

**1. TITLE OF THE PROFESSION**

07134008 Villámvédelmi felülvizsgáló

**2. TRANSLATED TITLE OF THE PROFESSION**Lightning Protection Supervisor  
(THIS TRANSLATION HAS NO LEGAL STATUS)**3. PROFILE OF SKILLS AND COMPETENCES**

- inspect visually and instrumentally the design and proper technical condition – in accordance with standards and documentation – of buildings' and constructions' (standard and non-standard) lightning protection equipment, and to document the results of the inspection;
- review external and internal (standard and non-standard) lightning protection with regard to applicable legislation and standards;
- examine and use in the review the documentation provided (lightning density, fire hazard classification, architectural design of constructions, site plan of the building with connected metal grids, final construction drawing and implementation design of lightning protection, qualification documents for the standardisation inspection of shock protection and high-voltage equipment, VVF reports, shielding measurement reports, lightning protection system maintenance logs);
- compare the existing documentation with the actual situation, in particular with regard to possible (external or internal) changes to the environmental installation and use-parameters laid down in the final construction drawing;
- monitor the class and lightning protection class (LPL, LPS) of the implemented lightning protection systems of buildings and constructions in accordance with the plans;
- inspect the lightning protection system class (LPMS/SPM) of buildings and constructions realised against electromagnetic pulse in accordance with the plans;
- review the input parameters of risk calculation and the invariability of the internal zones; confirm that calculated risks comply with the legal requirements;
- draw attention to any shortcomings in the lightning protection documentation;
- check whether the technical condition of the existing lightning protection system (LPS) meets the required lightning protection class values (in terms of its material and geometry);
- inspect the technical condition (in terms of stability, strength, surface protection, joints, corrosion, connection of shielding, continuity of shielding shells, internal lightning protection, fixing and connection of conductors, operational readiness of protection devices) of the complete lightning protection system (LPS and LPMS/SPM);
- interpret lightning protection plans and documentation;
- carry out electrical measurements (checking the adequacy of grounding by testing the grounding resistance; checking of protection against step and touch voltages; measurement of the specific grounding resistance, if necessary; carry out continuity or grounding loop resistance measurement);
- examine, analyse and assess risks associated with the work before and during the measurements;
- test and repair electrical and mechanical joints;
- prepare inspection and measurement reports and certification documents.

**4. CLASSIFICATION OF THE VOCATIONAL TRAINING ACCORDING TO THE ISCED FIELDS OF EDUCATION AND TRAINING (ISCED-F)**

0713 Energetics and electricity

**(\*) Explanatory notes:**

<sup>1</sup> In the original language. | <sup>2</sup> The translation of the designation is provided for information purposes only. | <sup>3</sup> Fill it out if necessary. The certificate supplement provides additional information on the qualification but have no legal value in itself. The format of the description is in conformity with Decision (EU) 2018/646 of the European Parliament and of the Council of 18 April 2018 on a common framework for the provision of better services for skills and qualifications (Europass) and repealing Decision No 2241/2004/EC.

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## 5. OFFICIAL BASIS OF THE CERTIFICATE

<b>Name and status of the authority issuing the certificate</b>	<b>Name and status of the national/regional authority providing accreditation/recognition of the certificate</b>  Ministry of Justice															
<b>Level of the certificate (national or international)</b>  NQF level: 5  EQF level: 4  Digital Competence Framework level: 5	<b>Grading scale / Pass requirements</b>  Five -grade: 5 excellent 4 good 3 satisfactory 2 pass 1 fail															
<b>Certificate number: CXK A</b>  Serial number: 123456  <b>Certificate issue date:</b> <b>2024.02.14</b>	<b>Designation of the theoretical and practical subjects of the vocational qualification examination and their grades according to a five-grade scale</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td colspan="3"><b>written</b></td> </tr> <tr> <td style="width: 80%;">Lightning protection supervision – theory</td> <td style="width: 10%; text-align: center;">100%</td> <td style="width: 10%; text-align: center;">5</td> </tr> <tr> <td colspan="3"><b>project exercise</b></td> </tr> <tr> <td>Lightning protection supervision – practice</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Result of the qualification examination</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">5</td> </tr> </table>	<b>written</b>			Lightning protection supervision – theory	100%	5	<b>project exercise</b>			Lightning protection supervision – practice	100%	5	Result of the qualification examination	100%	5
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<b>project exercise</b>																
Lightning protection supervision – practice	100%	5														
Result of the qualification examination	100%	5														
<b>Access to next level of education/training</b>  To secondary education	<b>International agreements</b>															
<b>Other information concerning the vocational training process</b>  Decree 21/2010 (V. 14.) of the Ministry for National Development and Economy (NFGM) on the qualifications required for the exercise of certain industrial and commercial activities																
<b>Legal basis</b>  Government Decree 12/2020 (II. 7.) on the Implementation of the Vocational Education and Training Act, Government Decree 319/2020 (VII. 1.) on the amendment of Government Decree 12/2020 (II. 7.) on the Implementation of the Vocational Education and Training Act, Government Decree 11/2020 (II. 7.) on the Implementation of the Act on Adult Education, Government Decree 292/2023 (VII. 6.) on the amendments to government decrees due to the ex-post impact assessment of the transformation in vocational education and training.																

## 6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE

Description of the sectoral basic training and the theoretical and practical vocational training	Distribution of programme elements in percentage
Total duration of the education/training	150 hours

### Entry requirements:

- Primary education
- Preliminary vocational training:
- Electrician
- on the basis of VKGM Decree 1/1956 (VII. 24.) on local industrial apprenticeship training, Decree 2/1959 (IV. 10.) of the Ministry of Labour (MüM) on the vocational examination for industrial (technical), agricultural and commercial apprentices, and for workers not in apprenticeship, MüM Decree 13/1969 (XII. 30.) on the implementation of Act VI of 1969 on vocational training, and MM Decree 18/1986 (VIII. 26.) on the professions and trades to be taught in vocational secondary schools and vocational training schools, 625 Electrician, 503 Electrician, 505 Electrician branches, 501-1 Electrical Equipment Installer, 505-2 Building Electrician, 505-3 Railway Electrician, 505-4 Electrical Network Installer, 506 General Electrician, and pursuant to MüM Decree 7/1993 (XII. 30.), OM Decree 27/2001 (VII. 27.), OM Decree 37/2003 (XII. 27.) and OM Decree 1/2006 (II. 17.) on the National Qualification Register, 07 2 7624 02 31 17 Electrician,
- 33 522 04 1000 00 00 Electrician, 07 2 7445 02 3 1 13 Electromechanical and Equipment Mechanic, 33 5222 03 Electromechanical and Equipment Mechanic, 33 5216 03 Electrician, on the basis of Government Decree 150/2012 (VII. 6.) on the National Qualification Register and on the procedure for amending it, 34 522 04 Electrician, and pursuant to Government Decree 12/2020 (II. 7.) on the implementation of the Vocational Education and Training Act, 4 0713 04 07 Electrician.
- Technician
- on the basis of NIM Decree 5/1972 (V. 16.) on the certification of technicians, Decree 18/1972 (XI. 17.) of the Ministry of Agriculture and Forestry (ÉVM) on the certification of technicians, KGM Decree 1/1972 (VI.14.) on the certification of technicians, and MM Decree 16/1984 (IX. 12.) on the training of technicians and apprentices in secondary technical schools, Electrical Engineering Technician, Building Electricity Technician, Electromechanical and Equipment Technician, Power Electronics and Equipment Manufacturing Technician, and, pursuant to MüM Decree 7/1993 (XII. 30.), OM Decree 27/2001 (VII. 27.), OM Decree 37/2003 (XII. 27.) and OM Decree 1/2006 (II. 17.) on the National Qualification Register, 52 5422 01 Electrical Engineering Technician, 52 5422 02 Power Electronics Technician, 52 5422 03 Electromechanical and Equipment Technician, 07 5 3118 16 30 18 Electromechanical and Equipment Technician, 54 522 01 0000 00 00 Power Electronic Technician, a certificate of vocational secondary education with the following entry: qualifies to perform activities in the electric power industry. Government Decree 150/2012 (VII. 6.) on the National Qualification Register and on the procedure for amending it, 54 522 01 Power Electronic Technician, Government Decree 12/2020 (II. 7.) on the implementation of the Vocational Education and Training Act, 5 0713 04 04 Power Electronic Technician.
- Engineer
- For (BSc, MSc) graduates in Electrical Engineering or Electrical Plant Engineering with a degree in Power Engineering if: the diploma includes one of the following specialisations (sectors): - electrical plants, - electrical machinery, - electric power engineering, building electrification. In cases where only the degree of Electrical Engineering is indicated in the diploma, thus the specialisation in Electrical Power Engineering cannot be confirmed, the specialisation shall be determined from the student's registration course book (index). To qualify, a person with a degree in Electrical Engineering must have completed at least 2 of the following credits by attending at least 2 hours of lectures per week for a minimum of 4 semesters, and at least 2 hours of laboratory practice per week for a minimum of 3 semesters, and/or a minimum of 14 credits in one of the following subjects: a) Energy distribution equipment and protection b) Protection and automatics c) Overcurrent protection d) Circuitry e) High-voltage engineering and equipment f) Insulation technology g) Selection and monitoring of insulation systems h) Insulation systems laboratory practice i) Electrical equipment and insulation j) Electrical plants k) Electricity transmission l) Electrical power engineering m) Electricity supply n) Electrical machinery and applications o) Low-voltage electrical energy equipment p) Electrical switchgear q) Electrical equipment r) Lightning protection s) Electrical power equipment and installations t) ceration and management of electricity systems u) Building energy management v) Electronic building management
- Occupational health aptitude test: required

### Further information:

#### WRITTEN EXAMINATION EXERCISES

Multiple choice test. Topics: general principles of lightning protection; legal-technical regulation; lightning protection measures of major importance regarding fire-protection; thunderstorm and lightning as hazards and sources of disturbance; standard and non-standard lightning protection; lightning protection risk analysis; system of lightning protection measures; functions and types of the grounding system, the practical aspects of design; principles of grounding resistance and soil resistivity measurement, and practical implementation of the measurement; function, design and requirements of lightning protection arrester systems; presentation of standard and non-standard lightning protection classes; requirements for an isolated lightning protection system, practical design considerations; use of reinforced concrete structures as natural lightning arresters; design of measuring points, aspects of protection against dangerous step and touch voltage for arresters; partial inspection of the grounding and the arrester system; requirements, function and design of the arrester system; construction methods and parameters of the arrester system depending on the lightning protection class (rolling ball, protective mesh, protective angle, construction), structural design, natural and artificial arrester, mechanical requirements; protection of persons on roof; protection of roof structures; protection of chimneys and vents; protection against secondary discharges (purpose, principles, safety distance); requirements for potential equalisation of lightning protection and methods of practical implementation; potential equalisation of isolated lightning protection systems; overvoltage protection (requirements, practical aspects); protection against dangerous step and touch voltages; application of overvoltage protection devices against lightning impulse, zone concept; wired, inductive and capacitive coupling, grounding system, interconnection, coordinated overvoltage protection, magnetic shielding, track design

PROJECT EXERCISES

There is a lightning protection system of a building or a construction that requires a pre-occupancy or a periodic inspection.

A.) Comparison, interpretation and examination of the parameters of the lightning protection system and the documentation provided, in accordance with the requirements of the relevant OTSZ, MSZ 274 standard. Identifying possible deficiencies and faults in the lightning protection system and providing factual and professional proposals for their correction.

B.) Measurement, assessment and recording of the grounding resistance/specific soil resistivity; documentation of the inspection and verbal summary of the complex activity carried out.

You can find more information on the Programme and System Requirements in the following link: <https://ikk.hu>

This certificate supplement was elaborated in accordance with the programme requirements registered by the minister responsible for VET.

**National Reference Point: National Office of Vocational Education and Training and Adult Learning:  
<https://nrk.nive.hu>**

Head of Examination Organiser:

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SEAL