

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical installations for aeronautical ground lighting at aerodromes –  
Part 1: Fundamental principles**

**Installations électriques pour le balisage aéronautique au sol  
dans les aérodromes –  
Partie 1: Principes fondamentaux**



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**ELECTRICAL INSTALLATIONS FOR AERONAUTICAL  
GROUND LIGHTING AT AERODROMES –****Part 1: Fundamental principles**

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

The text of this International Standard is based on the following documents:

FDIS	Report on voting
97/198/FDIS	97/200/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61820 series, published under the general title *Electrical installations for aeronautical ground lighting at 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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This document is part of IEC 61820, a series of standards that defines the requirements throughout the lifecycle of an Aeronautical Ground Lighting (AGL) system including design, installation, commissioning, maintenance, decommissioning and disposal.

This document contains fundamental design requirements for AGL systems.

According to ICAO or national standards, the AGL fixtures are subject to specific requirements for photometric output and serviceability level.

The AGL system is provided to support airfield activities. Therefore, the focus of AGL system design is to maintain the lighting against any possible failure. This document pertains to personnel and operational safety.

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# ELECTRICAL INSTALLATIONS FOR AERONAUTICAL GROUND LIGHTING AT AERODROMES –

## Part 1: Fundamental principles

### 1 Scope

This part of IEC 61820 covers principles of design and installation requirements for AGL systems including control, monitoring and transformation of energy, the cables and any electrical component utilized to produce the light intended to be used as a visual aid for air and ground navigation.

This document defines in general the fundamental principles to provide safe, reliable and efficient operation of AGL systems independent of the particular system design. Where certain aspects of design are specific to a particular type of system (e.g. series circuit), these are supplemented in the applicable part.

NOTE Local / national regulations can be different from the provisions of this document.

### 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 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60721-3-3, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*

IEC 60721-3-4, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 4: Stationary use at non-weatherprotected locations*

IEC 61000-6-2, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity standard for industrial environments*

IEC 61000-6-4, *Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments*

IEC 62870, *Electrical installations for lighting and beaconing of aerodromes – Safety secondary circuits in series circuits – General safety requirements*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses: