

ACCREDITATION CERTIFICATE

No. LA.01.086

Lithuanian National Accreditation Bureau hereby certifies that

complies with the requirements of

**UAB “ELGAMA-ELEKTRONIKA” Calibration
and verification laboratory**

LST EN ISO/IEC 17025:2018

legal entity: UAB „ELGAMA-ELEKTRONIKA“
legal entity code: 110395970

and is competent to perform:

testing of electrical energy meters

The scope of accreditation below is an integral part of this certificate. Locations of the conformity assessment body are specified in the scope of accreditation

Initial accreditation date: **2001-04-04**

Certificate issued / valid since: **2024-03-06**

Version of: **2024-03-06**

Expiry date: **2028-03-06**

Director



DALIA BALEŽENTĖ

The certificate may be changed, its validity suspended or withdrawn by the decision of the National Accreditation Bureau. Information on the actual data of accreditation certificates may be verified at nab.lrv.lt



UAB “ELGAMA-ELEKTRONIKA” Calibration and verification laboratory, accredited in accordance with **LST EN ISO/IEC 17025:2018**

Location of the conformity assessment body:

Visoriu str. 2, Vilnius

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Electricity meter	Sampling. Metrological characteristics	APM 111955219-01: 2017 BPM 8871101-14: 2013	Reference meter method
	Sampling	LST EN 62058-11: 2011 LST ISO 2859-1 + AC1: 2003 BI-04-2011, 4th edition, 04.12.2017	Method of statistical data analysis
	Metrological characteristics	LST EN 62058-31: 2011 (EN 62058-31: 2010) BI-02-2008, 4th edition, 08.01.2018	Reference meter method
	Identification of clock bias	LST EN 62054-21/A1:2017 7.5.2.2 p BI-02-2008, 4th edition, 08.01.2018	Reference meter method
Tests of the insulation properties of electricity meters	AC voltage tests	LST EN 62058-31: 2011 (EN 62058-31: 2010); 5.3 p BI-02-2008, 4th edition, 08.01.2018	Alternating voltage generator test. Reference meter method
Tests of accuracy requirements of electricity meters	Limits of error due to variation of the current	LST EN IEC 62052-11:2021; 7.9 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.9 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.9 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.9 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.9 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.9 p., 7.12 p. LST EN 62058-31: 2011	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Repeatability	(EN 62058-31: 2010); 5.6 p. BI-02-2008, 4th edition, 08.01.2018 LST EN IEC 62052-11:2021; 7.8 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.8 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.8 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.8 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.8 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.8 p.	Reference meter method
	Meter constant	LST EN IEC 62052-11:2021; 7.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.4 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.4 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.4 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.4 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.4 p.	Reference meter method
	No-load condition	LST EN IEC 62052-11:2021; 7.6 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.6 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.6 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.6 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.6 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.6 p. LST EN 62058-31: 2011 (EN 62058-31: 2010); 5.4 p. BI-02-2008, 4th edition, 08.01.2018	Reference meter method
	Starting current test	LST EN IEC 62052-11:2021; 7.7 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.7 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.7 p. LST EN IEC 62053-22:2021/A11:2021	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
		LST EN IEC 62053-23:2021; 7.7 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.7 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.7 p. LST EN 62058-31: 2011 (EN 62058-31: 2010); 5.5 p. BI-02-2008, 4th edition, 08.01.2018	
	Initial start-up of the meter	LST EN IEC 62052-11:2021; 7.5 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.5 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.5 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.5 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.5 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.5 p.	Time measurement
	Temperature variation	LST EN IEC 62052-11:2021; 9.4.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method under the influence of temperature
	Voltage variation	LST EN IEC 62052-11:2021; 9.4.3 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Frequency variation	LST EN IEC 62052-11:2021; 9.4.6 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p.	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Tests of effect of disturbances for electricity meters		LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	
	Calculation of composite error	LST EN 50470-3:2022; 7.13 p. WELMEC 11.1, 2022, subsection 2.4.6 b)	Mathematical calculation
	Severe voltage variation	LST EN IEC 62052-11:2021; 9.4.3 p. LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Reversed phase sequence	LST EN IEC 62052-11:2021; 9.4.7 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Interruption of phase voltage	LST EN IEC 62052-11:2021; 9.4.5 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Self-heating	LST EN IEC 62052-11:2021; 9.4.11 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Tests of effect of disturbances for electricity meters		LST EN 50470-3:2022; 7.10 p.	
	Earth fault	LST EN IEC 62052-11:2021; 9.4.13 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method (estimation of errors before and after the test)
	Harmonics in the current and voltage circuits – 5th harmonic test	LST EN IEC 62052-11:2021; 9.4.2.2 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	DC and even harmonics – half wave rectified waveform test	LST EN IEC 62052-11:2021; 9.4.2.5 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Interharmonics in the current circuit – burst fired waveform test	LST EN IEC 62052-11:2021; 9.4.2.3 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p.	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Tests of effect of disturbances for electricity meters	Odd harmonics in the current circuit	LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p. LST EN IEC 62052-11:2021; 9.4.2.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Short time overcurrents	LST EN IEC 62052-11:2021; 9.4.10 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Overcurrent generation. Reference meter method
Tests of electrical requirements of electricity meters	Power consumption	LST EN IEC 62052-11:2021; 4.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 4.4 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 4.4 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 4.4 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 4.4 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 4.4 p.	Estimation of power consumption by the power meter method or by direct current and voltage measurement
Tests for electromagnetic compatibility (EMC) for electricity meters	Voltage dips and short interruptions	LST EN IEC 62052-11:2021; 9.3.2 p. LST EN IEC 62052-11:2021/A11:2022	Reference meter method
	Emission requirements	LST EN IEC 62052-11:2021; 9.3.14 p. LST EN IEC 62052-11:2021/A11:2022	Estimation of the level of radio interference radiation
	Electrical fast transient/burst immunity test	LST EN IEC 62052-11:2021; 9.3.6 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p.	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Tests for electromagnetic compatibility (EMC) for electricity meters		LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	
	Radiated, radio-frequency, electromagnetic field immunity test	LST EN IEC 62052-11:2021; 9.3.4 p., 9.3.5 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Immunity to conducted disturbances, induced by radio-frequency fields	LST EN IEC 62052-11:2021; 9.3.7 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method
	Electrostatic discharge immunity test	LST EN IEC 62052-11:2021; 9.3.3 p. LST EN IEC 62052-11:2021/A11:2022	Reference meter method
	Surge immunity test	LST EN IEC 62052-11:2021; 9.3.9 p. LST EN IEC 62052-11:2021/A11:2022	Reference meter method
	Power frequency magnetic field immunity test	LST EN IEC 62052-11:2021; 9.3.13 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Reference meter method

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Tests for electromagnetic compatibility (EMC) for electricity meters	External static magnetic fields	LST EN IEC 62052-11:2021; 9.3.12 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Creation of a constant magnetic field. Reference meter method
	Dry heat test	LST EN IEC 62052-11:2021; 8.3.3 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	
Tests of the effect of the climatic environments for electricity meters	Cold test	LST EN IEC 62052-11:2021; 8.3.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	Creating climatic conditions with a climatic chamber. Reference meter method
	Damp heat cyclic test	LST EN IEC 62052-11:2021; 8.3.5 p. LST EN IEC 62052-11:2021/A11:2022 LST EN IEC 62053-21:2021; 7.10 p. LST EN IEC 62053-21:2021/A11:2021 LST EN IEC 62053-22:2021; 7.10 p. LST EN IEC 62053-22:2021/A11:2021 LST EN IEC 62053-23:2021; 7.10 p. LST EN IEC 62053-23:2021/A11:2021 LST EN IEC 62053-24:2021; 7.10 p. LST EN IEC 62053-24:2021/A11:2021 LST EN 50470-3:2022; 7.10 p.	

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Testing of the stability of metrological characteristics by applying elevated temperature	LST EN IEC 62052-11:2021; 8.4 p. LST EN IEC 62052-11:2021/A11:2022 LST EN 50470-3:2022; 12 p. LST EN 62059-32-1:2012	

Note. In case of any discrepancies, ambiguities or disputes regarding the subject matter content between the English and Lithuanian versions of the document, the Lithuanian version shall prevail.

The accreditation certificate is signed with a qualified electronic signature as an attachment to the order of the Director of the National Accreditation Bureau, by which it was approved