



ANSI C137.4-2021

*American National Standard for Lighting Systems—
Interoperability of LED Drivers and Other Connected Devices
Via the Digital Addressable Lighting Interface*

Secretariat:

National Electrical Manufacturers Association

Approved: November 11, 2021

American National Standards Institute, Inc.

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Foreword (This foreword is not a part of ANSI C137.4-2021)

This standard specifies a digital interface between a driver and other devices, such as a sensor or a controller, based on a wired digital interface according to IEC 62386 (Digital Addressable Lighting Interface) with the following additional characteristics:

- In addition to the IEC 62386 BPS (Bus Power Supply) capability, the interface specified in this document provides an optional additional, separate source of power to the connected device(s). This standard specifies the electrical requirements for this AUX (auxiliary) power supply, which may be provided by a driver or other device.
- The IEC 62386 standard specifies the exchange of information, such as status and measurement information, through a concept of memory banks. This standard improves the interoperability between devices by defining a data model to be used to represent certain data elements as well as the memory banks (and locations) in which they shall be stored.

A fully operational digital interface can be successfully achieved by specifying power characteristics as well as memory banks and providing interoperability between drivers and devices (such as sensors and networked lighting controllers, or NLCs).

This is a revision of the previous standard, ANSI C137.4-2019.

Proposals for modification or improvement of this standard are welcome. Please send to:

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Or send via the NEMA website (<http://www.nema.org>).

This standard was processed and approved for submittal to ANSI by the C137 Lighting Systems Committee. Approval of the standard is not meant to imply that all Committee members voted to approve it.

1 Scope

This standard specifies the minimum requirements for devices such as drivers, AUX power supplies, controls, sensors, luminaire mounted control devices, and communication devices supporting a digital interface between devices.

This standard builds on the digital addressable lighting interface as specified in the IEC 62386 series of standards to specify the requirements for memory bank usage, logic signal interface, energy reporting, diagnostic information, as well as requirements for auxiliary power supplies that may be integrated into an LED driver.

1.1 Important Patent Disclaimer

NOTE—The user's attention is called to the possibility that compliance with this standard could require the use of an invention covered by patent rights.

By publication of this standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the Secretary.

2 References

2.1 Normative References

The following normative documents contain provisions, which through reference in this text constitute provisions of this standards Publication. By reference herein, these publications are adopted, in whole or in part as indicated, in this standards Publication.

All standards are subject to revision, and parties to agreements based on this American National standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

Digital Illumination Interface Alliance (DiiA) Specifications:

- DALI Part 150 – Aux Power Supply*
- DALI Part 250 – Integrated Bus Power Supply*
- DALI Part 251 – Memory bank 1 extension*
- DALI Part 252 – Energy Reporting*
- DALI Part 253 – Diagnostics and Maintenance*
- DALI Part 351 – Luminaire Mounted Control Devices*

ANSI/IES RP-8 *Roadway Lighting; Annex E, Classification of Luminaire Distribution*

NFPA-70 *National Electrical Code*

2.2 Informative References

The following informative documents are referenced, in whole or in part as indicated, in this standards Publication.