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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/24

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EN IEC 61820-1-2

NORME EUROPÉENNE

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May 2024

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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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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 61820-1-2:2024 (E)**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.

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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

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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.

<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	-



IEC 61820-1-2

Edition 1.0 2024-04

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**

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IEC 61820-1-2

Edition 1.0 2024-04

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**

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COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSTALLATIONS FOR LIGHTING
AND BEACONING OF AERODROMES –****Part 1-2: Fundamental principles –
Particular requirements for series circuits**

FOREWORD

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IEC 61820-1-2 has been prepared by IEC technical committee 97: Electrical installations for lighting and beaconing of aerodromes. It is an International Standard.

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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 61820 series, published under the general title *Electrical installations for lighting and beaconing of aerodromes*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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*

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