

ICS 29.140.50
CCS K 74



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 30104.101-2025

Replacing GB/T 30104.101-2021

**Digital addressable lighting interface - Part 101: General
requirements - System components
(English Translation)**

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation, Standardization
Administration of China**

Table of Contents

Preface
Introduction
1 Scope
2 Normative references
3 Terms and Definitions
4 General Requirements
5 Electrical Specifications
6 Bus power
7 Transmission Protocol Framework
8 Time Series
9 Operation Method
10 Variable Declaration
11 Instruction Definition
Appendix A (Informative) Background Information on the System
Appendix B (Informative) Contact Current
Reference

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 101 of GB/T 30104 Digital Addressable Lighting Interface. GB/T 30104 has been published in the following parts.

- Part 101: General requirements for system components;
- Part 102: General requirements for control devices;
- Part 103: General requirements for control equipment;
- Part 104: General requirements for wireless and other wired system components;
- Part.201.Particular requirements for control gear for fluorescent lamps (equipment type 0);
- Part 202: Particular requirements for control devices Self-contained emergency lighting

(equipment type 1);

--- Part 203: Particular requirements for control gear for discharge lamps (other than fluorescent lamps) (equipment type 2);

--- Part 204: Particular requirements for control gear for low-pressure tungsten halogen lamps (equipment type 3);

--- Part 205: Particular requirements for control gear for incandescent lamp supply voltage controllers (equipment type 4);

--- Part 206: Particular requirements for control devices converting digital signals into DC voltage (equipment type 5);

--- Part 207: Particular requirements for control gear LED modules (equipment type 6);

--- Part 208: Particular requirements for control devices switching functions (equipment type 7);

--- Part 209: Particular requirements for control devices Color control (equipment type 8);

--- Part 220: Particular requirements for control devices - Central power supply emergency operation (equipment type 19);

--- Part 222: Particular requirements for control gear heat lamp protection (equipment type 21);

--- Part 301: Special requirements for input device buttons;

--- Part 302: Special requirements for input devices, absolute input devices;

--- Part 303: Special requirements for input device occupancy sensors;

--- Part 304: Special requirements for input devices light sensors.

This document replaces GB/T 30104.101-2021 "Digital addressable lighting interface Part 101: General requirements system components".

Compared with GB/T 30104.101-2021, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The scope of the document has been changed (see Chapter 1, Chapter 1 of the 2021 edition);

b) The electrical safety and bus grounding sections have been modified (see 4.9, 4.10, 4.9, 4.10 of the 2021 edition);

c) The usage of bus power and external power supply has been changed (see 4.11, Chapter 6, 4.11, Chapter 6 of the 2021 edition);

d) Increased polarity sensitivity of bus units containing bus power supplies (see 5.1);

e) Deleted 32-bit frames. (See 7.4.4 of the 2021 edition.) this document is equivalent to IEC 62386-101:2022 "Digital addressable lighting interfaces - Part 101: General requirements - System components".

Introduction

GB/T 30104 (all parts) specifies a bus system for controlling electronic lighting equipment through digital signals, which is intended to consist of the following Partial composition.

Part 103 specifies the general requirements for control devices. Part 104 specifies the general requirements for control equipment.

General requirements for wireless and alternative wired system components. Part 105 specifies general requirements for firmware upgrades. Part 150 the requirements for auxiliary power supplies are given. Auxiliary power supplies can be independent or built into the control device or control equipment.

Particular requirements for controlgear for certain types of luminaires.

Special requirements for each type of input device.

GB/T 30104 is published as a series of standards divided into several parts to facilitate future revision and amendment, and to add new parts when necessary.

Other requirements.

The structure and relationship of the series of standards are shown in Figure 1 as follows.

Figure 1 Overview of GB/T 30104

Other sections also include additional requirements.

Unless otherwise specified, all numbers used in this document are decimal. Hexadecimal numbers are given in the format 0xVV.

The "x" in the number means "any value".

Digital Addressable Lighting Interface Part 101: General requirements for system components

1 Scope

This document specifies the system's electrical specifications, bus power supply, transmission protocol framework structure, timing, operation methods, variable declarations and instructions definition.

This document applies to components in bus systems controlled by digital signals from electronic lighting equipment.

Control methods, algorithms and data exchange methods for application controllers used

for lighting control are outside the scope of this document.

(EMC) requirements are outside the scope of this document.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 12113-2023 Measurement of touch current and protective conductor current (IEC 60990:2016, IDT) GB/T 19510.1-2023 Light source controlgear Part 1: General requirements and safety requirements (IEC 61347-1:2017, MOD) Note. There is no technical difference between the referenced content of GB/T 19510.1-2023 and the referenced content of IEC 61347-1:2015/AMD1:2017.

IEC 60664-1 Insulation coordination for equipment within low-voltage supply systems Part 1: Principles, requirements and tests Note. GB/T 16935.1-2023 Insulation coordination for equipment within low-voltage power supply systems Part 1: Principles, requirements and tests (IEC 60664-1:2020, IDT) IEC 61000-4-11 Electromagnetic compatibility (EMC) Part 4-11. Testing and measurement techniques for input current per phase less than or equal to 16A Equipment immunity test for voltage dips, short interruptions and voltage variations (IEC 61000-4-11, MOD) IEC 61643-11 Low-voltage surge protective devices Part 11: Performance requirements and tests for surge protective devices connected to low-voltage power supply systems Note. GB/T 18802.11-2020 Low voltage surge protective devices (SPD) Part 11: Performance requirements and test methods for surge protective devices for low voltage power supply systems Method (IEC 61643-11:2011, MOD) IEC 62386-102 Digital addressable lighting interface Part 102: General requirements for control gear Note. GB/T 30104.102-2025 Digital Addressable Lighting Interface Part 102: General Requirements Control Gear (IEC 62386-102:2022, IDT) IEC 62386-103 Digital addressable lighting interface Part 103: General requirements Control equipment (Digitaladdressable