrical energy measurement in both directions with accuracy class 0.5s for active energy and 1.0 for reactive energy. Meter's tariff module provides time-of-use [TOU] metering with possibility to register data for up to four rates per day. EPQM meter ensure control of instantaneous parameters and register load profiles as well as any event in power supply system. Option of second electrical communication interface and reserve power supply source, available with EPQM meter, provides reliable power control and data reading independently of power presence. EPQM meter can easily be integrated into various Automated Meter Reading systems.



Three-phase meters

Industrial, commercial and residential metering

GAMA 300
GAMA DLC



NEW
starting 2007

EMS



GAMA series meter is completely new meter with internal remote reading modules. Modules can be various: GSM/GPRS, LAN, RF, PSTN and PLC data transmission, allowing easy connection of meters to AMR system directly. Meter has accuracy class 1.0 for active energy and 2.0 – for reactive energy. GAMA also provides maximum demand registration and load profiling upon request and has internal bi-stable relay for remote user disconnection. Meter with PLC module communicates stable via medium and low voltage via PLC. Meter can read data from external devices [e. g. water, heat meters] using M-bus, Radio module and transmit collected data through PLC network.

EMS three-phase meter is intended for use in household, commerce and light industry. Many configurations of the meter are available. EMS meter can be configured for measuring either active energy or both active and reactive energy. Meter complies with Standard IEC 62053-21 requirements for accuracy classes 1.0. Using time-of-use [TOU] register, meter collects electrical energy data for up to four tariff periods per day, also providing maximum demand registration and load profiling upon request. Direct connected and transformer operated meter modifications are available. EMS meter can easily be integrated into various Automated Meter Reading systems.

EMT



Electronic three-phase meter EMT is developed for the measurement of active energy in 3- or 4-wire networks. Meter complies with Standards IEC 62053-11 and IEC 62053-21 requirements for accuracy class 1.0.

EMT meter has one cyclometric register for the measurement of active energy in one tariff. Meter registers active energy irrespectively of energy direction, i.e. the registration takes place on the same register at $\pm A$.

Single-phase meters

Residential and commercial metering

GEM



GEM single-phase meter measures electrical energy consumption during low and high tariff periods. Different configurations of the meter are possible. Optional features including remote data reading can be adapted to meet customer requirements. GEM meters provide comprehensive metering information, including total energy consumption, energy consumption per month, and instant power with high accuracy and stability throughout the meter's lifetime.

GEM-T

The electronic single-phase meter GEM-T has been developed for the measurement of active energy in 50 Hz and 60 Hz circuits. Meter complies with Standards IEC 62052-11 and IEC 62053-21 requirements for accuracy class 1.0.

GEM-T meter has one mechanical register for the measurement of active energy in one tariff. Meters register active energy irrespectively of energy direction, i.e. the registration takes place on the same register at +A.

Portable device for meter testing and network monitoring

PTD-3G



PTD-3G is a portable electronic device for on site meter testing, instantaneous values measurement and profile recording. Device also provides some features of network quality monitoring. Measurement accuracy of system [device + current clamps] does not exceed +0,5% [for active energy, $\cos \phi = 1$].

It is suitable for testing of single- and three-phase electronic and Ferrari type energy meters on site, for energy quality and network parameters monitoring. Wide range of functions, sizable LCD indicator applicable for diagram indication, user-friendly interface make working with this device easy, accurate and attractive.

Automated Meter Reading Compatibility

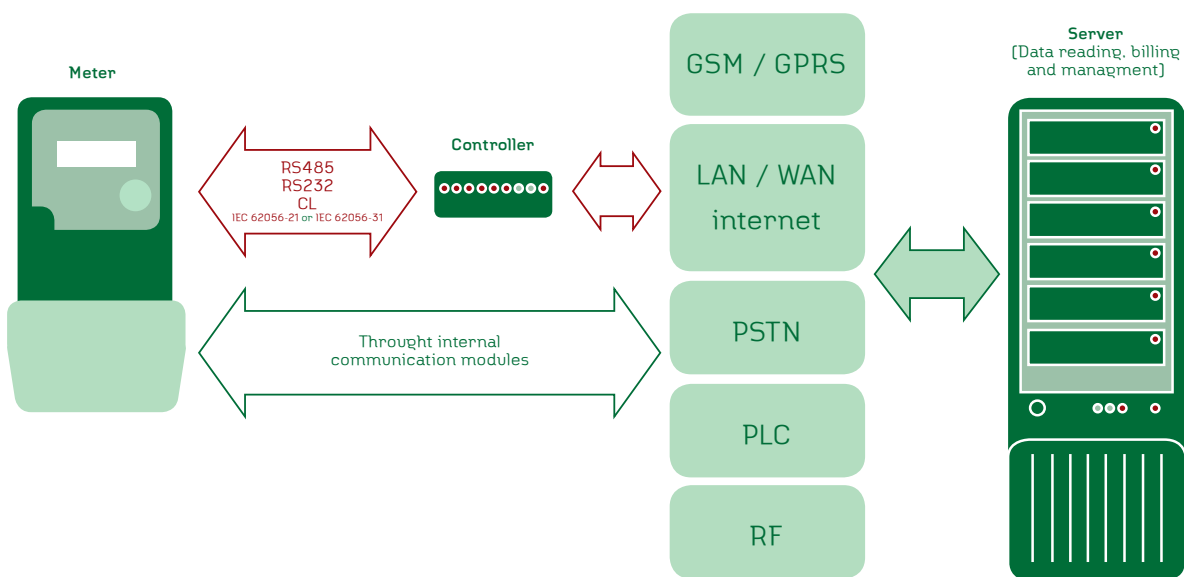
ELGAMA-ELEKTRONIKA meters and metering solutions [together with the partners] are presented to the market many years ago. These solutions allow utilities and industrial companies to concentrate on their core business leaving measurements of electricity quality and quantity, and acquiring the data from the meters to us. At this moment more than 45'000 ELGAMA-ELEKTRONIKA electronic electricity meters are integrated in various AMR systems of our customers in Lithuania, Latvia, Russia, Ukraine, Poland, Columbia and several more countries.

ELGAMA-ELEKTRONIKA has developed and still is improving AMR solutions where the data from the meters is collected and transmitted using various data transmission technologies – from GSM/GPRS, PSTN, LAN/WLAN/Internet, Radio Frequency [RF] to Power Line Communication [PLC] solutions. We offer two possible options of

AMR solution – using external controllers and another way is using internal communication modules already integrated into our meters.

In the first way meters deliver the data to the controllers via RS485, RS232 and Current Loop interfaces using IEC 62056-21 and/or IEC 62056-31 protocols. Our meters provide the possibility to use two interfaces at the same time for commercial and technical metering. The data from controllers is transmitted to customers data management system using GSM/GPRS, PSTN, LAN/WAN/Internet and RF technologies.

Meters with internal communication modules transmit the data directly to the central server, using GSM/GPRS, PSTN, LAN/WAN/Internet, RF and PLC technology and ensure data delivery to customers data management system.



ELGAMA-ELEKTRONIKA

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