ELECTRONIC FLUORESCENT BALLASTS

Fluorescent Ballasts - Electronic - Standard Electronic
For T12 Fluorescent Lamps

Reliable and energy-efficient, Philips Lighting Electronics broad line of standard electronic ballasts for T12 fluorescent lamps offers performance and fast payback of investment based on the up to 30% energy savings they drive relative to standard magnetic ballast models. A widely popular product that also qualifies for rebates by a host of utility demand-side management programs nationwide, the Philips Advance line of standard electronic ballasts are ideal for a broad range of commercial retrofit and new construction applications.

These ballasts are ideal for general office applications as well as conference, meeting, and board rooms.

* Based on input watts of Philips Advance’s REL-1S40-SC (35W) and R-140-TP (50W) both operating a 40W lamp. (50W - 35W = 15) (15 / 50 = .3 or 30%)
ELECTRONIC HID BALLASTS

Electronic HID Overview

Just as electronic ballast technology enhanced fluorescent lighting systems, electronic HID ballasts bring significant performance improvements to HID lighting systems:

- Higher efficiency
- Greater lumen maintenance
- Longer lamp life
- Enhanced color control

e-Vision®

Low frequency electronic ballasts are recommended by lamp manufacturers to drive the new generation of ceramic, low wattage metal halide lamps. These ceramic lamps have superior color rendition and can potentially maintain that color over the life of the lamps when operated with electronic ballasts. Since color is dependent on proper lamp wattage, the electronic ballast must be able to maintain lamp wattage precisely at its rated point throughout the rated average life of the lamp. Low frequency electronic HID ballasts such as the Philips Advance e-Vision® line constantly measure and adjust the wattage, optimizing delivery of the ceramic lamps’ superior color properties. This makes metal ceramic halide operated by e-vision ballasts the premier choice for many applications previously lit by either tungsten halogen or incandescent sources, such as retail lighting.

Operational improvements are gained as greater efficiency and cooler running electronic ballasts lead to energy savings. In addition, ballasts run quieter, weigh less and have compact footprints.

DynaVision®

Improved lumen maintenance — the lamp/ballast system’s ability to minimize light output depreciation over the life of the lamp — is the most fundamental and significant benefit of electronic HID ballasts, especially medium wattage, high frequency ballasts such as the Philips Advance DynaVision® ballast. DynaVision delivers a 30-50% improvement in lumen maintenance over conventional HID systems (magnetic ballasts driving probe-start metal halide lamps) and a 19% improvement over pulse-start systems. Conventional HID systems typically experience a 50-60% fall-off in light output over the published life of the lamp. By maintaining higher light levels across the rated average life of the lamp, electronic HID ballasts reduce the need for frequent re-lamping.

With more maintained lumens the overall fixture count can be significantly reduced. For example, a 400W DynaVision system produces up to 56% more mean lumens over a 400W probe-start system with magnetic ballasts. Taking advantage of this performance benefit, the fixture count can be reduced by up to 36% without sacrificing light levels. Fewer fixtures also lead to much lower operating costs in terms of both energy savings and maintenance.

The DynaVision ballast provides dimming (to 50% power) using lighting controls such as relays, occupancy sensors, building management systems (BMS) and, other 0-10V controls. Also included is a 120V output for quartz auxiliary lighting during restrike. The microprocessor-based technology incorporated in this ballast provides comprehensive lamp and ballast parameter control and is a solid platform for the future.

CosmoPolis™

CosmoPolis presents a major step forward in outdoor lighting and was developed specifically to meet the challenges of the 21st century. The CosmoPolis system simplifies outdoor lighting with the combination of a compact lamp and an optimized, rugged electronic ballast system. This highly efficient system provides end users the ability to convert to a warm white light without sacrificing color rendering or system lifetime.

MasterColor Elite

The MasterColor CDM Elite MW system offers an unrivalled level of light quality and performance. The lamp’s sparkling white light creates a natural ambiance and brings out the best in all different types of colors. The high efficiency of the lamp and ballast together means reduced energy use and a lower cost of ownership compared to traditional 400W Metal Halide HID systems. This new system is ideal for indoor lighting in both high-bay and recessed applications, as well as outdoor lighting for street and area installations.
ELECTRONIC HID BALLASTS

**e-Vision® Low Frequency Electronic HID Ballasts**

For Low Wattage HID Lamps

**E-HID Lead Wire Information**

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>Function</th>
<th>Lengths Lead (-LF model)</th>
<th>Lengths (-BLS model)</th>
<th>Length Strip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Input Power</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>White</td>
<td>Input Power</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Black/White</td>
<td>Lamp Power Selection (IMH150A and IMH175C models only)</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Red</td>
<td>Lamp Base</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Blue</td>
<td>Lamp Screwshell</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Green</td>
<td>Ground</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Orange</td>
<td>Lamp Base</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Brown</td>
<td>Lamp Screwshell</td>
<td>11.0” +/- 1.0”</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Yellow</td>
<td>Output for 120V Self Heating Thermal protector</td>
<td>N/A</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
<tr>
<td>Gray with Red Stripe</td>
<td>Output for 120V Self Heating Thermal protector</td>
<td>N/A</td>
<td>9.0” +/- 3.0”/-2.0”</td>
<td>0.5”</td>
</tr>
</tbody>
</table>

**Key Features**

- IntelliVolt®
  - Operates on either 120 or 277V, or any voltage in between, 50 or 60Hz

**Key Benefits**

- Fewer SKUs required in inventory
- Broadens the range of applications
- Compact electronic HID footprints
- Provides greater design flexibility
- Energy Savings; Lower cost of ownership
- Prevents acoustic resonance in the lamp arc tube
- Recommended by lamp manufacturers
- Maximizes lamp life
- Enhanced safeguard
- Shuts system down upon abnormal failure or conditions
- Better quality
- Optimizes lamp color stability over rated average life
- Reduces lamp-to-lamp color variations both initially and during lamp life
- Provides enhanced capability for high ambient temperatures by transferring heat away from sensitive internal components
- Lamp produces maximum light output over its rated average life
### Catalog Number Explanation

<table>
<thead>
<tr>
<th>I</th>
<th>ZT</th>
<th>MH</th>
<th>A</th>
<th>BLS</th>
<th>ID</th>
</tr>
</thead>
</table>

- **Input Voltage:**
  - Intellivolt (accepts input of 120 thru 277V, 50/60 Hz nominal)
  - R = 120V, 50/60 Hz nominal

- **Primary Lamp Type:**
  - MH = Metal Halide
  - WSN = Mini white SON (100 W Only)
  - SN = High Pressure Sodium
  - CW = CosmoWhite

- **Max Lamp Wattage:**
  - G20 = 20W Lamp
  - P39 = 39W Lamp+
  - 20 = 22 W Lamp+
  - 39 = 39 W Lamp

- **Can Material / Size:**
  - A/B = Metal case with dim. 5.5" L x 3.6" W x 1.5" H
  - C = Metal case with dim. 8.0" L x 3.6" W x 1.5" H
  - D = Metal case with dim. 5.0" L x 3.0" W x 1.5" H
  - E = Metal case with dim. 5.5" L x 1.75" W x 1.2" H
  - G = Metal case with dim. 3.9" L x 3.0" W x 1.2" H
  - H = Metal case with dim. 6.4" L x 3.7" W x 1.5" H
  - K = Metal case with dim. 4.75" L x 1.3" W x 1.2" H
  - M = Plastic case with dim. 5.9" L x 2.6" W x 2.6" H
  - N = Plastic case with dim. 5.3" L x 2.6" W x 2.6" H
  - R = Metal case with dim. 8.2" L x 4.9" W x 2.2" H
  - T = Plastic case with dim. 6.3" L x 3.9" W x 2.4" H

- **Can Material / Size (Dimensions include mounting feet):**
  - A/B = Metal case with dim. 5.5" L x 3.6" W x 1.5" H
  - C = Metal case with dim. 8.0" L x 3.6" W x 1.5" H
  - D = Metal case with dim. 5.0" L x 3.0" W x 1.5" H
  - E = Metal case with dim. 5.5" L x 1.75" W x 1.2" H
  - G = Metal case with dim. 3.9" L x 3.0" W x 1.2" H
  - H = Metal case with dim. 6.4" L x 3.7" W x 1.5" H

- **Number of Lamps:**
  - Blank = 1 Lamp Operation
  - 2 = (2) Lamp Operation

- **Dimming Scheme:**
  - Blank = Fixed Light Output
  - ZT = 0-10V Dimming
  - L = LumiStep

- **Additional Options:**
  - 6 = 6 hours* 8 = 8 hours* 10 = 10 hours*
  - ID = Integral 120V output to supply power to a Self Heating Thermal Protector (39W, 70W, 100W)

- **Lead Exit / Mounting Options:**
  - BLS = Bottom Leads with Studs
  - LF = Leads (side exit) with mounting Feet
  - LFS = Leads (side exit, lead exit from same end) with mounting Feet (RMH-G20-K, RMH-20-K and RMH-39-K Only)
  - LS = Connector (side exit) with mounting Feet

- **Input Voltage:**
  - I = Intellivolt (accepts input of 120 thru 277V, 50/60 Hz nominal)
  - R = 120V, 50/60 Hz nominal

- **Dimming time with LumiStep:**
  - + Philips 20W MiniMaster Color Lamp
  - Philips 39W MiniMaster Color Lamp
  - * Dimming time with LumiStep

**Catalog Number Explanation**

*Philips 20W MiniMaster Color Lamp*  
*Philips 39W MiniMaster Color Lamp*  
*Dimming time with LumiStep*
**Fixed Output and LumiStep™**

The invention of the low-pressure sodium lamp and linear fluorescent lamp in the 1930s created a foundation for today's outdoor lighting. Then, in the 1960s, the light sources of choice became high pressure sodium and mercury vapor.

With CosmoPolis, Philips presents to you another major step forward in urban outdoor lighting, developed specifically to meet the challenges you face in the 21st century. The CosmoPolis system simplifies outdoor lighting with the combination of a miniature lamp and an optimized electronic ballast system.

The Six Performance Features of the CosmoPolis System are Impressive:

1. Quality of Light
2. System Efficiency
3. Optical Efficiency
4. Dependable Service
5. Compact System
6. Sustainability

With CosmoPolis, the benefits you experience from using Philips advanced outdoor HID lamps are more impressive than ever.

CosmoPolis is not a retrofit for existing lamps, but offers you impressive benefits for new or renewed installations. Consider:

- CosmoWhite 60W instead of HPS 70W, MV/QMH 100W
- CosmoWhite 90W instead of HPS 100W, MV/QMH 175W.
- CosmoWhite 140W instead of HPS 150W, MV/QMH 250W.

**LumiStep**

The CosmoPolis system offers a step dimming capability with three possible dimming times of 6, 8 or 10 hours with the LumiStep feature. The ballast will dim the 60W lamp to 75% of lamp power and the 90 and 140W lamps to 60% lamp power. The ballast calculates the mid-point of the evening, which is the starting point for 6 hour LumiStep and will dim the lamp for 6 hours before returning to full light output. The 8 and 10 hour LumiStep models will begin their dimming at 2 and 4 hours before the mid-point respectively.

**Applications**

- Outdoor: Architectural façade lighting, illumination of roads and pedestrian areas, public spaces, and parking garages

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**Lamp Data**

<table>
<thead>
<tr>
<th>Lamp Power</th>
<th>Input Volts</th>
<th>Catalog Number</th>
<th>Certifications</th>
<th>Line Current (Amps)</th>
<th>Input Power ANSI (Watts)</th>
<th>Max. Case Temp.</th>
<th>Wiring Dia.</th>
<th>Fig.</th>
<th>Weight (lb)</th>
<th>Max. Distance to Lamp (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>208</td>
<td>ICW-60-N-LS</td>
<td>✓</td>
<td>0.33</td>
<td>67</td>
<td>80°C</td>
<td>10</td>
<td>N</td>
<td>1.9</td>
<td>30</td>
</tr>
<tr>
<td>60</td>
<td>277</td>
<td>RL-ICW-60-N-LS</td>
<td>✓</td>
<td>0.24</td>
<td>67</td>
<td>80°C</td>
<td>10</td>
<td>N</td>
<td>1.9</td>
<td>30</td>
</tr>
<tr>
<td>90W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>208</td>
<td>ICW-90-M-LS</td>
<td>✓</td>
<td>0.49</td>
<td>99</td>
<td>80°C</td>
<td>10</td>
<td>M</td>
<td>2.1</td>
<td>30</td>
</tr>
<tr>
<td>90</td>
<td>277</td>
<td>RL-ICW-90-M-LS</td>
<td>✓</td>
<td>0.37</td>
<td>99</td>
<td>80°C</td>
<td>10</td>
<td>M</td>
<td>2.1</td>
<td>30</td>
</tr>
<tr>
<td>140W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>140</td>
<td>208</td>
<td>ICW-140-M-LS</td>
<td>✓</td>
<td>0.75</td>
<td>153</td>
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<td>M</td>
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<tr>
<td>140</td>
<td>277</td>
<td>RL-ICW-140-M-LS</td>
<td>✓</td>
<td>0.57</td>
<td>153</td>
<td>80°C</td>
<td>10</td>
<td>M</td>
<td>2.1</td>
<td>30</td>
</tr>
</tbody>
</table>

1. 208-277V
2. ICW and RL-ICW indicate LumiStep ballasts