

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.

Improved efficiency over magnetic counterparts
Potential Savings of up to 30% over magnetic ballasts*

2-lamp 34/40W versions are now available with IntelliVolt®
Stock I ballast for 4-foot, 2-lamp fixtures

High frequency operation
Delivers flicker-free operation

Fits the exact footprint of the magnetic ballasts they replace
Enhances ease of installation in retrofit applications

* 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.

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	11.0" +/- 1.0"	9.0" +3.0"/-2.0"	0.5"
Brown	Lamp Screwshell	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
Excellent lamp wattage regulation <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.

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

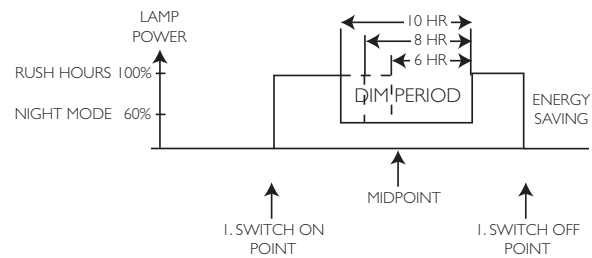
With CosmoPolis, the benefits you experience from using Philips advanced outdoor HID lamps are more impressive than ever.

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

Electronic HID

Lamp Data		Input Volts	Catalog Number	Certifications		Line Current (Amps)	Input Power ANSI (Watts)	Max. Case Temp.	Wiring Diag.	Fig.	Weight (lb)	Max. Distance to Lamp (ft)	
Number	Watts			UL	SP								
60W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F													
New	I	60	208	ICW-60-N-LS ¹	✓	✓	0.33	67	80°C	10	N	1.9	30
			277				0.24	67					
New	I	60	120	RCW-60-M-LS RLCW-60-M-LS, -6, -8, 10 ²	✓	✓	0.58	68	80°C	10	M	2.1	30
90W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F													
New	I	90	208	ICW-90-M-LS ¹	✓	✓	0.49	99	80°C	10	M	2.1	30
			277				0.37	99					
New	I	90	120	RCW-90-T-LS RLCW-90-T-LS, -6, -8, 10 ²	✓	✓	0.83	99	70°C	10	T	3.1	30
140W Cosmo White Lamp, ANSI Code TBD Minimum Starting Temp -30°C/-20°F													
New	I	140	208	ICW-140-M-LS ¹	✓	✓	0.75	153	80°C	10	M	2.1	30
			277				0.57	153					
New	I	140	120	RCW-140-T-LS RLCW-140-T-LS, -6, -8, 10 ²	✓	✓	1.3	154	70°C	10	T	3.1	30

¹ 208-277V

² ILCW and RLCW indicate LumiStep ballasts