



# Howard Photo Controls



January 23, 2018

UTILITY LIGHTING PRODUCTS



## Howard Lighting Photo Controls

With the increased activity of outdoor lighting conversions/retrofits from HID to LED, we are expanding our line of photo controls to meet market demands.

Reviewing the three (3) utility segments; IOU, Co-op/REA and Municipal. The utility market has over 3,000 target accounts, with municipal being the largest number, then co-op/REA and then IOU's. We've broken the product potentials for each of these segments as noted below. The photo control market is growing and will surpass the lamp potential as more conversions from HID to LED. Currently the LED penetration into Roadway lighting is only 19%, therefore the potential to sell more photo controls designed for LED luminaires exist. Additionally, there remains a market for standard HID photo controls during this transition period.

Segment	IOU	Co-op/REA	Municipal	Totals
Lamp Potential	\$43,545,716	\$6,625,687	\$13,431,465	\$63,602,878
Fixture Potential	\$578,753,494	\$85,187,534	\$172,305,517	\$836,246,544
<b>Photo Control Potential</b>	<b>\$37,946,981</b>	<b>\$5,773,882</b>	<b>\$11,667,716</b>	<b>\$55,388,519</b>
Total Lighting Potential	\$660,246,191	\$97,587,052	\$197,404,698	\$955,237,942



## Howard Lighting Photo Controls

Howard Lighting will be expanding our line of photo controls in 2018. We will be offering an economical line of photo controls for LED luminaires, photo controls for HID and shorting caps.



Spec sheets will be available in the coming weeks for the new products. The following provides a table of what will be new.

<b>Model #</b>	<b>Application</b>	<b>Warranty</b>
HI-SS-127-15-GN	LED luminaires	6 years
HI-SS-127-15-GN-F	LED luminaires	6 years
HI-PC-127-15-BU	HID luminaires	5 years
HI-SC-BK	Shorting Cap	5 years

## Why use long life photo controls when converting to LED?

There are dramatic technical differences in HID compared to LED luminaires. LED drivers require a level of inrush current to charge the input capacitors, which wear standard photo control relay contacts, which sometimes fuse contacts together resulting in a permanent on condition. Photo controls designed for LED luminaires have more robust components (relays, mov's, PC boards, etc.), which result in longer life. Noted below is information from our white paper related to this subject:

Inrush current is an instantaneous current drawn by an electrical device when first powered on. Inrush current is a familiar problem across the electronics industry and is observed with many types of lighting technologies including LED Drivers. LED drivers require a level of inrush current to charge the input capacitors. Among other variables, the amount of inrush is dependent upon the time during the line voltage that the switch closes. This inrush current is present for very short duration but can exceed 100 times the steady state operating current of the light fixture. This inrush may damage or otherwise prematurely wear photo control relay contacts, sometimes causing them to fuse together resulting in a permanent "on" condition. The risk of damage to the relay contacts can be mitigated by employing different technologies such as, but not limited to, zero crossing switching, NTC thermistors, better relay contact materials, and limiting input capacitance of the Driver.

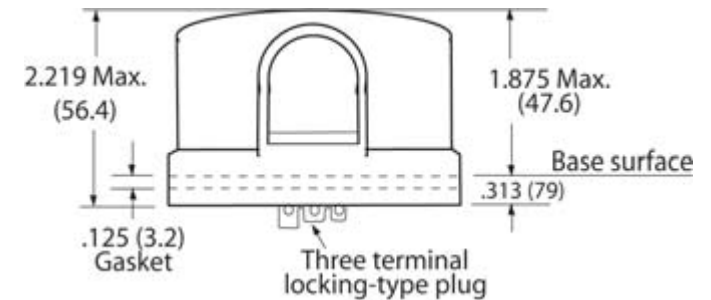
Inrush was also present when using older technologies such as HID, but it is less pronounced because the old core and coil ballasts were inductive rather than capacitive like the electronics are in the newer LED technologies of today.

## HI-LL-127-15-XX-12 (Current LED Photo Controls)

HI-LL-127-15-XX-12 was our first Howard photo control product offered. We've been selling this product since March 2016. Since our introduction of this product we've sold to utilities in each of the segments (IOU, Muni, and Co-op/REA) across the US.

### Features:

- The HI-LL is specifically designed to provide long life, enhanced light sensitivity, and superior surge protection when used with LED luminaires.
- Filtered silicon light sensor – sensitive to Sunlight but not LED.
- Sealed relay
- 4 MOVs each rated for 1280 Joules/40,000 Amp
- Base gasket is a continuous used temperature of 105C
- 3-6 second turn-off delay
- Up to 200 amp inrush
- Temp range: -40 to +70 C ambient
- ROHS compliant
- Meets ANSI C136.10
- Voltage 105 to 305 VAC, 60Hz
- Load rating: 1800VA driver or ballast load
- Black cover standard, other colors optional (Metal cap standard on 20 year model)
- 20 year rated life
- Twelve (12) Year warranty




LONG LIFE CONTROL	VOLTAGE	TURN ON LEVELS (1.5 ratio)	COVER COLOR	WARRANTY TERM	FAILURE MODE
HI-LL	127: 120-277 VAC 480: 347-480 VAC	15: 1.5fc (ANSI Standard) 10: 1.0fc 26: 2.6fc (IES)	BK: Black BU: Blue GN: Green	12: 12 year	Blank: Fail ON F: Fail OFF

# Literature

We offer the following literature for Photo Controls:

- HI-LL-127-15-XX-12 spec sheet
- HI-LL-127-15-XX-A spec sheet (coming soon)
- HI-SS-127-15-GN spec sheet (coming soon)
- HI-PC-127-15-BU spec sheet (coming soon)
- HI-SC-BK spec sheet (coming soon)

Check out our literature library under Documents/Forms on our home page at [www.howard-lighting.com](http://www.howard-lighting.com) for a full list of literature.

LONG-LIFE SERIES PHOTOCONTROL 

Controls

**OVERVIEW**  
Howard Lighting Products photocontrols were designed for the demands of HID and solid-state lighting (SSL), making them an excellent choice for LED, conventional & Electronic HID, and Induction luminaires.

**APPLICATIONS**

- LED luminaires that require dusk to dawn control.
- Recommended for luminaires that use solid state ballasts/drivers (e.g. CFL, Induction, Electronic HID, LED).

**FEATURES**

- The HI-LL is specifically designed to provide long-life, enhanced light sensitivity, and superior surge protection when used with LED luminaires.
- Filtered Silicon Light Sensor - sensitive to Sunlight but not LED.
- Sealed relay.
- MOV Surge Suppressor rated for 640 Joules/20,000 Amp.
- Base Gasket has a continuous use temperature of 105°C.
- 3-6 second turn-off delay.
- Black cover standard. Other colors optional.

**SPECIFICATIONS**

**REGULATORY LISTINGS**

- Meets ANSI C136.10
- ROHS compliant
- Manufactured in a ISO certified facility
- Surge Rated to (and exceeds) ANSI C136.10 Extreme surge level

**OPERATING CHARACTERISTICS**

- Voltage 105 to 305 VAC, 60Hz
- Load rating: 1800VA driver or ballast load.
- Up to 200 amp inrush
- Temp. -40 to +70°C ambient

**ADDITIONAL FEATURES**

**ENHANCED LIGHT SENSING**

- The silicon photo sensor is designed to sense sunlight, while being "blind" to light emitted from LEDs. This reduces LED sensitivity and greatly decreases false turn-off in high ambient light situations.

**INRUSH PROTECTION**


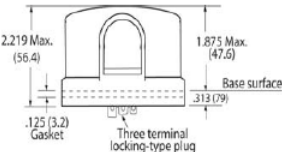
- Tested and approved for use with fixtures that use multiple LED drivers, the HI-LL can withstand the high inrush current that these drivers generate.

**SURGE PROTECTION**

- Employing four MOV's exceeds ANSI Extreme Category (20kV, 10kA) surge protection for the control, and also protects the solid state driver from differential mode transients.

**DESIGN LIFE ENHANCEMENTS**

- Design life is period of time that the product is expected to work within its specified parameters; the HI-LL is rated for 90,000 hours. Printed circuit board is fiber-glass/epoxy FR4 for superior strength and moisture resistance, and is conformally coated on both sides to reduce water absorption. The cover is 0.105 inches thick for better impact resistance, compared to 0.06 inches on standard controls. Cover is sealed to the base to provide IP64 ingress protection.

LONG LIFE CONTROL	VOLTAGE	TURN ON LEVELS (1.5 ratio)	COVER COLOR	WARRANTY TERM	FAILURE MODE
HI-LL	127: 120-277 VAC 480: 347-480 VAC	15: 1.5fc (ANSI Standard) 10: 1.0fc 26: 2.6fc (IES)	BK: Black BU: Blue GN: Green	12: 12 year	Blank: Fail ON F: Fail OFF

**WARRANTY** All photocontrols are marked with date of manufacture. This product is warranted to operate within its original specifications and shall be free of electrical or mechanical defects. Consult factory for the warranty time period. Manufacturer's warranty shall be limited to providing a replacement control of same type and shall not cover costs of removal, replacement or loss of service nor any consequential damages. This warranty is in lieu of and excludes all other warranties either expressed or implied. Full warranty statement is available by consulting factory.

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Specifications subject to change without notice.



# Literature

## Photo Control Limited Warranty

Warranty

HI-LL SERIES PHOTOCONTROL



Effective Date: January 31st, 2017

HI-LL Series Long-Life Photocontrol  
 HI-LL-xxxx-xx-xx-12  
 12 YEAR LIMITED WARRANTY

This limited warranty is provided by Howard Industries, Inc. - Lighting Products Division ("Seller") to the original purchaser of the above-referenced Long-Life Photocontrol model that is identified on Seller's invoice reflecting the original purchase (the "Product"). This limited warranty may be transferred to subsequent purchasers of the Product, provided that such Product is resold in new condition, in its original packaging, and unopened. Seller warrants that the Product, when purchased in new condition, in its original packaging, and unopened, will be free from defects in material and workmanship for a period of TWELVE (12) YEARS from the date of the original purchase of the Product from Seller ("Warranty Period"). The determination of whether the Product is defective shall be made by Seller in its sole discretion with consideration given to the overall performance of the Product.

If Seller determines the Product is defective, Seller will elect, in its sole discretion, refund the purchase price of the Product, repair the Product or replace the Product. This limited warranty will not cover Product with physical damage, including but not limited to, broken windows, projectile damage, cut legs, water entry due to improper storage before installation or after removal, crushed cover, units that have been tampered with, opened or operated outside of rated voltage or in excess of rated load, or other damage or loss or failure caused by: negligence; abuse; misuse; mishandling; improper installation, storage or maintenance; damage due to fire or acts of God; vandalism; civil disturbances; power surges; improper power supply; electrical current fluctuations; corrosive environment installations; induced vibration; harmonic oscillation or resonance, associated with movement of air currents around the Product; alteration; accident; failure to follow installation, operating, maintenance or environmental instructions prescribed by Seller or applicable electrical codes; or improper service of the Product performed by someone other than Seller or its authorized service provider.

This limited warranty excludes field labor and service charges related to the repair or replacement of the Product. THIS LIMITED WARRANTY IS VOID IF THE PRODUCT IS NOT USED FOR THE PURPOSE FOR WHICH IT IS DESIGNED.

Seller reserves the right to utilize new, reconditioned, refurbished, repaired or remanufactured products or parts in the warranty repair or replacement process. Such products and parts will be comparable in function and performance to an original product or part, as determined by Seller in its sole discretion, and warranted for the remainder of the Warranty Period.

In order to make a claim under this limited warranty: (1) Seller must be notified within sixty (60) days after discovery of the alleged defect (notification may be made via telephone by calling 1-800-956-3456 or (601) 422-0033, via mail to Howard Industries, Inc. - Lighting Products Division, PO Box 1590, Laurel, MS 39441 or via fax to (601) 422-1652); (2) proof of purchase satisfactory to Seller must be submitted; and (3) if requested by Seller, the Product must be returned to Seller, or to its authorized service provider, freight prepaid, for inspection and test analysis.

THE WARRANTIES EXPRESSLY SET FORTH HEREIN ARE EXCLUSIVE AND IN LIEU OF, AND SELLER HEREBY EXPRESSLY DISCLAIMS, ANY AND ALL OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.

THE SOLE AND EXCLUSIVE REMEDY, AND SELLER'S ENTIRE AND EXCLUSIVE LIABILITY, FOR BREACH OF THIS LIMITED WARRANTY IS EXPRESSLY LIMITED TO A REFUND OF THE ORIGINAL PURCHASE PRICE, OR, IN SELLER'S SOLE DISCRETION, REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT. SELLER SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSSES IN PROFITS, LOSSES IN REVENUE, LOSSES IN SAVINGS, LOSSES OF DATA, DOWNTIME, COSTS OF CAPITAL, COSTS OF REPLACEMENT EQUIPMENT (TEMPORARY OR PERMANENT), COSTS OF TIME, THIRD PARTY CLAIMS, OR INJURY TO PROPERTY. IN NO EVENT SHALL SELLER'S AGGREGATE LIABILITY WITH RESPECT TO A DEFECTIVE PRODUCT EXCEED THE PURCHASE PRICE PAID TO SELLER FOR THAT DEFECTIVE PRODUCT.

This warranty is effective for purchases of Product made on or after the effective date set forth above. Seller reserves the right to modify this warranty from time to time. Any modification of this warranty shall be effective for all orders placed with Seller on or after the effective date of such revised warranty.

As a condition to qualify for refund of original Photocontrol purchase price or replacement under the provisions of this limited warranty, defective product must be available for return to Howard Industries, Inc. at its request for inspection and test analysis. Prior written approval for return must be obtained from the factory.



For more information on other Howard Lighting products, contact the Howard Lighting (Utility/DOT) regional manager in your area or our customer service team.

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