

ELECTRONIC HID BALLASTS

Electronic HID Overview

Just as electronic ballast technology enhanced fluorescent lighting systems, electronic HID ballasts may 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 latest 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 ceramic metal halide operated by e-Vision ballasts the premier choice for many applications previously illuminated 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.

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. Designed specifically for outdoor area and roadway lighting applications, this ballast has integral surge protection of 10kV/5kA, and 80,000 hours rated average life.* This highly efficient system provides end users the ability to convert to a warm white light without sacrificing color rendering or system lifetime.

CosmoPolis Programmable

The CosmoPolis Programmable ballast allows for digitally based, networked control of both CosmoPolis and MasterColor CDM Elite MW Systems. This system uses the DALI digital universal interface for control. The CosmoPolis Programmable System allows the end user maximum flexibility to control the lighting system. Features include:

1. Light Sensor or Switched Supply Control
2. Constant or Adjustable Light Output
3. Integrated Line Switch for Pilotline or Motion Sensor Control
4. Line Voltage Dimming
5. Integrated DynaDimmer allows user to program 5 different lighting levels and durations.
6. Network Control and Monitoring of each lamp and ballast on the system via powerline or RF using DALI based System such as Philips AmPLight & Starsense.
7. Software Upgrades for System .

MasterColor Elite Medium Wattage

The lamp's sparkling white light with 90 CRI 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.** The e-Vision ballast comes with 0-10V control wires that allow for dimming to 50% of lamp power and allow for operation by 0-10V controls such as the Philips DynaDimmer. The MasterColor CDM Elite MW Programmable ballast allows for fully programmable network control using DALI based controls such as Philips Starsense and Philips AmPLight. 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.

* Rated average life is based on 90% surviving when operating at 10°C less than the marked maximum case temperature (T_c - 10°C) with one switch per day. Rated average life is based on engineering testing in laboratory conditions and probability data as defined in IEC Norm 60929.

** Based on a comparison of published data of a Philips CDM Elite MW 315/T9/942/U/E lamp operated by Philips Advance IZTMH-210315-R-LF (341 System Watts) to a Philips MS400/BU/ED28/PS operated by a Philips Advance 71A6092AEE ballast (452 system Watts) operated for 30,000 hours (rated average life of 315W CDM Elite lamp).

e-Vision Low Frequency Electronic HID Ballasts

For Low Wattage HID Lamps

E-HID Lead Wire Information

| Wire Color | Function | Lengths Lead (-LF model) | Lengths (-BLS model) | Length Strip |
|----------------------|---|--------------------------|----------------------|--------------|
| Black | Input Power | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| White | Input Power | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Black/White | Lamp Power Selection (IMH50A and IMH175C models only) | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Red | Lamp Base | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Blue | Lamp Screwshell | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Green | Ground | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Orange | Lamp Base (Second Lamp On 2-Lamp Ballasts) | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Brown | Lamp Screwshell (Second Lamp On 2-Lamp Ballasts) | 11.0" +/- 1.0" | 9.0" +3.0"/-2.0" | 0.5" |
| Yellow | Output for 120V Self Heating Thermal protector | N/A | 9.0" +3.0"/-2.0" | 0.5" |
| Gray with Red Stripe | Output for 120V Self Heating Thermal protector | N/A | 9.0" +3.0"/-2.0" | 0.5" |

| Key Features | Key Benefits |
|---|--|
| IntelliVolt <ul style="list-style-type: none"> Operates on either 120 or 277V, or any voltage in between, 50 or 60Hz | <ul style="list-style-type: none"> Fewer SKUs required in inventory Broadens the range of applications |
| Smaller and lighter weight than magnetic HID F-Can ballasts | <ul style="list-style-type: none"> Compact electronic HID footprints Provides greater design flexibility |
| Reduced input watts compared to magnetic systems | <ul style="list-style-type: none"> Energy Savings; Lower cost of ownership |
| Low frequency lamp operation | <ul style="list-style-type: none"> Prevents acoustic resonance in the lamp arc tube Recommended by lamp manufacturers |
| Square wave output waveform | <ul style="list-style-type: none"> Maximizes lamp life |
| Lamp EOL detection; Shuts down system at lamp end of life | <ul style="list-style-type: none"> Enhanced safeguard |
| Thermally protected, internally fused, and output short circuit protected | <ul style="list-style-type: none"> Shuts system down upon abnormal failure or conditions |
| <ul style="list-style-type: none"> Lamp wattage will change less than .5% with a +/-10% change in line voltage | Better light quality <ul style="list-style-type: none"> Optimizes lamp color stability over rated average life Reduces lamp-to-lamp color variations both initially and during lamp life |
| Metallic enclosure | <ul style="list-style-type: none"> Provides enhanced capability for high ambient temperatures by transferring heat away from sensitive internal components |
| 1.0 Ballast Factor | <ul style="list-style-type: none"> Lamp produces maximum light output over its rated average life. |

Catalog Number Explanation

| | | | | | | | | | | | | | |
|---|----|---|----|---|---|-----|---|---|---|-----|---|----|---|
| I | ZT | — | MH | — | — | 100 | — | A | — | BLS | — | ID | |
| | | | | | | | | | | | | | <p>Additional Features: Blank = None ID = Integral 120V output to supply power to a 4-Wire Self Heating Thermal Protector (39W, 70W, 100W)</p> |
| | | | | | | | | | | | | | <p>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 (K metal case models only) LS = Connector (side exit) with mounting Feet</p> |
| | | | | | | | | | | | | | <p>Can Material / Size: (Dimensions include mounting feet) A/B = Metal case with dim. 5.5" L x 3.6" W x 1.5" H K = Metal case with dim. 4.75" L x 1.3" W x 1.2" H C = Metal case with dim. 8.0" L x 3.6" W x 1.5" H M = Plastic case with dim. 5.9" L x 2.6" W x 2.6" H D = Metal case with dim. 5.0" L x 3.0" W x 1.5" H N = Plastic case with dim. 5.3" L x 2.6" W x 2.6" H E = Metal case with dim. 5.5" L x 1.75" W x 1.2" H R = Metal case with dim. 8.2" L x 4.9" W x 2.2" H G = Metal case with dim. 3.9" L x 3.0" W x 1.2" H T = Plastic case with dim. 6.3" L x 3.9" W x 2.4" H H = Metal case with dim. 6.4" L x 3.7" W x 1.5" H</p> |
| | | | | | | | | | | | | | <p>Max Lamp Wattage: G20 = 20W Lamp, ANSI C156/M156 P39 = 39W Lamp+ 60 = 60W Lamp 100 = 100W Lamp 175 = 175W Lamp 315 = 315W Elite Lamp 20 = 22 W Lamp^ 45 = 45W Lamp 70 = 70W Lamp 140 = 140W Lamp 210315 = 210 W or 315W Lamp 39 = 39 W Lamp, ANSI C130/M130 50 = 50W Lamp 90 = 90W Lamp 150 = 150W Lamp 210 = 210W Elite Lamp</p> |
| | | | | | | | | | | | | | <p>Number of Lamps: Blank = 1 Lamp Operation 2 = (2) Lamp Operation</p> |
| | | | | | | | | | | | | | <p>Primary Lamp Type: MH = Metal Halide CW = CosmoPolis</p> |
| | | | | | | | | | | | | | <p>Dimming Scheme: Blank = Fixed Light Output ZT = 0-10V Dimming D = Programmable DALI Interface</p> |
| | | | | | | | | | | | | | <p>Input Voltage: I = Intellivolt (accepts input of 120 thru 277V, 50/60 Hz nominal)‡ R = 120V, 50/60 Hz nominal</p> |

^ Philips 22W MiniMaster Color Lamp, ANSI C175/M175, with PGJ5 base.
 + Philips 39W MiniMaster Color Lamp, ANSI C179/M179, with PGJ5 base
 ‡ For some models, Intellivolt is limited to 208 thru 277V