photonX®

INDUCTION LIGHTING

100,000 HOURS

Induction lamps are one of the newest energy-saving lighting technologies developed in recent years. Induction lighting is based on a technology that is fundamentally different from that of traditional lighting products, such as fluorescent or high-intensity discharge (HID). With no filaments and electrodes to burn out, these unique lamps can last up to 100,000 hours, making them virtually maintenance-free!

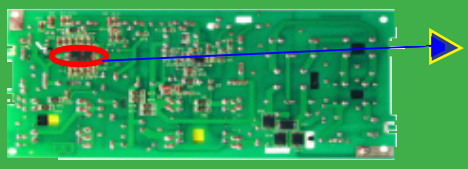
HOW IT WORKS

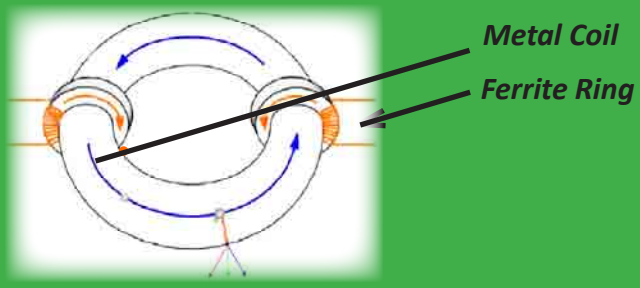
Electromagnetic transformers, consisting of ferrite rings with metal coils, create an electromagnetic field around a gas-filled tube, using a high frequency that is generated by an electronic ballast. The discharge path, induced by the coils, forms a closed loop causing acceleration of free electrons, which collide with mercury atoms and excite the electrons. As the excited electrons from these atoms fall back from this higher energy state to a lower stable level, they emit ultraviolet radiation. The UV radiation created is converted to visible light as it passes through a phosphor coating on the surface of the tube. The shape of the induction lamp maximizes the efficiency of the fields that are generated.

HIGH FREQUENCY ELECTRONIC BALLAST

The ballast generates the high frequency current that drives the inductively coupled discharge. The ballast contains an integrated circuit (IC) chip, which controls the operating frequency and allows the electrodeless fluorescent lamp to work properly with a ballast power factor of up to .99 for lower power consumption. This control feature is especially beneficial where fluctuations in the power supply are more than 10% of rated voltage. The ballast also meets EMC requirements, and the circuit board is designed to resist dust, humidity and corrosion.

INDUCTION LAMP MODELS





LAMP	VOLTAGE	HERTZ	INITIAL LUMENS	COLOR TEMP (K)	CRI	LIFE HOURS
40 Watt Round or Rectangular	120V 240V 277V	50/60Hz	2800	2700, 3500, 4000, 5000, 6500	>80 (Ra)	100,000
80 Watt Round or Rectangular	120V 240V 277V	50/60Hz	6400	2700, 3500, 4000, 5000, 6500	>80 (Ra)	100,000
120 Watt Round or Rectangular	120V 240V 277V	50/60Hz	9600	2700, 3500, 4000, 5000, 6500	>80 (Ra)	100,000
150 Watt Round or Rectangular	120V 240V 277V	50/60Hz	12000	2700, 3500, 4000, 5000, 6500	>80 (Ra)	100,000
200 Watt Round or Rectangular	120V 240V 277V	50/60Hz	18000	2700, 3500, 4000, 5000, 6500	>80 (Ra)	100,000

Why Choose Induction Lighting?

FEATURES	ADVANTAGES	BENEFITS
No electrode or filament to burn out. Electrolytic capacitors are high temperature (105º C) and high voltage (450V) resistant. High quality mica-film capactiors, resistors and crystal diodes are used.	Long performance life, up to 100,000 hours. High luminous maintenance rate (95% after 2,000 hours and 85% after 6,000 hours.)	Reduces relamping cost.
Pupil luminous flux: up to 150 Plm/ watt. Ballast power factor: up to .99. IC-controlled electronic ballast.	High system efficiency: 50% greater than magnetic ballasts, 20% greater than conventional electronic ballasts.	Reduces electricity costs by up to 90% compared to incandescent lamps, 75% compared to HID lamps, and 50% compared to compact fluorescent lamps.
Electromagnetic induction lighting.	Low heat generation.	Reduction of cooling costs in climate controlled areas.
IC-controlled electronic ballast.	Wide voltage range. Instant start. Reliable ignition down to -40º C.	Wider range of applications than conventional light sources.
Color Rendering Index (CRI) of 80+ Color Temperature. Range (CCT) of 2700K to 6500K. Working frequency of 210KHz.	Enables color to be perceived correctly. Excellent lighting quality. Range of CCTs for various applications. No flicker	Increases safety and security. Increases productivity. Helps protect eyesight.
Amalgam <0.25mg.	Coupled with the extremely long life, less mercury entering the waste stream.	Health and environmental safety.
Harmonic content meets the International L Class standard.	Less chance of interference with the electrical grid.	Electrical grid safety.
Electromagnetic Compatibility (EMC) meets the international standard.	Less chance of harm to electronic devices.	Devices perform properly.
Lamps and ballasts are listed and certified by CE, FCC, UL, ISO, and other standards.	World-wide acceptance.	No market limitations.

Induction vs. Other Light Sources

LIGHT SOURCE	CRI	LUMENS/WATT	LIFESPAN (HOURS)
Incandescent	100 ↑↑↑	8-24 ↓↓↓	1,000 ↓↓↓
Linear Fluorescent	51-90	41-104	10,000-20,000 ↓
Compact Fluorescent	80-90 ↑	50-83	8,000-10,000 ↓↓
Metal Halide	80-90 ↑	56-125	10,000-20,000 ↓
High Pressure Sodium	25 ↓↓↓	60-140	18,000-24,000
Induction	>80 ↑	80-90	100,000 ↑↑↑

ROADWAY INDUCTION LIGHT

Model # PRL150IND240-PK
PRL200IND240-PK
(also available in 120V and 277V)

FEATURES

- Newest type high wattage lighting fixture with novel design and beautiful contour
- High pressure die cast alloy aluminum lamp frame and strong stretched aluminum alloy upper casing with the surface of electrostatic painting for corrosion resistance and durable use
- High purity aluminum reflector with vacuum coated inner surface
- Clear tempered glass lens or polycarbonate (PC) lens available
- Heat resistant silicone rubber sealing ring to ensure high level of IP rating
- Optional photocell to maximize energy saving
- Timer dimming function available upon request

LAMP & BALLAST

- 150W~200W square tubular induction lamp features high lighting efficacy, long lifetime (100,000 hours), good color rendering, stable output, 5000K supplied (2720~6500K Available upon request).
- Electronic ballast features high power factor (<0.95), flickering free, low loss, constant output, etc.
- Integral Surge Protection Provided

APPLICATIONS

- Freeway, Highway, Parking Lots, Public Entrances, Off Street Areas

12" x 24" METRO ROADWAY INDUCTION LIGHTS

Model # PRT150IND240-PK
PRT200IND240-PK
(also available in 120V and 277V)

- Extruded aluminum housing with die-cast aluminum end plates
- Textured architectural black powdercoat finish over a chromate conversion coating
- Tempered flat clear glass lens
- Stainless steel clips for easy access
- Mount with brackets or tenon mount
- 150 or 200w Lamp included
- CSA listed for wet locations

INDUCTION LIGHTING

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HIGH BAY INDUCTION LIGHT

Model # PHB80IND120-PK *(also available in 240V and 277V)*

- Heavy-duty die-cast aluminum hinged housing
- Chromate conversion coating
- Electrical box with malleable hook
- Uses 22″ clear clear prismatic acrylic refractor, sold separately
- Mounts on ¾″ malleable hook (included) or optional swivel pendant mount and downrod
- 80w Lamp included
- CSA listed for dry locations

DELUXE HIGH BAY INDUCTION LIGHT

Model # PHB200IND120-PK *(also available in 240V and 277V)*

- Heavy-duty die-cast aluminum housing with oversize ballast compartment
- White powdercoat finish over a chromate conversion coating
- Deluxe accessory bracket included
- Uses 22″ clear prismatic acrylic refractor, sold separately
- Mounts on 1″ malleable hook (included)
- 200w Lamp included
- CSA listed for dry locations

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DELUXE 12" X 12" AREA/FLOOD INDUCTION LIGHT WITH WIDE ANGLE REFLECTOR

(shown mounted on optional slipfitter)

Model # PAL40IND120MWA-PK *(also available in 240V and 277V)*

- *Die-cast aluminum housing and hinged top frame*
- *Textured architectural bronze powdercoat finish over a chromate conversion coating*
- *Tempered flat clear glass lens*
- *Mount with two-piece swivel bracket, adjustable slipfitter, or extruded mounting arms (SOLD SEPARATELY)*
- *40w Lamp included*
- *CSA listed for wet locations*

16" X 16" AREA/FLOOD INDUCTION LIGHT

Model # PFL80IND120-PK *(Smooth Reflector, left)*

PAL80IND120LSP-PK *(IES Type V Reflector, right shown on optional slipfitter)*

(also available in 240V and 277V)

- *Die-cast aluminum housing and frame*
- *Textured architectural bronze powdercoat finish over a chromate conversion coating*
- *Tempered flat clear glass lens*
- *Available with smooth aluminum reflector or IES Type V reflector*
- *Mount with two-piece swivel bracket, adjustable slipfitter, or extruded mounting arms (SOLD SEPARATLEY)*
- *80w Lamp included*
- *CSA listed for wet locations*

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16" X 16" AREA INDUCTION LIGHT

Model # PSC80IND120WA-PK *(also available in 240V and 277V)*

- *Heavy duty die cast aluminum housing and open frame*
- *Special chromate process with textured bronze powder paint finish for durability*
- *Tempered flat clear glass lens*
- *Specular aluminum reflector*
- *Photocell adaptable*
- *80w Lamp included*
- *CSA listed for wet locations*

23" X 23" LARGE FLOOD BOX INDUCTION LIGHT

Model # PFL150IND120WA-PK *(wide angle reflector)*
PAL150IND120SP-PK *(IES type V)*
(also available in 240V and 277V)

- *Heavy duty die cast aluminum housing and hinged top frame with safety cable restraint*
- *Special chromate process with textured bronze powder paint finish for durability*
- *Tempered glass lens*
- *Photocell adaptable*
- *150W Lamp included*
- *CSA listed for wet locations*

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SMALL ADJUSTABLE AREA/WALL INDUCTION LIGHT WITH SMOOTH OR FLOOD REFLECTOR

Model # PAD40IND120S-PK *(Smooth, left),*
PAD40IND120F-PK *(Flood, right)*
(also available in 240V and 277V)

- *Die-cast aluminum housing, front frame and ballast box*
- *Bronze powdercoat finish over a chromate conversion coating*
- *Housing swivels from 0º to 30º, and includes angle indicators at adjustment points*
- *Aluminum smooth or flood reflector*
- *Tempered glass lens*
- *Mounts on easy hang wall bracket or choice of pole mount brackets*
- *40w Lamp included*
- *CSA listed for wet locations*

LARGE ADJUSTABLE AREA/WALL INDUCTION LIGHT WITH WIDE ANGLE REFLECTOR

Model # PAD80IND120WA-PK *(also available in 240V and 277V)*

- *Die-cast aluminum housing, front frame and ballast box*
- *Bronze powdercoat finish over a chromate conversion coating*
- *Housing swivels from 0º to 30º, and includes angle indicators at adjustment points*
- *Aluminum wide angle reflector*
- *Tempered glass lens*
- *Mounts on easy hang wall bracket or choice of pole mount brackets*
- *80w Lamp included*
- *CSA listed for wet locations*

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BRAVO! INDUCTION LIGHT WALL PACK

Model # PWB40IND120-PK (also available in 240V and 277V)

- Heavy duty die cast aluminum back housing with cast-in template for mounting over an electrical box
- Color matched vandal resistant polycarbonate front housing with clear ribbed lens area
- Front housing is hinged for easy relamping
- Aluminum reflector
- ½˝ coin plugs with O-rings for conduit and photocell
- 40w Lamp included
- CSA listed for wet locations

ACCORD SEMI-CUTOFF INDUCTION LIGHT WALL PACK

Model # PWPA40IND120M-PK (Small, top),
PWPA80IND120D-PK (Large,bottom)
(also available in 240V and 277V)

- Die cast aluminum housing and hinged front frame with stainless steel hinge pins
- Textured architectural bronze powdercoat finish over a chromate conversion coating
- Includes safety cable to prevent front from impact when relamping
- Aluminum reflector
- ½˝ coin plugs with O-rings for conduit and photocell
- Prismatic borosilicate glass lens
- Cast-in template for mounting directly over a 4˝ recessed outlet box, or use ½˝ surface conduit
- PWPA80INDMVD-PK Includes Easy-Hang “Two-Hands-Free” wall mounting plate
- Lamp included (40w with PWPA40INDMVM-PK and 80w with PWPA80INDMVD-PK)
- CSA listed for wet locations

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OVATION INDUCTION LIGHT WALL PACK

Model # POWPH40IND120-PK *(Half-Cutoff, Top)*
POWPG80IND120-PK *(Grid, Left)*
POWPO80IND120-PK *(Open Face, Right)*
(also available in 240V and 277V)

- 15˝ diameter die-cast aluminum housing
- Frame available in open face, grid, or half-cutoff style
- Special chromate process with textured bronze, white, or black powder paint finish for durability
- Clear prismatic molded or frost molded borosilicate glass lens
- White powdercoat steel reflector
- ½˝ coin plugs with O-rings for conduit and photocell
- Lamp included (40W with POWPH40INDMV-PK, 80W with POWPG80INDMV-PK & POWPO80INDMV-PK)
- CSA listed for wet locations

LARGE COLONNADE INDUCTION LIGHT POLE TOP FITTER

Model # PPF150IND120D-PK *(also available in 240V and 277V)*

- Die-cast aluminum hinged housing
- Stamped steel plate
- Smooth black finish
- Requires two-piece 9˝ neck globes (sold separately)
- Mounts on 3˝ poles
- 150w Lamp included
- CSA listed for wet locations

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12" X 12" LARGE VANDAL RESISTANT INDUCTION LIGHT FIXTURE

Model # PVR40IND120L-PK *(also available in 240V and 277V)*

- Die-cast aluminum housing
- Textured architectural bronze powdercoat finish over a chromate conversion coating
- Clear prismatic polycarbonate lens
- White steel reflector
- ½˝ coin plugs with O-rings for conduit and photocell
- 40w Lamp included
- CSA listed for wet locations

15" VANDAL RESISTANT GARAGE LIGHTER INDUCTION LIGHT

Model # PGL80IND120-PK *(also available in 240V and 277V)*

- Heavy-duty round die-cast aluminum housing
- Textured architectural bronze powdercoat finish over a chromate conversion coating
- ½˝coin plugs with O-rings for conduit and photocell
- White reflector
- Built-in template for mounting to an electrical box, or use ½˝ surface conduit or downrod
- 80w Lamp included
- CSA listed for wet locations

DELUXE 17" GARAGE LIGHTER INDUCTION LIGHT

Model # PDGL80IND120-PK *(also available in 240V and 277V)*

- Heavy-duty round die-cast aluminum housing
- Bronze powdercoat finish over a chromate conversion coating
- Two-piece aluminum reflector - upper section removes to make uplight for illuminating ceiling
- Clear prismatic polycarbonate refractor with hinged clear polycarbonate drop lens and gasket
- Easy hang bracket fits 4˝ electrical box, allowing 1-person installation
- 80w Lamp included
- CSA listed for damp locations

INDUCTION LIGHTING

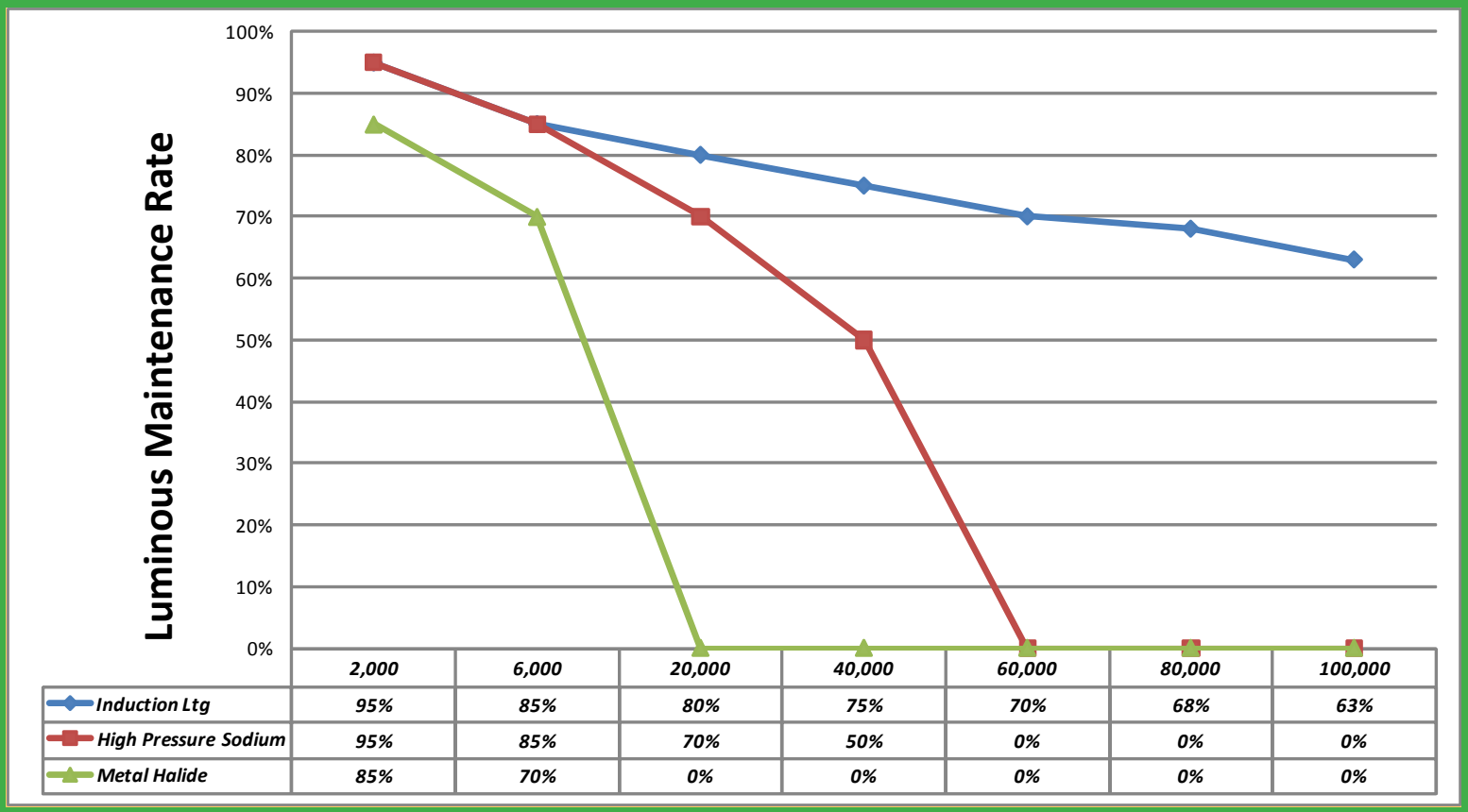
Induction Lighting FAQs

Q. *Do induction lamps need a dedicated fixture?*
A. *Yes. Due to operating and thermal requirements, the system needs to be installed in a suitable fixture.*

Q. *Can the system be used for a "flashing beacon"?*
A. *The system is recommended for use in long burning applications. Constant on and off switching reduces the system life.*

Q. *Is the induction lamp system vibration-resistant?*
A. *Yes, the fact that induction lamps have no electrodes makes them more reliable in high-vibration applications. The induction system has proven its durability in bridges, tunnels, and signage applications.*

Q. *Why does induction lighting technology cost more?*
A. *Induction lighting systems offer five to ten times the life of HID systems. In most cases the payback in maintenance saving will more than offset the additional cost of the initial system.*



	2,000	6,000	20,000	40,000	60,000	80,000	100,000
Induction Ltg	95%	85%	80%	75%	70%	68%	63%
High Pressure Sodium	95%	85%	70%	50%	0%	0%	0%
Metal Halide	85%	70%	0%	0%	0%	0%	0%

Induction lighting can be use anywhere you would use a comparable fixture. The inherent benefits of induction lighting make it ideally suited for various applications, such as:

LONG SERVICE LIFE	Difficult access areas, Parking garages, Street lighting, and Warehouses
LOW STARTING TEMPERATURES	Freezers
LUMEN OUTPUT	High ceilings, Parking garages, and Warehouses