

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 aéroports –
Partie 1-2 : Principes fondamentaux – Exigences particulières relatives aux
circuits série**



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IEC 61820-1-2

Edition 1.0 2024-04

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.140.50, 93.120

ISBN 978-2-8322-8579-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Particular requirements for series circuits****FOREWORD**

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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. The main document types developed by IEC are described in greater detail at 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.