

# INTERNATIONAL STANDARD

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**Lighting systems - Electro-mechanical interfaces -  
Part 2-1: Four-pin extra-low-voltage twist-lock interface Type ZB18**

Sample Document

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Lighting systems - Electro-mechanical interfaces -  
Part 2-1: Four-pin extra-low-voltage twist-lock interface Type ZB18**

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IEC 63494-2-1 has been prepared by IEC technical committee 34: Lighting. It is an International Standard.

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

Draft	Report on voting
34/1412/FDIS	34/1426/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.

A list of all parts in the IEC 63494 series, published under the general title *Lighting systems - Electro-mechanical interfaces*, can be found on the IEC website.

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

The IEC 63494-2 series of standards are intended to provide detailed specifications, requirements, information and any useful gauges for particular electro-mechanical interfaces used in lighting systems. The parts of the IEC 63494-2 series augment and refer to IEC 63494-1, the safety standard for general electro-mechanical interfaces used in lighting systems. Detailed specifications for both luminaire-side and device-side interfaces are included. The structure of each document in the IEC 63494-2 series parallels that of IEC 63494-1 for ease of reference. A testing sequence and useful gauges are provided in Annex A of each document. Information useful for luminaire and device design can be found in subsequent annexes.

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## 1 Scope

This part of IEC 63494-2 specifies the interchangeability requirements of an electro-mechanical interface with four-pin extra-low-voltage (ELV) twist-lock interface – type ZB18 for use in lighting systems. This twist-lock interface has four electrical contacts that are suitable for ELV voltages. Two connections are intended for supply power and two are intended for digital communication. This document specifies interchangeability related requirements for mechanical, electrical, ambient conditions, positional orientation, communication protocol and pin assignments for the interface. Specific requirements for the devices that can utilize the interface such as sensors, communication modules, cameras, etc., are not within the scope of this document. This document does not specify the following aspects:

- the lighting technology,
- the illumination performance,
- electromagnetic compatibility (EMC).

## 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 60050-845, *International Electrotechnical Vocabulary (IEV) - Part 845: Lighting*, available at <https://www.electropedia.org>

IEC 60598-1:2024, *Luminaires - Part 1: General requirements and tests*

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests*  
 IEC 60664-1:2020/AMD1:2025

IEC 62504, *General lighting - Light emitting diode (LED) products and related equipment - Terms and definitions*

IEC TS 63105, *Lighting systems and related equipment - Vocabulary*

IEC 63494-1:2026, *Lighting systems - Electro-mechanical interfaces - Part 1: Safety*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-845 (IEV), IEC TS 63105, IEC 62504, IEC 63494-1, and the following apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### luminaire extension base plate

##### LEX-BP

device-side interface designed to mate with a LEX-R

Note 1 to entry: The base plate can be an integral or a separable part of the luminaire extension module.