

NIGHT SWITCH

LONG LIFE PHOTOCONTROLS



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ANSI C136.10-2017 LONG LIFE CLASSIFICATION

SPECIFICALLY DESIGNED TO MEET THE PERFORMANCE REQUIREMENTS OF SOLID STATE LIGHTING LOADS

The American National Standards Institute, (ANSI), has added a new classification to the ANSI C136.10 standard for roadway and area lighting equipment locking-type photocontrol devices and matching receptacles - Physical and Electrical interchangeability and testing.

Section 9.2 Design Life Classification States

This standard has two classifications for locking-type photocontrols

- Standard Type - Mainly for HID (4 year maintenance cycle)
- Long Life - Mainly for LED (15 plus year maintenance cycle)

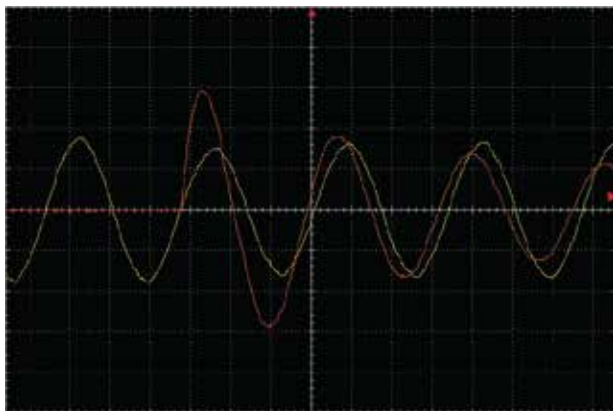
The NightSwitch™ Photocontrol is specifically designed to meet tests outlined in the following sections written for long life performance.

- Sections: 11.4 Incandescent Lamp Load Test
11.5 AC Capacitor Load Test
11.6 Inductive Load Test
11.7 Electronic Load Test - LED Driver
7.1 Surge Performance Requirements

ANSI C136.10 - 2017 Standard : <https://www.techstreet.com/searches/18762992>

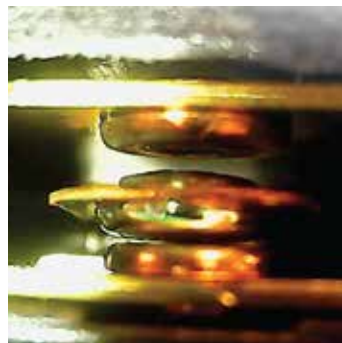
ELECTRONIC LOAD (INRUSH) TEST

To be considered long life the control must be able to switch the load a minimum of 7,300 times according to the ANSI standard.
NightSwitch™ was tested to over 25,000 operations

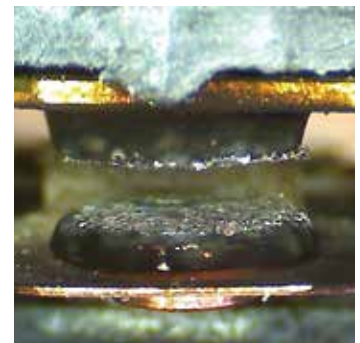


Red Line : Current Yellow Line: Voltage

NightSwitch™ uses a zero-crossing triac assisted relay circuit to achieve almost unlimited life of relay contacts.



NightSwitch™ relay contacts after 25,000 operations at rated load. Contacts show almost no wear. (Contacts show very little loss of contact material with no failures to transfer the load)



Competitor's relay contacts after 5,000 operations at rated load without zero-crossing feature (contacts welded - dayburner)



SURGE TEST REQUIREMENTS

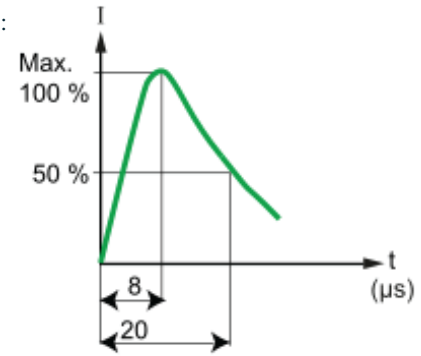
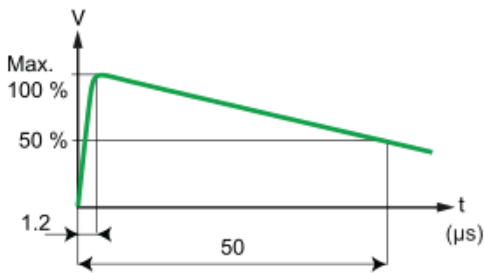
Since the NightSwitch™ Photocontrol is designed to last as long or longer than the fixture itself, it needs to be able to handle multiple surge events over a long time.

The first line of defense is a high capacity Metal Oxide Varistor (MOV) which can handle high surge events multiple times. MOVs lose some capacity each time they absorb energy. Two high capacity MOVs are used to ensure the longest life possible.

The C136.10-2017 Standard has three categories for surge protection:

- Typical (6kv/3ka)
- Enhanced (10kv/5ka)
- Extreme (20kv/10ka)

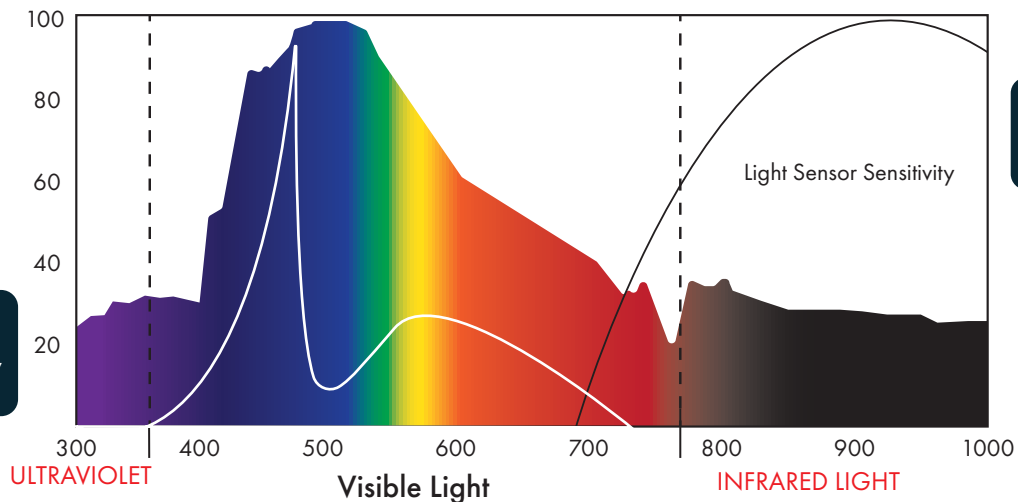
The NightSwitch™ passes the Extreme Test Requirements.



NIGHTSWITCH CALIBRATION

Most photocontrols sense visible light. Visible light can lead to “hunting” when reflected light from the controlled fixture turns off the photocontrol. This oscillation can reduce the life of the fixture.

Relative Spectral Distribution

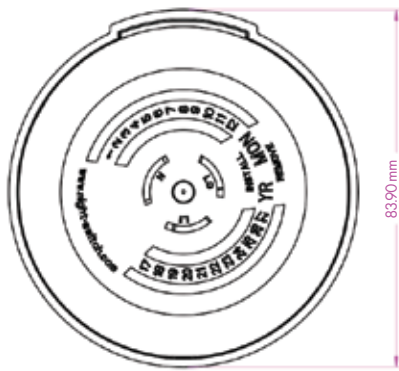


The white line represents typical LED light fixture distribution, which is mostly outside the sensors range.

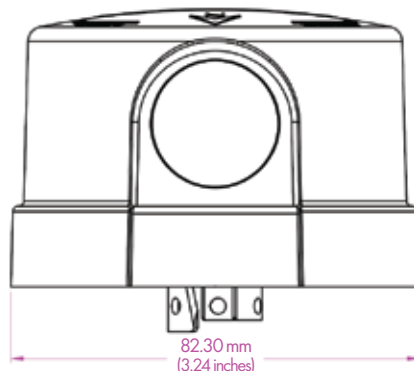
Light sensor peaks in the infrared at 950 nm outside the visible spectrum.

The NightSwitch™ uses a phototransistor that looks at the infrared component of sunlight. This makes the NightSwitch™ virtually immune to “Hunting.”

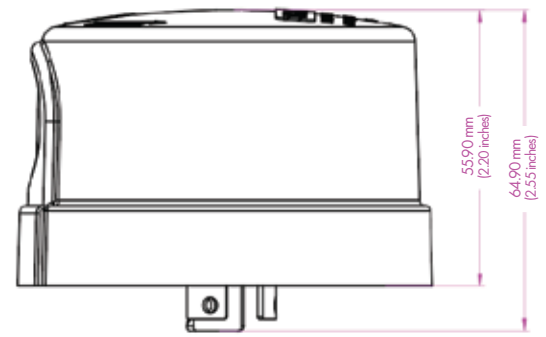
NIGHTSWITCH PHOTOCONTROL DIMENSIONS



BOTTOM VIEW



FRONT VIEW



END VIEW

Specifications/ Features

- Meets ANSI C136.10.2017 long life category
- Line Voltage: 105-305VAC(120/208/240/277VAC) 50/60HZ
- Load Rating: 1,000 Watts/1,800 VA
- Surge Rating: Extreme Category (20kv/10ka)
- Control Circuit: Zero-crossing triac assisted relay
- Failure Mode: Normally closed relay - Fail on
- Photosensor: Peaks at 950 nm - virtually immune to artificial light
- Circuit Board: FR4 conformally coated
- Time Delays: 3 seconds on power up, 4 seconds for off, 0 seconds for on
- Cover: Polycarbonate - 0.1 inches (2.6 mm) Thickness - Black
- Window: Polycarbonate
- Base: Polycarbonate Black
- Gasket: Polyurethane
- Environmental: -40 to +70°C
- Turn on setpoint: 1.5 FC+/- 0.5FC
- Turn off Ratio: 1.5 to 1

PAN VIEW



ORDERING INFORMATION

Model Number: NS127B



Black Polycarbonate is the least susceptible to long term exposure to UV sunlight.

This along with the increased thickness of the cover ensures the longest possible life in harsh conditions.

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