

**Electrical installations for lighting and beaconing of  
aerodromes - Part 1-2: Fundamental principles -  
Particular requirements for series circuits**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN IEC 61820-1-2:2024 sisaldab Euroopa standardi EN IEC 61820-1-2:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 17.05.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN IEC 61820-1-2:2024 consists of the English text of the European standard EN IEC 61820-1-2:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 17.05.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

**EN IEC 61820-1-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2024

ICS 29.140.50; 93.120

English Version

**Electrical installations for lighting and beaconing of aerodromes -  
Part 1-2: Fundamental principles - Particular requirements for  
series circuits  
(IEC 61820-1-2:2024)**

Installations électriques pour l'éclairage et le balisage dans  
les aérodromes - Partie 1-2 : Principes fondamentaux -  
Exigences particulières relatives aux circuits série  
(IEC 61820-1-2:2024)

Elektrische Anlagen für Beleuchtung und Befeuerung von  
Flugplätzen - Teil 1-2: Allgemeine Grundsätze -  
Anforderungen an die Serienkreise  
(IEC 61820-1-2:2024)

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## European foreword

The text of document 97/267/FDIS, future edition 1 of IEC 61820-1-2, prepared by IEC/TC 97 "Electrical installations for lighting and beaconing of aerodromes" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61820-1-2:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-02-10
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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60060-3 NOTE Approved as EN 60060-3

IEC 61000-4-5 NOTE Approved as EN 61000-4-5

IEC 61821 NOTE Approved as EN 61821

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cencenelec.eu](http://www.cencenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060	series	High-voltage test techniques	EN 60060	series
IEC 60364	series	Low-voltage electrical installations	HD 60364	series
IEC 61000	series	Electromagnetic compatibility (EMC)	EN 61000	series
IEC 61557	series	Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC - Equipment for testing, measuring or monitoring of protective measures	EN IEC 61557	series
IEC 61820-1	2019	Electrical installations for aeronautical ground lighting at aerodromes - Part 1: Fundamental principles	EN IEC 61820-1	2019
IEC 61820-3-2	-	Electrical installations for lighting and beaconing of aerodromes - Part 3-2: Requirements for power supplies - Particular requirements for series circuits	EN IEC 61820-3-2	-
IEC 61820-3-4	-	Electrical installations for lighting and beaconing of aerodromes - Part 3-4: Safety secondary circuits in series circuits - General safety requirements	EN IEC 61820-3-4	-
IEC 61823	-	Electrical installations for lighting and beaconing of aerodromes - AGL series transformers	EN 61823	-
IEC 63067	-	Electrical installations for lighting and beaconing of aerodromes - Connecting devices - General requirements and tests	EN IEC 63067	-

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical installations for lighting and beaconing of aerodromes –  
Part 1-2: Fundamental principles – Particular requirements for series circuits**

**Installations électriques pour l'éclairage et le balisage dans les aérodromes –  
Partie 1-2 : Principes fondamentaux – Exigences particulières relatives aux  
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# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical installations for lighting and beaconing of aerodromes –  
Part 1-2: Fundamental principles – Particular requirements for series circuits**

**Installations électriques pour l'éclairage et le balisage dans les aérodromes –  
Partie 1-2 : Principes fondamentaux – Exigences particulières relatives aux  
circuits série**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	8
4 Requirements.....	9
4.1 General.....	9
4.2 Series circuit power supply .....	9
4.3 Isolation of field circuit.....	9
4.4 Electrical supply to series circuit power equipment (i.e. CCRs) .....	11
4.5 Series circuit maximum voltage.....	11
4.6 Overcurrent protection .....	11
4.7 Open circuit protection.....	11
4.8 System insulation resistance.....	12
4.9 Insulation resistance monitoring.....	12
4.10 Operational insulation resistance value.....	12
4.11 Fault protection.....	12
4.12 Cables .....	12
4.12.1 General .....	12
4.12.2 Screened (shielded) cables for the primary circuit.....	12
4.13 Earthing of equipment.....	12
5 Selection and installation of AGL equipment and systems .....	13
5.1 General.....	13
5.2 Operational conditions .....	13
5.2.1 Voltage .....	13
5.2.2 Current .....	13
5.2.3 Frequency .....	13
5.2.4 Power .....	13
5.3 Series circuit communication .....	13
5.4 Electromagnetic compatibility (EMC).....	13
5.5 Impulse withstand voltage.....	14
5.6 Accessibility.....	14
5.7 Cable, transformer and duct installation .....	14
5.8 Primary and secondary connecting devices.....	14
5.9 Proximity of cables.....	14
5.10 Labelling.....	15
6 Inspection and testing.....	15
6.1 Initial verification.....	15
6.2 Periodic inspection and testing .....	15
6.3 Visual inspection.....	16
6.4 Testing .....	17
6.4.1 General .....	17
6.4.2 Conductor continuity.....	17
6.4.3 Insulation resistance of field circuit.....	17
6.4.4 SELV and PELV .....	19
6.4.5 Earth electrode resistance .....	19

6.4.6	Functional testing .....	20
6.5	Certification and reporting.....	20
6.6	Records .....	20
Annex A (informative)	New installation insulation value (under development).....	21
Annex B (informative)	AGL installation certificate.....	23
Annex C (informative)	Schedule of verification .....	31
Bibliography.....		34
Figure 1 – Field circuit isolator modes of operation .....		11
Table 1 – Test voltages and insulation resistance values .....		18
Table A.1 – Theoretical leakage currents in series circuit elements as a function of cable voltage class .....		21
Table B.1 – AGL installation certificate .....		23
Table B.2 – AGL periodic inspection and testing report.....		26
Table B.3 – AGL circuit continuity and insulation resistance test results.....		29
Table C.1 – Schedule of verification.....		31

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**ELECTRICAL INSTALLATIONS FOR LIGHTING  
AND BEACONING OF AERODROMES –**
**Part 1-2: Fundamental principles –  
Particular requirements for series circuits**
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The text of this International Standard is based on the following documents:

Draft	Report on voting
97/267/FDIS	97/268/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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## INTRODUCTION

This document is a part of the IEC 61820 series that describes the minimum requirements for the lifecycle of an aeronautical ground lighting (AGL) system including design, installation, commissioning, maintenance, decommissioning and disposal.

The series circuit normally operates with a constant current and a load dependent variable voltage. The protective measures for series circuits according to this document are adapted to that supply concept and the extreme long cables in the field. They are based in principle on an IT supply concept (floating and separated from ground) and the protection against direct contact to any live part at least for the primary circuit and safety extra low voltage (SELV) or protective extra low voltage (PELV) power supply feeding the light fixtures or other loads of the series circuit. In recognition of possible aviation hazards, an automatic disconnection of the AGL system in case of an electrical failure is not required in general (see details in IEC 61820-1).

People involved in work on AGL electrical systems are knowledgeable of the specific risks and the safety procedures involved in the work related to the applied system design. It is strongly recommended to do a work safety risk analysis considering all local circumstances to define safe work procedures and training to the personnel. Training regarding the hazards of series circuits should be provided to non-electricians (e.g. grass cutters, snow plow operators, etc.)

NOTE 1 For specifications on SELV/PELV power supplies for AGL systems, see IEC 61820-3-4.

NOTE 2 Local/national regulations can be different to these standard provisions.

NOTE 3 In case the power supply is not compliant to SELV or PELV, appropriate measures can be implemented.

NOTE 4 Where the terms "voltage" and "current" are used in this document, they refer to RMS values unless otherwise specified.

## **ELECTRICAL INSTALLATIONS FOR LIGHTING AND BEACONING OF AERODROMES –**

### **Part 1-2: Fundamental principles – Particular requirements for series circuits**

#### **1 Scope**

This part of IEC 61820 describes requirements for AGL systems including power supplies, transformation of energy, cables, and any electrical component utilized to produce the light intended to be used as a visual aid for air and ground navigation based on IEC 61820-1, complemented with series circuit specific topics.

#### **2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060 (all parts), *High-voltage test techniques*

IEC 60364 (all parts), *Low-voltage electrical installations*

IEC 61000 (all parts), *Electromagnetic compatibility (EMC)*

IEC 61557 (all parts), *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures*

IEC 61820-1:2019, *Electrical installations for aeronautical ground lighting at aerodromes – Part 1: Fundamental principles*

IEC 61820-3-2, *Electrical installations for lighting and beaconing of aerodromes – Part 3-2: Requirements for power supplies – Particular requirements for series circuit*

IEC 61820-3-4, *Electrical installations for lighting and beaconing of aerodromes – Safety secondary circuits in series circuits – General safety requirements*

IEC 61823, *Electrical installations for lighting and beaconing of aerodromes – AGL series transformers*

IEC 63067, *Electrical installations for lighting and beaconing of aerodromes – Connecting devices – General requirements and tests*