ANSI C82.18-2023/CSA C865.2:23

Light-Emitting Diode Drivers—Performance Characteristics

Secretariat:

National Electrical Manufacturers Association

Approved: April 17, 2023

American National Standards Institute, Inc.

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Published by:

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, VA 22209

www.nema.org

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C82 Preface

This foreword is not part of ANSI C82.18-2023.

This is a revision of ANSI C82.18-2022.

LED Drivers have been developed to support the LED transformation of lighting applications. The National Electrical Manufacturers Association (NEMA) developed an industry consensus document describing some basic performance requirements, titled *NEMA SSL-1 Electronic Drivers for LED Devices, Arrays, or Systems*. NEMA SSL-1 provided specifications and operating characteristics of non-integral electronic drivers (power supplies) for LED devices, arrays, or systems intended for general lighting applications.

The C82 committee developed a consensus document describing the LED drivers test methods; ANSI C82.16 *American National Standard for Light-Emitting Diode Drivers—Methods of Measurement*. ANSI C82.16 describes the procedures to be followed and the precautions to be taken in measuring the performance of LED drivers. The scope includes, but is not limited to, LED drivers with these characteristics:

- General lighting, exterior lighting, and roadway lighting applications
- Input supply voltage up to 600 VDC or 600 VAC (50 or 60 Hz)
- Output open-circuit voltage of 600 V or less
- Constant-current or constant-voltage DC output
- PWM LED drivers
- Fixed, variable (dimmable), pulse width modulation, or programmable (tunable) output power
- External (standalone) or internal (enclosed in luminaire)
- Energy efficiency
- Driver Standby Power

NEMA and C82 member testing experience, based on ANSI C82.16 methods, contributed to drafting this document. This standard, ANSI C82.18 *American National Standard for Light-Emitting Diode Drivers—Performance Characteristics*, and ANSI C82.16 *American National Standard for Light-Emitting Diode Drivers—Methods of Measurement* enables a consistent characterization of LED driver performance.

Suggestions for improvement on this standard will be welcome. They should be sent to the following address:

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This standard was developed and approved for submittal to ANSI by the C82 Committee. Approval of this standard is not meant to imply that all committee members voted to approve it.

Note: The user's attention is called to the possibility that compliance with this standard could require 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.

CSA Preface

This is the first edition of CSA C865.2, *Light-emitting diode drivers — Performance characteristics*.

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of BC Hydro, Fortis BC Electric, Nova Scotia Department of Energy, Efficiency Manitoba, Independent Electricity System Operator, and Efficiency Nova Scotia.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was reviewed by the CSA Subcommittee on Methods of Performance Measurement of LED Drivers, under the jurisdiction of the CSA Technical Committee on Performance of Lighting Equipment and the CSA Strategic Steering Committee on Performance, Energy Efficiency, and Renewables, and has been formally approved by the CSA Technical Committee.

This Standard has been developed in compliance with the Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Interpretations: The Strategic Steering Committee on Performance, Energy Efficiency, and Renewables has provided the following direction for the interpretation of standards under its jurisdiction: "The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant CSA committee interpretation has not already been published, CSA Group's procedures for interpretation shall be followed to determine the intended safety principle."

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