Howard Photo Controls

January 23, 2018
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.

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

<table>
<thead>
<tr>
<th>Model #</th>
<th>Application</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI-SS-127-15-GN</td>
<td>LED luminaires</td>
<td>6 years</td>
</tr>
<tr>
<td>HI-SS-127-15-GN-F</td>
<td>LED luminaires</td>
<td>6 years</td>
</tr>
<tr>
<td>HI-PC-127-15-BU</td>
<td>HID luminaires</td>
<td>5 years</td>
</tr>
<tr>
<td>HI-SC-BK</td>
<td>Shorting Cap</td>
<td>5 years</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>LONG LIFE CONTROL</th>
<th>VOLTAGE</th>
<th>TURN ON LEVELS (1.5 ratio)</th>
<th>COVER COLOR</th>
<th>WARRANTY TERM</th>
<th>FAILURE MODE</th>
</tr>
</thead>
</table>

Available now!
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 for a full list of literature.
Literature

Photo Control Limited Warranty

Utility Lighting Products
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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