

NEMA Dimmer Compliance

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Over the past several years, NEMA has established several standards and basic testing criteria for Lighting Controls and Lamp manufacturers to help improve compatibility and performance of forward phase-cut dimmers when paired with LED light sources.

THE GOAL: To help provide end users with a better experience when dimming LED light sources.

To achieve this goal, Leviton developed a proprietary testing method and online LED Compatibility Selector Tool to assist professionals and homeowners with the best lamp/dimmer combinations. NEMA standards specify requirements for a basic measure of compatibility; Leviton takes it one step further by conducting our own internal testing to help ensure optimal compatibility with our dimmers.

NEMA SSL 7A

Phase-Cut Dimming for Solid State Lighting

Established in 2015, this standard provides compatibility requirements for when a forward phase-cut dimmer is combined with one or more dimmable light-emitting diode (LED) light engines (LLE). An LLE is comprised of one or more LED modules, LED control gear (integral or remote), and a connection to the main circuit. This includes both screw-in integrated LED lamps as well as fixtures which contain separate LED drivers.

2019 California Building Energy Efficiency Standards for Title 24 Code Compliance for new residential construction, section 150.0(k)2A states that all forward phase-cut dimmers used with LED light sources shall comply with NEMA SSL 7A.

Note: This standard does not apply to reverse-phase Electronic Low Voltage (ELV) or 0-10V dimmers.

NEMA 77

Temporal Light Artifacts (TLA): Test Methods and Guidance for Acceptance Criteria

Established in 2017, this standard provides guidance for acceptance criteria by defining test methods and metrics to quantify the visibility of TLA and sets initial application-dependent limits. TLA is undesired changes in visual perception induced by a light stimulus whose luminance or spectral distribution fluctuates with time, such as flicker and stroboscopic effect.

Specific recommendations and measurement methods for controls are only included for phase-cut dimming.

NEMA LED Dimming Compatibility Program

This program was developed to help consumers identify compatible LED lamps (bulbs) and dimmers. A logo and optional statement may begin to appear on the packages of LED dimmers and lamps (bulbs) to show consumers how to identify compatible products.

According to NEMA, consumers need only look for the compatibility mark on packages of LED lamps and packages of dimmers to know they will work better together. The mark also draws attention to the fact that LED lamps should be installed with newer dimmers for optimal performance. The optional statement, "Look for this logo to find LED bulbs and dimmers that work together", supports the mark at the point of purchase.

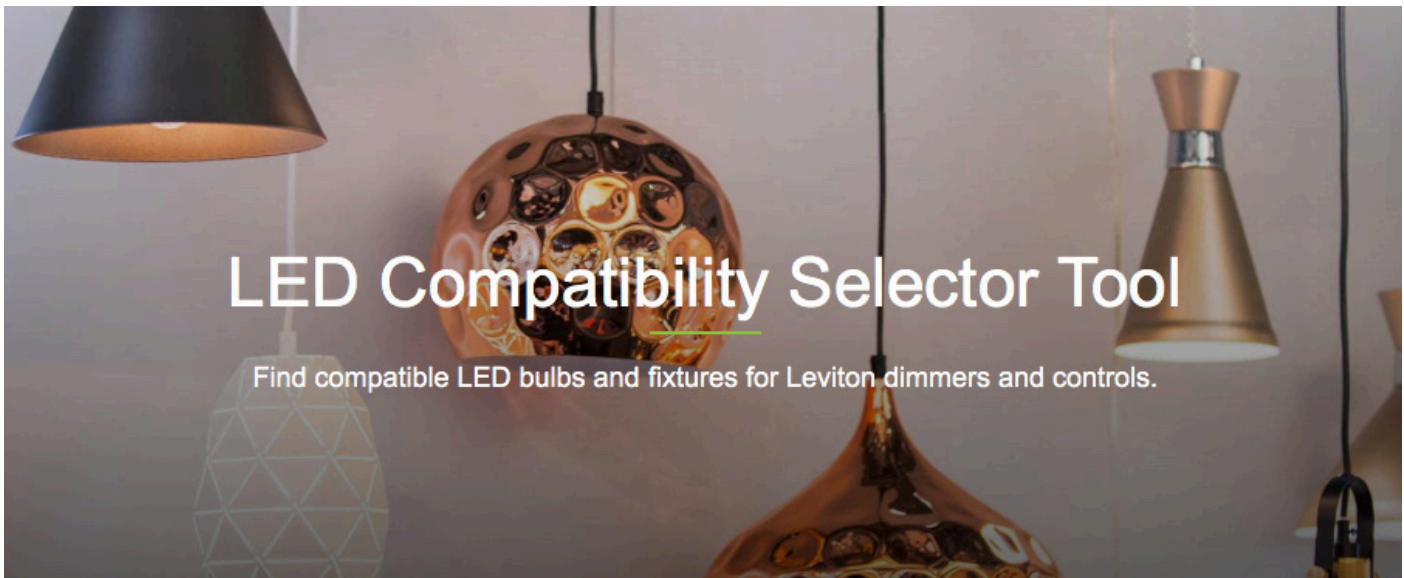
The logo identifies products that will dim down to 20% of the maximum light level. (Many LED bulbs can dim lower than 20%.)



PAIR BULB + DIMMER

In order to be considered for the program a dimmer manufacturer must meet the following requirements with a dimmer:

1. NEMA SSL-7A-2015
2. NEMA-77-2017
3. Listed to UL 1472 or CSA-C22.2 No. 184.1.



To further help ensure that our customers have the best experience when using Leviton dimmers, we created our own web-based LED Compatibility Selector Tool. By working closely with LED bulb manufacturers, our dedicated team in our in-house lab conducts ongoing testing of the latest LED bulbs/fixtures with our LED dimmers to determine the best combinations.

This test program measures a number of factors including dimming range and irregular functionality such as flickering, slow start up, noise (humming/ buzzing) levels and inconsistent illumination. The testing is ongoing; and the tool is updated regularly with the latest results. Only pairings that meet our rigorous test criteria are published in our user-friendly online LED Compatibility Selector Tool www.leviton.com/led.

To confirm SSL 7A compliance, look for SSL 7A on the product or product packaging

The image shows a set of product markings. On the left is the CSA logo with "c" and "us" below it. In the center is a barcode with the number "0 78477 77172 3 012" below it. On the right are the NOM and ANCE logos. A red circle highlights the text "SSL 7A" below the CSA logo, with a red arrow pointing from the text "To confirm SSL 7A compliance, look for SSL 7A on the product or product packaging" to it.

Leviton LED Dimmers and NEMA Compliance

Product Line	Cat. No.	Description	NEMA SSL 7A	NEMA 77	NEMA Dimming Program
 Decora Smart®	DW6HD	300W LED Digital Dimmer with Wi-Fi® Technology, Neutral Required	✓	✓	✓
	DW1KD	450W LED Digital Dimmer with Wi-Fi® Technology, Neutral Required	✓	✓	✓
	DZ6HD	300W LED Digital Dimmer with Z-Wave® Plus Technology, Neutral Required	✓	✓	✓
	DH6HD	300W LED Digital Dimmer with HomeKit™ Technology, Neutral Required	✓	✓	✓
	DL6HD	300W LED Digital Dimmer with Lumina™ RF Technology, Neutral Required	✓	✓	✓
	DG6HD	300W LED Digital Dimmer, Zigbee 3.0 Certified, Neutral Required	✓	✓	✓
 Decora Digital™	DDL06-1L	300W LED Digital Dimmer, Ground Required	✓	✓	✓
	DDM06	300W LED Digital Dimmer, Neutral Required	✓	✓	✓
	DDL06-BL	300W LED Digital Dimmer with Bluetooth® Technology, Ground Required	✓	✓	✓
	DDMX1	450W LED Magnetic Low Voltage Digital Dimmer with Bluetooth® Technology, Neutral Required	✓	✓	✓
	DDE06	300W LED Electronic Low Voltage Digital Dimmer with Bluetooth® Technology, Neutral Required	✓	✓	✓
	DD710	10A LED 0-10V Digital Dimmer with Bluetooth® Technology, Neutral Required	✓	✓	✓
 Decora® Slide	DSL06	300W LED Preset Slide Dimmer	✓	✓	✓
	DSE06	300W LED Electronic Low Voltage Preset Slide Dimmer, Neutral Required	✓	✓	✓
	DS710	10A LED 0-10V Preset Slide Dimmer, Neutral Required	✓	✓	✓
 IllumaTech®	IPL06	150W LED Preset Slide Dimmer	✓	✓	✓
	IP710	10A LED 0-10V Preset Dimmer, Neutral Required	✓	✓	✓
 SureSlide®	6672	150W LED Slide Dimmer	✓	✓	✓
	6674	150W LED Preset Slide Dimmer	✓	✓	✓
 Toggle Slide	TSL06	300W LED Preset Slide Dimmer	✓	✓	✓
	TSM10	400W LED Preset Slide Dimmer	✓	✓	✓

Note: The dimmers listed in the above chart are compliant with NEMA SSL 7A when in the factory default state. Any changes made to the minimum adjustment feature in certain models may render the device non-compliant.



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