

GE  
Lighting



# 2012/2013 Lamp catalogue



GE imagination at work





## 2012/2013 Lamp catalogue



GE imagination at work

# GE Innovation History



Nowadays GE Lighting has become one of the biggest lighting solution suppliers in the world.

“ I find out what the world needs,  
then I proceed to invent it. ”



Thomas Edison

## GE Lighting

Throughout our 100-year history, GE Lighting has been committed to extending the life of lamps, increasing overall lighting efficiency and reducing energy consumption. We achieve this through our innovation, spirit and unremitting efforts that we inherited from our founder, Thomas Edison. GE Lighting divides its business into three areas, Light Emitting Diodes (LED's), Lamps and Fixtures. Combining a professional background with our market leadership in Lighting, LED has emphasis on providing a complete set of world leading LED systems and solutions that focus on environmental sustainability. Our range of LED lighting systems include signage, architectural lighting, transportation lighting, displaying lighting and general lighting. Our lamp business covers the complete range of lamp varieties including incandescent, halogen, fluorescent, compact fluorescent, high intensity discharge, automotive and specialty lighting. GE Specialty lighting manufactures products for the aircraft and transportation industries along with projector lamps which satisfy front, rear and video projection, medical, architectural, fibre optic, stage & studio, entertainment and theatre lighting. The business also covers a wide range of lighting systems, including commercial lighting, industrial lighting, roadway and tunnel Lighting, flood lighting, area lighting and ballasts. All of our lighting products are in accordance with Six Sigma control insuring that GE's lighting products are of the highest quality standards offering unlimited lighting and enjoyment.



2011 America's and World's Most Admired Companies



2010 Best Global Brand



Ranked #1  
2010 Company for Leaders



2010 World's Most Innovative Companies

**BARRON'S**

«BARRON'S»

2009 Most Respected Global Company



«R&D»

2007 World's Best R&D Companies



GE imagination at work

# ecomagination<sup>SM</sup>

ECOMAGINATION WORDING  
MAKING RENEWABLE ENERGY A REALITY.

Ecomagination is a business initiative to help meet the world's demand for more energy-efficient products and to drive reliable growth for GE.

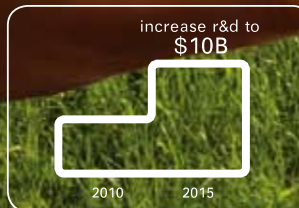
It's GE's commitment to invest in innovative solutions to environmental challenges, delivering valuable products and services to customers while generating profitable growth for the company.

Already, GE Lighting has produced over 800 products of Ecomagination, and that number will continue to grow with the introduction of new products in the future.

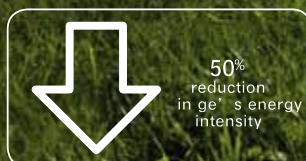
1. Continue to increase revenue from ecomagination products



2. Double investment in R&D



3. Reduce greenhouse gas emissions and improve energy efficiency of GE










4. Reduce water use and improve water reuse



5. Keep the public informed



# Contents

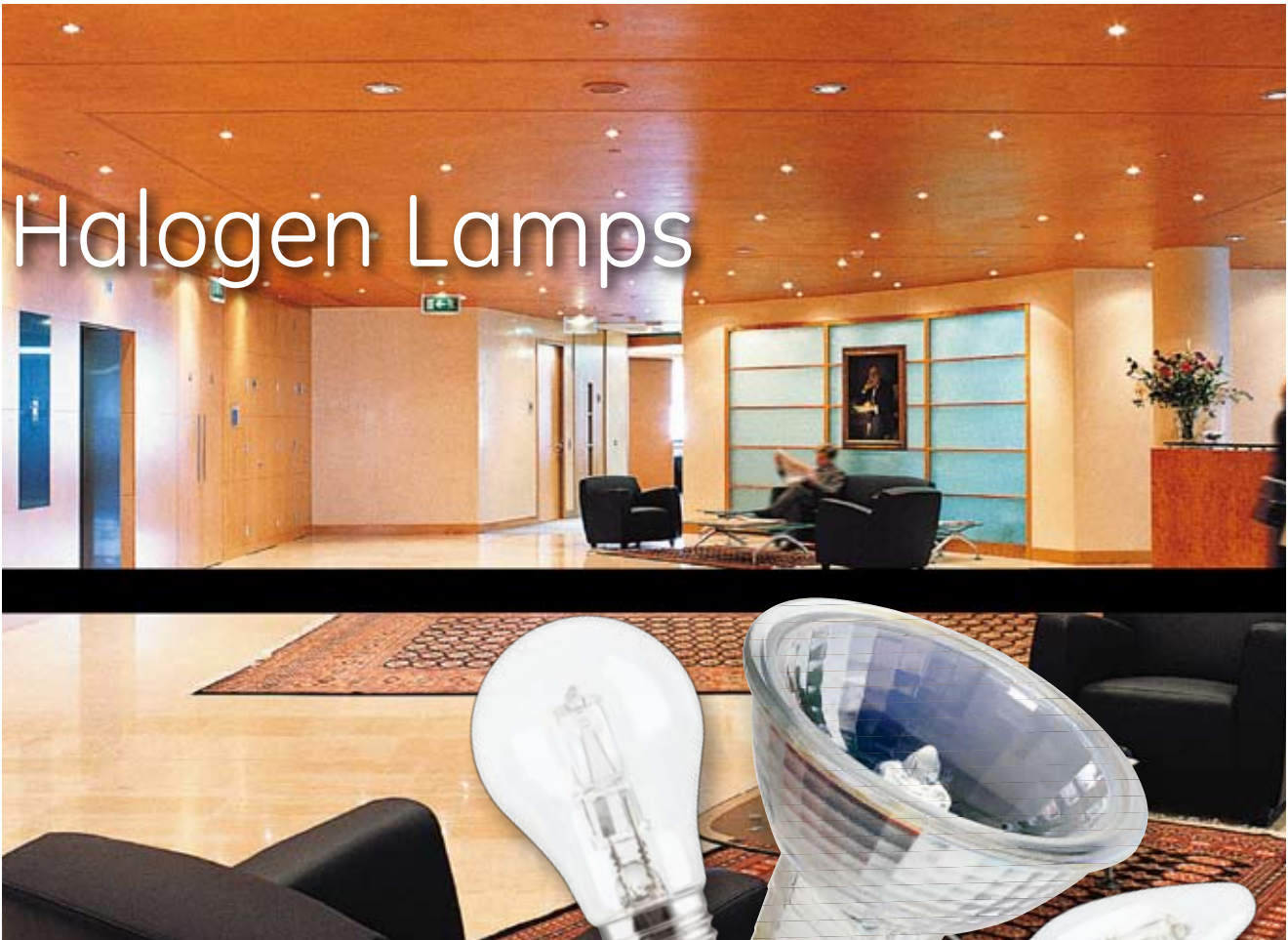
	Halogen Lamps	5
	Linear Fluorescent Lamps	20
	Compact Fluorescent Lamps Non-Integrated	27
	Compact Fluorescent Lamps Integrated	42
	High Intensity Discharge Lamps	59
	SHOWBIZ Lamps	85
	Specialty Lamps	99
	Ballast	107

Any update of data in this leaflet will not be informed. Please contact GE Lighting for detailed information.





# Halogen Lamps



 MR 11 Low Voltage	13	 Single Ended Halogen Capsules	16
 MR 16 Low Voltage	13	 Double Ended Linear	17
 AR111 Aluminium Reflector	15	 PAR 16, 20, 25, 30	18
 MR 16 & MR 20 Mains Voltage GU10 Cap	15	 Energy Efficient Halogen Incandescent Shapes	18
 G9 Mains Voltage	16		

# Halogen Lamps

Halogen lamps – clean, bright, white light.

Invented in 1958 by GE, halogen lamps provide a compact, high output, crisp, white light that delivers superior colour reproduction.

By using halogen gas which allows the lamp to burn more brightly without sacrificing life, they are more efficient than incandescent lamps at converting electricity into light, therefore giving more light for less energy and from a smaller physical size.

## Why halogen?

- Crisp white light (CCT 2800K+)
- Excellent colour rendering, light close to natural (100% CRI)
- Long lasting bright light – more than 90% lumen maintenance
- Instant (re-)start – full light output immediately after switch on
- Dimmable
- Environmentally friendly technology – mercury and lead free, no electromagnetic emission

Popular for accent, display and general lighting applications in a wide variety of commercial, industrial and residential environments.




# Advanced lighting technologies

Premium performance product alternatives for more efficient lighting


**For Energy Saving**

MR16



upgrade to

Precise MR16 IR




**Infra Red MR16 – Energy Saving solution**

- Up to 40% energy saving
- 5,000 hours life
- Premium quality light
- Replacement for standard MR16 lamp

Base Watt	New MR16 IR Watt	Saved Watt	Saved Energy Cost through total life
35W	20W	15W	7,5 EUR
50W	35W	15W	7,5 EUR
~65W	45W	20W	~10 EUR


**For Energy Saving**

Standard Double Ended Linear  
150, 200, 300 and 500W



upgrade to

C energy class Double Ended Linear  
100, 130, 200 and 330W




**C class Double Ended Linear**


- Increased efficiency – C energy class
- More than 30% energy saving
- Retrofit to standard Double Ended Linear
- Full range 100-330W to replace 150-500W standard range





Base Watt	New Watt	Saved Watt	Saved Energy Cost / 1000hrs
150W	100W	50W	5 EUR
200W	130W	70W	7 EUR
300W	200W	100W	10 EUR
500W	330W	170W	17 EUR

**For Energy Saving**



upgrade to



Base Watt	New Watt				
25W	18W	No	Yes	Yes	No
40W	28W	Yes	Yes	Yes	Yes
60W	42W	Yes	Yes	Yes	Yes
100W	75W	Yes	No	No	Yes
150W	100W	Yes	No	No	No

# Precise ConstantColor MR16 IR

## Energy efficient low voltage dichroic mirror halogen reflector lamps from GE

GE halogen IR (infrared) range of low voltage reflector lamps provide up to 43% energy savings over conventional MR16 lamps and – with the addition of the patented GE reflector coating technology – unparalleled colour rendering throughout life.

Available in two versions, the high performance MR16 ConstantColor IR offers low energy use, superior lumen and color maintenance, while the MR16 IR delivers savings using a standard dichroic reflector.

### Halogen-IR Technology?

The Precise IR halogen capsule has multiple layers of very durable, thin, interference film which redirects heat, which would otherwise be wasted, back onto the lamp filament. This increases the filament temperature and allows it to give off more visible light for the same input power.

**GE ConstantColor halogen lamps have a unique glass reflector coating technology that provide consistent colour performance throughout their rated life.**

Conventional MR16 halogen lamps utilize reflector coating that is gradually degraded by the heat emitted by the filament. Unlike any other product on the market, the GE ConstantColor MR16 IR lamp coated with durable titania and silica oxides withstand temperatures of 500°C without a change in reflector qualities. The result is close to 90% maintained light output over life and identical colour temperature from lamp to lamp. With coating applied to both inside and outside the reflector, wasted backlight is virtually eliminated.



### The benefits of Precise ConstantColor IR

- Up to 43% energy savings compared to standard products
- Cool beam
- Long 5000 hour life, 2.5x longer than standard MR16's
- Eliminates backlight
- Long-term reliability
- Precise optical control
- Close to 90% lumen maintenance
- Evenly lit surfaces
- Environmentally friendly technology
  - UV control
  - Mercury free
  - Can be disposed with household waste











# Energy efficient halogen solutions from GE

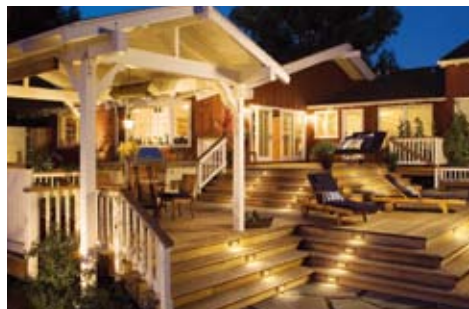
## Familiar shape and light

GE's Energy Efficient Halogen (EEH) range is a direct replacement for regular incandescent lamps offering a crisp white light with 30% energy saving and similar lumens.

Available in standard GLS, candle, spherical and reflector shapes, GE EEH lamps are the environmentally friendly solution for those who prefer the features and light quality associated with incandescent bulbs.

- Last twice as long and consume 30% less electricity than corresponding incandescent lamps.
- Provide instant-on, full light output at start-up and lumens are maintained throughout the life of the product.
- Unlike some compact fluorescent products, EEH lamps are size 100% retrofit with the incandescent lamps they replace.
- Can be used with dimming switches.
- Environmentally friendly with no lead or mercury.


						
	<b>Standard GLS</b>	<b>HaloGLS</b>				
	40W	28W <b>D</b>			•	•
	60W	42W <b>C</b>			•	•
	100W	70W <b>C</b>			•	•
	150W	100W <b>C</b>			•	•
	<b>Standard Candle</b>	<b>HaloCandle</b>				
	25W	18W <b>D</b>		•	•	
	40W	28W <b>D</b>	•	•	•	•
60W	42W <b>C</b>	•	•	•	•	
	<b>Standard Spherical</b>	<b>HaloSpherical</b>				
	25W	18W <b>D</b>		•	•	•
	40W	28W <b>D</b>	•	•	•	•
60W	42W <b>C</b>		•	•	•	
	<b>Standard R50</b>	<b>HaloR50</b>		•		
	40W	28W				
	<b>Standard R63</b>	<b>HaloR63</b>				•
	60W	42W				
	<b>Standard R80</b>	<b>HaloR80</b>				•
	60W	42W				
100W	70W				•	



# Halogen Lamps


## MR 11 Low Voltage

**Standard**



Cap: GU4  
Wattages: 12-35W  
Volts: 12  
Beam Spread: 8-26°  
Front: Open or Closed  
Life: 3,500Hrs  
Page: 13

**Start**



Cap: GU4  
Wattages: 20-35W  
Volts: 12  
Beam Spread: 26°  
Front: Closed  
Life: 2,000Hrs  
Page: 13


## MR 16 Low Voltage

**MR16 IR**



Cap: GU5.3  
Wattages: 20-45W  
Volts: 12  
Beam Spread: 10-36°  
Life (hrs): 5,000Hrs  
Page: 13

**Precise ConstantColor**




Cap: GU5.3  
Wattages: 20-71W  
Volts: 12  
Beam Spread: 12-55°  
Feature: Consistent light quality and exceptional long life  
Life: 4,000-6,000Hrs  
Page: 13

**Precise Bright**




Cap: GU5.3  
Wattages: 20-50W  
Volts: 12  
Beam Spread: 18-60°  
Feature: Outstanding light output in a mid range lamp  
Life: 5,000Hrs  
Page: 14

**Start**



Cap: GU5.3  
Wattages: 20-50W  
Volts: 12  
Beam Spread: 12-55°  
Feature: Budget lamp with reliable GE quality  
Life: 2,000Hrs  
Page: 14

**Alutech**



Cap: GU5.3  
Wattages: 20-50W  
Volts: 12  
Beam Spread: 36-60°  
Feature: For heat sensitive halogen fixtures  
Life: 3,000Hrs  
Page: 14

## AR111 Aluminium Reflector


**Standard**



Cap: G53  
Wattages: 35-100W  
Volts: 12  
Beam Spread: 8-45°  
Life: 3,000Hrs  
Page: 15


## MR 16 & MR 20 Mains Voltage GU10 Cap

**Alutech**




Cap: GU10  
Wattages: 20-50W  
Volts: 230-240  
Beam Spread: 36°  
Life: Up to 3,000Hrs  
Page: 15

**Coloured**



Cap: GU10  
Wattages: 50W  
Volts: 240  
Beam Spread: 36°  
Finish: Red, Yellow or Blue  
Life: 1,500Hrs  
Page: 15


**MR 20 Mains Tech**



Cap: GU10  
Wattages: 75W  
Volts: 240  
Beam Spread: 36°  
Life: 2,000Hrs  
Page: 15

## G9 Mains Voltage

**Clear**



Cap: G9  
Wattages: 25-75W  
Life: 1,500-3,000Hrs  
Page: 16

# Selector

## Single Ended Halogen Capsules



### Transversal and Axial Filament

Cap: G4 or GY6.35  
Wattages: 5-100W  
Life: up to 4,000Hrs  
Page: 16



### Low Pressure

Cap: G4 or GY6.35  
Wattages: 10-75W  
Life: 2,000Hrs  
Page: 16



### Start

Cap: G4 or GY6.35  
Wattages: 10-100W  
Life: 1,000Hrs  
Page: 16

## Double Ended Linear



### Energy Saver

Cap: R7s  
Wattages: 100-330W  
Life: 1,000Hrs  
Page: 17



### IR

Cap: R7s  
Wattages: 225-375W  
Life: 2,000Hrs  
Page: 17



### Standard and Start

Cap: R7s  
Wattages: 60-2000W  
Life: 1,000-2,000Hrs  
Page: 17

## PAR 16, 20, 25, 30



### PAR 16

Cap: E14  
Wattages: 40W  
Life: 2,000Hrs  
Page: 18



### PAR 20

Cap: E27  
Wattages: 50W  
Beam Choice: Spot or Flood  
Life: 2,000Hrs  
Page: 18



### PAR 25

Cap: E27  
Wattages: 75W  
Beam Choice: Flood  
Life: 3,000Hrs  
Page: 18



### PAR 30

Cap: E27  
Wattages: 75-100W  
Beam Choice: Spot or Flood  
Life: 2,000-3,000Hrs  
Page: 18

## Energy Efficient Halogen Incandescent Shapes



### HaloGLS

Cap: E27, B22  
Wattages: 28-100W  
Life: 2,000Hrs  
Page: 18



### HaloCandle

Cap: E14, E27, B15, B22  
Wattages: 18-42W  
Life: 2,000Hrs  
Page: 18



### HaloSpherical

Cap: E14, B15, E27, B22  
Wattages: 18-42W  
Life: 2,000Hrs  
Page: 18



### HaloReflector

Cap: E14, E27  
Wattages: 28-70W  
Life: 2,000Hrs  
Page: 18

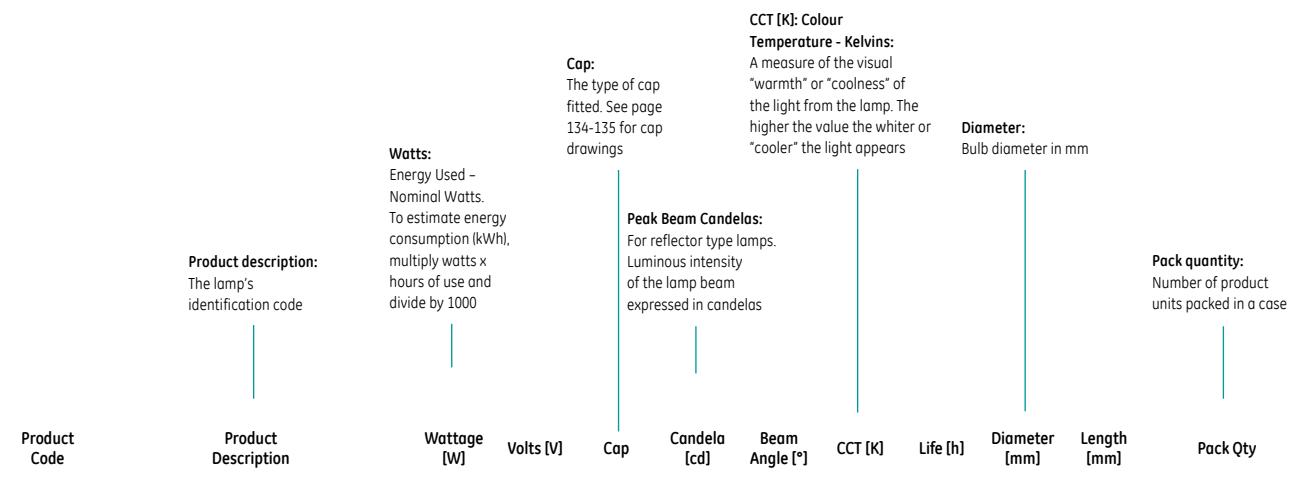
# Halogen Lamps

## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage. The Product Description can be used as a quick reference to each product's attributes. Where Life or Average Life are stated we refer to the industry standard definition of how many hours of operation 50% of a given installation will exceed.

### Additional parameters:

**Lumens:** Light output  
**EEC:** Energy Efficiency Class



### Precise MR11 - Open

19626	M62/FTD	20	12	GU4	550	26	2900	3,500	35.3	40	10
19635	M66/FTF	35	12	GU4	2300	21	2900	3,500	35.3	40	10
19634	M199/FTH	35	12	GU4	1300	26	2900	3,500	35.3	40	10

M62 / FTD

**Class M**  
 Numerical index, industry code specifying lamp type

**Product code:**  
 It is important to use this code when ordering to ensure that you receive the exact product you require

**FTD - ANSI code**  
 Industry code specifying lamps type defined by the American National Standard Institute

**Volts:**  
 Lamp data is based on operation at rated voltage

**Beam Spread Degrees:**  
 For reflector type lamps. The angle of the cone of light produced by a reflector lamp at 50% of its intensity

**Life:**  
 The point in time when 50% of installed lamps are still burning

**Length:**  
 Lamp length in mm



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
<b>Precise MR11 - Open</b>										
19626	M62/FTD	20	12	GU4	550	26	2900	3,500	35	40
19635	M66/FTF	35	12	GU4	2300	21	2900	3,500	35	40
19634	M199/FTH	35	12	GU4	1300	26	2900	3,500	35	40
<b>Precise MR11 - Closed</b>										
19639	M264/FTA/CG	12	12	GU4	3960	8	2900	2,000	35	45
19636	M251/FTC/CG	20	12	GU4	1800	17	2900	3,500	35	45
19625	M262/FTD/CG	20	12	GU4	490	26	2900	3,500	35	45
19627	M266/FTF/CG	35	12	GU4	2070	21	2900	3,500	35	45
<b>MR11 Start - Closed</b>										
17200	FTD/M262/CG	20	12	GU4	490	26	2900	2,000	35	40
17201	FTF/M199/CG	35	12	GU4	1150	26	2900	2,000	35	40
<b>Precise ConstantColor MR16 IR</b>										
77900	Q20MR16HIR/CCG10	20	12	GU5.3	6000	10	2900	5000	51	51
77901	Q20MR16HIR/CCG24	20	12	GU5.3	2300	24	2900	5000	51	51
77902	Q20MR16HIR/CCG36	20	12	GU5.3	1000	36	2900	5000	51	51
79584	Q30MR16HIR/CCG10	30	12	GU5.3	10000	10	2950	5000	51	51
79585	Q30MR16HIR/CCG24	30	12	GU5.3	3350	24	2950	5000	51	51
79586	Q30MR16HIR/CCG36	30	12	GU5.3	1600	36	2950	5000	51	51
77904	Q35MR16HIR/CCG10	35	12	GU5.3	12000	10	2950	5000	51	51
77905	Q35MR16HIR/CCG24	35	12	GU5.3	4200	24	2950	5000	51	51
77906	Q35MR16HIR/CCG36	35	12	GU5.3	2000	36	2950	5000	51	51
77907	Q45MR16HIR/CCG10	45	12	GU5.3	14000	10	3000	5000	51	51
77908	Q45MR16HIR/CCG24	45	12	GU5.3	5200	24	3000	5000	51	51
77909	Q45MR16HIR/CCG36	45	12	GU5.3	2300	36	3000	5000	51	51
<b>Precise MR16 IR</b>										
77657	MR16 IR 20W 12V WFL	20	12	GU5.3	1000	36	2900	5,000	51	51
77658	MR16 IR 35W 12V WFL	35	12	GU5.3	2000	36	2950	5,000	51	51
<b>Precise ConstantColor MR16 - Open</b>										
20841	EVJ/CC	71	12	GU5.3	5500	25	3000	4,000	51	46
20840	EYC/CC	71	12	GU5.3	2000	42	3000	4,000	51	46
<b>Precise ConstantColor MR16 - Closed</b>										
20858	ESX/CG	20	12	GU5.3	3150	15	3000	5,000	51	51
20857	BAB/CG	20	12	GU5.3	475	40	3000	5,000	51	51
20864	FRB/CG	35	12	GU5.3	7500	12	3000	5,000	51	51
20860	FRA/CG	35	12	GU5.3	3200	20	3000	5,000	51	51
20859	FMW/CG	35	12	GU5.3	900	40	3000	5,000	51	51
20872	EXT/CG	50	12	GU5.3	8400	15	3000	6,000	51	51
20871	EXZ/CG	50	12	GU5.3	2900	25	3000	6,000	51	51
20867	EXN/CG	50	12	GU5.3	1500	40	3000	6,000	51	51
20865	FNV/CG	50	12	GU5.3	850	55	3000	6,000	51	51
20876	EYF/CG	71	12	GU5.3	10400	15	3000	4,000	51	51
20874	EVJ/CG	71	12	GU5.3	4550	25	3000	4,000	51	51
20873	EYC/CG	71	12	GU5.3	2000	40	3000	4,000	51	51



# Halogen Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
<b>Precise Bright 5000 MR16 - Open</b>										
88231	M69/BAB	20	12	GU5.3	480	36	2900	5,000	51	46
88229	M81/FMW	35	12	GU5.3	1390	36	2900	5,000	51	46
88234	M58/EXN	50	12	GU5.3	2250	36	2900	5,000	51	46
88232	M80/FNV	50	12	GU5.3	1070	60	2900	5,000	51	46



<b>PrecisePlus MR16 (5000hr) - Open</b>										
71624	MR16 12V 20W 8D /open 5000 hours	20	12	GU5.3	4280	8	2800	5,000	50	48
71625	MR16 12V 20W 36D /BAB /open 5000 hours	20	12	GU5.3	480	36	2800	5,000	50	48
71618	MR16 12V 50W 8D /open 5000 hours	50	12	GU5.3	8560	8	3000	5,000	50	48
71619	MR16 12V 50W 18D /open 5000 hours	50	12	GU5.3	5080	18	3000	5,000	50	48
71620	MR16 12V 50W 36D /ENX /open 5000 hours	50	12	GU5.3	2250	36	3000	5,000	50	48
71621	MR16 12V 50W 60D /FNV /open 5000 hours	50	12	GU5.3	1070	60	3000	5,000	50	48

<b>PrecisePlus MR16 (5000hr) - Closed</b>										
71616	MR16 12V 20W 8D /CG 5000 hours	20	12	GU5.3	4000	8	2800	5,000	50	48
71617	MR16 12V 20W 36D /BAB /CG 5000 hours	20	12	GU5.3	450	36	2800	5,000	50	48
71610	MR16 12V 50W 8D /CG 5000 hours	50	12	GU5.3	8000	8	3000	5,000	50	48
71611	MR16 12V 50W 18D /CG 5000 hours	50	12	GU5.3	4750	18	3000	5,000	50	48
71612	MR16 12V 50W 36D /ENX /CG 5000 hours	50	12	GU5.3	2100	36	3000	5,000	50	48
71613	MR16 12V 50W 60D /FNV /CG 5000 hours	50	12	GU5.3	1000	60	3000	5,000	50	48

<b>Precise Bright 5000 MR16 - Closed</b>										
88235	M269/BAB/CG	20	12	GU5.3	450	36	2900	5,000	51	51
88236	M281/FMW/CG	35	12	GU5.3	1300	36	2900	5,000	51	51
88237	M250/EXZ/CG	50	12	GU5.3	4750	18	2900	5,000	51	51
88239	M258/EXN/CG	50	12	GU5.3	2100	36	2900	5,000	51	51
88238	M280/FNV/CG	50	12	GU5.3	950	60	2900	5,000	51	51



<b>MR16 Start - Open</b>										
38000	M69/BAB/EC	20	12	GU5.3	500	36	2900	2,000	51	48
38001	M81/FMW/EC	35	12	GU5.3	925	36	2900	2,000	51	48
38002	M58/EXN/EC	50	12	GU5.3	1500	36	2900	2,000	51	48
89677	Q20MR16/FL	20	12	GU5.3	500	36	2900	1,000	50	48
89678	Q20MR16/SP	20	12	GU5.3	3500	12	2900	1,000	50	48
89679	Q35MR16/FL	35	12	GU5.3	925	36	2900	1,000	50	48
89680	Q35MR16/M(FMV)	35	12	GU5.3	1950	24	2900	1,000	50	48
89681	Q50MR16/FL	50	12	GU5.3	1500	36	3000	1,000	50	48
89682	Q50MR16/M	50	12	GU5.3	3000	24	3000	1,000	50	48



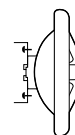
<b>MR16 Start - Closed</b>										
38012	M268/ESX/CG/EC	20	12	GU5.3	3150	12	2900	2,000	51	51
38006	M269/BAB/CG/EC	20	12	GU5.3	450	36	2900	2,000	51	51
38013	FRB/CG/EC	35	12	GU5.3	6750	12	2900	2,000	51	51
38007	M281/FMW/CG/EC	35	12	GU5.3	830	36	2900	2,000	51	51
38014	M249/EXT/CG/EC	50	12	GU5.3	8550	12	2900	2,000	51	51
39611	M250/EXZ/CG/EC	50	12	GU5.3	2700	24	2900	2,000	51	51
38011	M258/EXN/CG/EC	50	12	GU5.3	1350	36	2900	2,000	51	51
39236	M280/FNV/CG/EC	50	12	GU5.3	630	55	2900	2,000	51	51
89683	Q20MR16/FL/CG	20	12	GU5.3	450	36	2800	1,000	50	48
89684	Q20MR16/SP/CG	20	12	GU5.3	3500	12	2800	1,000	50	48
89685	Q35MR16/FL/CG	35	12	GU5.3	832	36	2900	1,000	50	48
89686	Q35MR16/M(FMV) CG	35	12	GU5.3	1750	24	2900	1,000	50	48
89687	Q50MR16/FL/CG	50	12	GU5.3	1350	36	3000	1,000	50	48
89688	Q50MR16/M/CG	50	12	GU5.3	2700	24	3000	1,000	50	48



<b>Precise Alutech MR16 - Closed</b>										
88216	M269/BAB/CG/AL	20	12	GU5.3	450	36	2900	3,000	51	51
88217	M281/FMW/CG/AL	35	12	GU5.3	1300	36	2900	3,000	51	51
88215	M258/EXN/CG/AL	50	12	GU5.3	1800	36	2900	3,000	51	51
88214	M280/FNV/CG/AL	50	12	GU5.3	700	60	2900	3,000	51	51



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
<b>AR111 - Low Pressure Capsule With Aluminium Reflector</b>										
10774	AR111 35W12V SP	35	12	G53	14000	8	2900	2,000	111	67
10775	AR111 35W12V FL	35	12	G53	2500	24	2900	2,000	111	67
10766	AR111 50W12V SP	50	12	G53	17800	8	2900	3,000	111	67
10767	AR111 50W12V FL	50	12	G53	3500	24	2900	3,000	111	67
10768	AR111 75W12V SP	75	12	G53	23500	8	2900	3,000	111	67
10769	AR111 75W12V FL	75	12	G53	5300	24	2900	3,000	111	67
10771	AR111 75W12V WFL	75	12	G53	1700	45	2900	3,000	111	67
41915	AR111 100W12V SP	100	12	G53	40000	8	2900	3,000	111	67
41922	AR111 100W12V FL	100	12	G53	8000	24	2900	3,000	111	67
41923	AR111 100W12V WFL	100	12	G53	2300	45	2900	3,000	111	67
25152	AR111 50W 12V SP	50	12	G53	17800	8	2900	3,000	111	67
25154	AR111 50W 12V FL	50	12	G53	3500	24	2900	3,000	111	67
25155	AR111 75W 12V SP	75	12	G53	23500	8	2900	3,000	111	67
25156	AR111 75W 12V FL	75	12	G53	5300	24	2900	3,000	111	67
25157	AR111 75W 12V WFL	75	12	G53	1700	45	2900	3,000	111	67



### MR16 Mains Alutech Long Life

40402	Q50MR16/230/25°	50	230	GU10	950	25	2800	3,000	51	55
40403	Q50MR16/230/36°	50	230	GU10	600	36	2800	3,000	51	55
40404	Q50MR16/240/25°	50	240	GU10	950	25	2800	3,000	51	55
40405	Q50MR16/240/36°	50	240	GU10	600	36	2800	3,000	51	55



### MR16 Mains Alutech

10898	Q20MR16/230/FL	20	230	GU10	200	36	2700	1,500	51	55
10896	Q35MR16/230/FL	35	230	GU10	400	36	2700	1,500	51	55
92729	Q50MR16/230/FL	50	230	GU10	600	36	2700	1,500	51	55
10859	Q20MR16/240/FL	20	240	GU10	200	36	2700	1,500	51	55
10857	Q35MR16/240/FL	35	240	GU10	400	36	2700	1,500	51	55
92730	Q50MR16/240/FL	50	240	GU10	600	36	2700	1,500	51	55



Product Code	Product Description	Colour	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
--------------	---------------------	--------	-------------	-----------	-----	--------------	----------------	---------	----------	---------------	-------------

### MR16 Mains Alutech - Coloured

12988	Q50MR16/240/FL START	Red	50	240	GU10	600	36	2700	1,500	51	55
12995	Q50MR16/240/FL START	Blue	50	240	GU10	600	36	2700	1,500	51	55
13003	Q50MR16/240/FL START	Yellow	50	240	GU10	600	36	2700	1,500	51	55



# Halogen Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
<b>Single ended mains voltage capsule short G9 - Clear</b>									
45692	SHORTG9 25W CL 230V	25	230	G9	260	2800	1,500	13	43
22504	SHORTG9 40W CL 230V	40	230	G9	460	2800	3,000	13	43
88941	SHORTG9 25W CL 240V	25	240	G9	260	2800	1,500	13	43
22498	SHORTG9 40W CL 240V	40	240	G9	460	2800	3,000	13	43
75979	OT SHORTG9 25W CL 240V GE HFBLZ/20 TRAY	25	240	G9	255	2650	2,000	12.5	41.8
88305	OT SHORTG9 40W CL 240V GE HFBLZ/20 TRAY	40	240	G9	470	2700	2,000	12.5	42.8
75980	OT SHORTG9 60W CL 240V GE HFBLZ/20 TRAY	60	240	G9	790	2700	1,500	12.5	44.8
75983	OT SHORTG9 75W CL 240V GE HFBLZ/20 TRAY	75	240	G9	1040	2750	1,500	12.5	44.8



## Single ended mains voltage capsule short G9 - frosted

88311	OT SHORTG9 25W FR 240V GE HFBLZ/20 TRAY	25	240	G9	240	2600	1,500	12.5	41.8
88307	OT SHORTG9 40W FR 240V GE HFBLZ/20 TRAY	40	240	G9	425	2700	1,500	12.5	42.8
75982	OT SHORTG9 60W FR 240V GE HFBLZ/20 TRAY	60	240	G9	730	2700	1,500	12.5	44.8
75984	OT SHORTG9 75W FR 240V GE HFBLZ/20 TRAY	75	240	G9	965	2700	1,500	12.5	44.8

## Single ended low voltage capsule - Transversal Filament

34720	M29/Q10 G4	10	6	G4	200	2800	100	9	33
34718	M30/ESB/Q20 G4	20	6	G4	450	2900	100	9	33
34719	M34/FHE/Q20 G4	20	6	G4	350	2900	2,000	9	33
42959	M9/H5 G4	5	12	G4	60	2800	2,000	9	33
34674	M11/H10 G4	10	12	G4	140	2800	2,000	9	33
34714	M35/Q20 G4	20	12	G4	400	2900	250	9	33
34715	M47/Q20 G4	20	12	G4	380	2900	2,000	9	33
34708	M95/Q35/GY6.35	35	12	GY6.35	550	2900	3,000	11	44
34702	M32/Q50 GY6.35	50	12	GY6.35	930	2900	4,000	11	44
34682	M313/Q75/GY6.35	75	12	GY6.35	1350	2900	2,000	11	44
34676	M28/Q100 GY6.35	100	12	GY6.35	2200	2900	3,000	11	44
34663	M67/Q100 GY6.35 24V	100	24	GY6.35	2000	2900	2,000	11	44



## Single ended low voltage capsule - Axial Filament

34728	M42/Q10 G4	10	6	G4	140	2800	2,000	9	33
34712	M76/Q20/GY6.35	20	12	GY6.35	300	2900	3,000	11	44
34710	M75/Q35/GY6.35	35	12	GY6.35	600	2900	4,000	11	44
34703	M74/Q50/GY6.35	50	12	GY6.35	900	2900	4,000	11	44
34683	M73/Q75/GY6.35	75	12	GY6.35	1350	2900	4,000	11	44
34664	M180/Q100/GY6.35	100	12	GY6.35	2150	2900	4,000	11	44



## Single ended low voltage capsule - Low Pressure, Axial Filament

35705	Q10T2,5/12V G4	10	12	G4	140	2800	2,000	9	33
35710	Q20T2,5/12V G4	20	12	G4	320	2900	2,000	9	33
35696	Q20T3/12V GY6.35	20	12	GY6.35	300	2900	2,000	11	44
35699	Q35T3/12V GY6.35	35	12	GY6.35	600	2900	2,000	11	44
35700	Q50T3/12V GY6.35	50	12	GY6.35	900	2900	2,000	11	44
35701	Q75T3/12V GY6.35	75	12	GY6.35	1350	2900	2,000	11	44



## Single ended low voltage capsule Start - Transversal Filament

12708	M11/Q10/G4 ST	10	12	G4	100	2800	1,000	10	33
12711	M47/Q20/G4 ST	20	12	G4	250	2900	1,000	10	33
12712	M95/Q35/GY6.35 ST	35	12	GY6.35	480	2900	1,000	11	44
12713	M32/Q50/GY6.35 ST	50	12	GY6.35	800	2900	1,000	11	44
12718	Q100/GY6.35 ST	100	12	GY6.35	1950	2900	1,000	11	44



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC
<b>Double ended linear Halogen Energy Saver</b>										
76210	K12 C100W 230V R7S	100	230	R7s	1900	2800	1,000	8	78	C
76209	K11 C130W 230V R7S	130	230	R7s	2440	2800	1,000	8	117.6	C
76208	K9 C200W 230V R7S	200	230	R7s	4000	2800	1,000	8	117.6	C
76207	K1 C330W 230V R7S	330	230	R7s	7400	2800	1,000	8	117.6	C
76530	K12 C100W 240V R7S	100	240	R7s	1900	2800	1,000	8	78	C
76529	K11 C130W 240V R7S	130	240	R7s	2440	2800	1,000	8	117.6	C
76528	K9 C200W 240V R7S	200	240	R7s	4000	2800	1,000	8	117.6	C
76527	K1 C330W 240V R7S	330	240	R7s	7400	2800	1,000	8	117.6	C

<b>Double ended linear Halogen IR</b>										
91515	K9/Q225 T3/230V HIR	225	230	R7s	5000	3000	2,000	10	117.6	C
31598	K1/Q375 T3/230V HIR	375	230	R7s	9400	3000	2,000	10	117.6	C
43299	K9/Q225 T3/240V HIR	225	240	R7s	5000	3000	2,000	10	117.6	C
31612	K1/Q375 T3/240V HIR	375	240	R7s	9400	3000	2,000	10	117.6	C

<b>Double ended linear Halogen</b>										
29161	K1/Q500 T2.5/CL	500	120	R7s	11000	2900	2,000	8	117.6	C
29165	K1/Q500 T2.5/CL	500	230	R7s	9800	2900	2,000	8	117.6	D
29180	K4/Q1000 T3/CL	1000	230	R7s	21000	2900	2,000	10	189.1	N/A
29184	K5/Q1500 T3/CL	1500	230	R7s	32000	2900	1,000	10	254.1	N/A
30886	K8/Q2000 T3/CL	2000	230	R7s	44000	2900	1,000	10	330.8	N/A
29168	K1/Q500 T2.5/CL	500	240	R7s	9800	2900	2,000	8	117.6	D
29181	K4/Q1000 T3/CL	1000	240	R7s	21000	2900	2,000	10	189.1	N/A
43712	K10/1000 T3/CL	1000	240	R7s	21000	2900	2,000	10	254.1	N/A
23830	K5/Q1500 T3/CL	1500	240	R7s	33000	2900	1,000	10	254.1	N/A
29187	K5/Q1500 T3/CL	1500	240	R7s	32000	2900	1,000	10	254.1	N/A
23832	K5/Q1500 T3/CL	1500	277	R7s	33000	2900	2,000	10	254.1	N/A

# Halogen Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	
<b>HaloTubular T38</b>										
32108	Halo T38/1000W/E40/230	1000	230	E40	21000	2900	2,000	38	280	
32109	Halo T38/1000W/E40/240	1000	240	E40	21000	2900	2,000	38	280	



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
<b>Halogen PAR 16</b>										
27826	40PAR16/230/FL	40	230	E14	950	25	2800	2,000	51	79
27845	40PAR16/240/FL	40	240	E14	950	25	2800	2,000	51	79



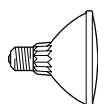
<b>Halogen PAR 20</b>										
40363	50PAR20/230/SP	50	230	E27	3000	10	2800	2,000	64.5	91
40362	50PAR20/230/FL	50	230	E27	1000	25	2800	2,000	64.5	91
40364	50PAR20/240/SP	50	240	E27	3000	10	2800	2,000	64.5	91
40365	50PAR20/240/FL	50	240	E27	1000	25	2800	2,000	64.5	91
95700	50PAR20 FL-230V	50	230	E27	1000	25	2650	2,100	65	85
95701	50PAR20 SP-230V	50	230	E27	2200	10	2650	2,100	65	85
95775	50PAR20/240/SP	50	240	E27	1000	10	2600	2,100	65	85
95776	50PAR20/240/FL	50	240	E27	2200	25	2600	2,100	65	85



<b>Halogen PAR 25</b>										
91775	75PAR25/230/FL	75	230	E27	1300	25	2800	3,000	81	108
92165	75PAR25/240/FL	75	240	E27	1300	25	2800	3,000	81	108



<b>Halogen PAR 30</b>										
40366	75PAR30/230/SP	75	230	E27	6200	10	2800	2,000	97	90.5
40349	75PAR30/230/FL	75	230	E27	2000	30	2800	2,000	97	90.5
32484	100PAR30/230/FL	100	230	E27	3100	30	2800	3,000	97	90.5
40367	75PAR30/240/SP	75	240	E27	6200	10	2800	2,000	97	90.5
40361	75PAR30/240/FL	75	240	E27	2000	30	2800	2,000	97	90.5
32482	100PAR30/240/FL	100	240	E27	3100	30	2800	3,000	97	90.5
95702	75PAR30 FL-230V	75	230	E27	1400	30	2700	3,000	97	93
95703	75PAR30 SP-230V	75	230	E27	5800	10	2700	3,000	97	93
95777	75PAR30/240/SP	75	240	E27	5800	10	2700	3,000	97	93
95778	75PAR30/240/FL	75	240	E27	1400	30	2700	3,000	97	93
95779	100PAR30/240/SP	100	240	E27	8500	10	2750	2,100	97	93
95780	100PAR30/240/FL	100	240	E27	2100	30	2750	2,100	97	93



<b>Halogen PAR 30 HIR</b>										
10302	50PAR30/110/K9N	50	110	E26NP	12000	-	2800	3,000	95	88
10301	50PAR30/110/K9N	50	110	E26NP	2800	-	2800	3,000	95	88

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC
--------------	---------------------	-------------	-----------	-----	------------	---------	----------	---------------	-------------	-----

## Energy Efficient HaloGLS

76957	28W HALO A CL E27 230V	28	230	E27	340	2900	2,000	50	96	D
76953	42W HALO A CL E27 230V	42	230	E27	630	2900	2,000	50	96	C
76948	70W HALO A CL E27 230V	70	230	E27	1300	2900	2,000	50	96	C
76944	100W HALO A CL E27 230V	100	230	E27	1800	2900	2,000	50	104	C
76954	28W HALO A CL E27 240V	28	240	E27	340	2900	2,000	50	96	D
76950	42W HALO A CL E27 240V	42	240	E27	630	2900	2,000	50	96	C
76945	70W HALO A CL E27 240V	70	240	E27	1300	2900	2,000	50	96	C
76941	100W HALO A CL E27 240V	100	240	E27	1800	2900	2,000	50	104	C
76955	28W HALO A CL B22 240V	28	240	B22	340	2900	2,000	50	96	D
76951	42W HALO A CL B22 240V	42	240	B22	630	2900	2,000	50	96	C
76946	70W HALO A CL B22 240V	70	240	B22	1300	2900	2,000	50	96	C
76942	100W HALO A CL B22 240V	100	240	B22	1800	2900	2,000	50	104	C



Product Code	Product Description	Wattage [W]	Volts [V]	MOL [in]	Lumen [lm]	Life [h]	Warning and Caution Notices	Additional Information
78795	29A/CL/H-2PK	29	120	4.43	310	1000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Clear, Halogen
78796	43A/CL/H-2PK	43	120	4.43	750	1000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Clear, Halogen
78797	53A/CL/H-2PK	53	120	4.43	1050	1000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Clear, Halogen
82137	60A/CL/H/RVL-CD	60	120	4.43	675	3000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Reveal® Clear, Halogen, Carded
72373	60A/CRY/H/RVL-CD	60	120	4.43	800	3000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Reveal® Crystal, Halogen, Carded
78798	72A/CL/H-2PK	72	120	4.43	1490	1000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Clear, Halogen
82138	75A/CL/H/RVL-CD	75	120	4.43	850	3000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Reveal® Clear, Halogen, Carded
82139	100A/CL/H/RVL-CD	100	120	4.43	1275	3000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Reveal® Clear, Halogen, Carded
72374	100A/CRY/H/RVL-CD	100	120	4.43	140	3000	1a, 2a, 2b, 2c, 2e, 4i, 4j, 9a, 10b, 10c	Reveal® Crystal, Halogen, Carded

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC
--------------	---------------------	-------------	-----------	-----	------------	---------	----------	---------------	-------------	-----

### Energy Efficient HaloCandle

76940	18W HALO C CL E14 230V	18	230	E14	170	2900	2,000	36	100	D
76936	28W HALO C CL E14 230V	28	230	E14	340	2900	2,000	36	100	D
76575	42W HALO C CL E14 230V	42	230	E14	630	2900	2,000	36	100	C
76934	28W HALO C CL E27 230V	28	230	E27	340	2900	2,000	36	100	D
76573	42W HALO C CL E27 230V	42	230	E27	630	2900	2,000	36	100	C
76937	18W HALO C CL E14 240V	18	240	E14	170	2900	2,000	36	100	D
76930	28W HALO C CL E14 240V	28	240	E14	340	2900	2,000	36	100	D
76569	42W HALO C CL E14 240V	42	240	E14	630	2900	2,000	36	100	C
76929	28W HALO C CL E27 240V	28	240	E27	340	2900	2,000	36	100	D
76568	42W HALO C CL E27 240V	42	240	E27	630	2900	2,000	36	100	C
76932	28W HALO C CL B15 240V	28	240	B15	340	2900	2,000	36	100	D
76571	42W HALO C CL B15 240V	42	240	B15	630	2900	2,000	36	100	C
76938	18W HALO C CL B22 240V	18	240	B22	170	2900	2,000	36	100	D
76931	28W HALO C CL B22 240V	28	240	B22	340	2900	2,000	36	100	D
76570	42W HALO C CL B22 240V	42	240	B22	630	2900	2,000	36	100	C



### Energy Efficient HaloSpherical

76567	18W HALO S CL E14 230V	18	230	E14	170	2900	2,000	45	78	D
76561	28W HALO S CL E14 230V	28	230	E14	340	2900	2,000	45	78	D
76553	42W HALO S CL E14 230V	42	230	E14	630	2900	2,000	45	78	C
76565	18W HALO S CL E27 230V	18	230	E27	170	2900	2,000	45	78	D
76559	28W HALO S CL E27 230V	28	230	E27	340	2900	2,000	45	78	D
76551	42W HALO S CL E27 230V	42	230	E27	630	2900	2,000	45	78	C
76562	18W HALO S CL E14 240V	18	240	E14	170	2900	2,000	45	78	D
76555	28W HALO S CL E14 240V	28	240	E14	340	2900	2,000	45	78	D
76548	42W HALOS CL E14 240V	42	240	E14	630	2900	2,000	45	78	C
76554	28W HALO S CL E27 240V	28	240	E27	340	2900	2,000	45	78	D
76547	42W HALOS CL E27 240V	42	240	E27	630	2900	2,000	45	78	C
76557	28W HALO S CL B15 240V	28	240	B15	340	2900	2,000	45	78	D
76563	18W HALO S CL B22 240V	18	240	B22	170	2900	2,000	45	78	D
76556	28W HALO S CL B22 240V	28	240	B22	340	2900	2,000	45	78	D
76549	42W HALOS CL B22 240V	42	240	B22	630	2900	2,000	45	78	C



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]
--------------	---------------------	-------------	-----------	-----	--------------	---------	----------	---------------	-------------

### Energy Efficient HaloReflector


76546	28W HALO R50 E14 230V	28	230	E14	220	2900	2,000	50	86
76543	42W HALO R63 E27 230V	42	230	E27	600	2900	2,000	63.5	101
76540	42W HALO R80 E27 230V	42	230	E27	230	2900	2,000	80	121
76537	70W HALO R80 E27 230V	70	230	E27	TBD	2900	2,000	80	121
76544	28W HALO R50 E14 240V	28	240	E14	220	2900	2,000	50	86
76541	42W HALO R63 E27 240V	42	240	E27	600	2900	2,000	63.5	101
76538	42W HALO R80 E27 240V	42	240	E27	230	2900	2,000	80	121





# Linear Fluorescent Lamps



## T5

	T5 Starcoat	23
	T5 StarV	24
	T5 Miniature	24

## T8

	T8 TriTeh Plus	24
	T8 Polylux XLR	25
	T8 Standard	25



## Circline

	T9 Circline	26
	T5 Circline	26



## Linear Fluorescent Lamps

Whether its long life, energy savings, or quality of light, GE's linear fluorescent lamps have your application covered. Delivering excellent colour rendering and high lumen maintenance, for more high quality light.

**The characteristics of fluorescent lamps vary widely according to the lamp type. In general, fluorescent lamps have the following advantages:**

- Efficient installation and reduced running costs with our Watt-Miser lamps
- Long life – life ratings for fluorescent lamps are now up to 42,000 hours with our LongLast lamps, based on the industry standard of 3-hour burning cycles
- Light quality – high colour rendering and high lumen maintenance
- Flexibility – many combinations of wattage and length, provide flexibility of fixture design and ceiling layout

Looking to the future, we will continue to bring you new technology and improve the efficiency and performance of our portfolio, in line with technology advancements.



# Linear Fluorescent Lamps

## T5 Solutions

### For maintenance saving

GE T5 StarCoat LongLast



- 36,000 hour extra long life
- Superior lumen maintenance - 90%
- Excellent colour rendering - 85Ra

### For energy Saving

GE T5 Watt-Miser



- 5% energy savion with existion system
- 30,000 hour long life
- Reduces CO<sub>2</sub> and other greenhouse gas emissions

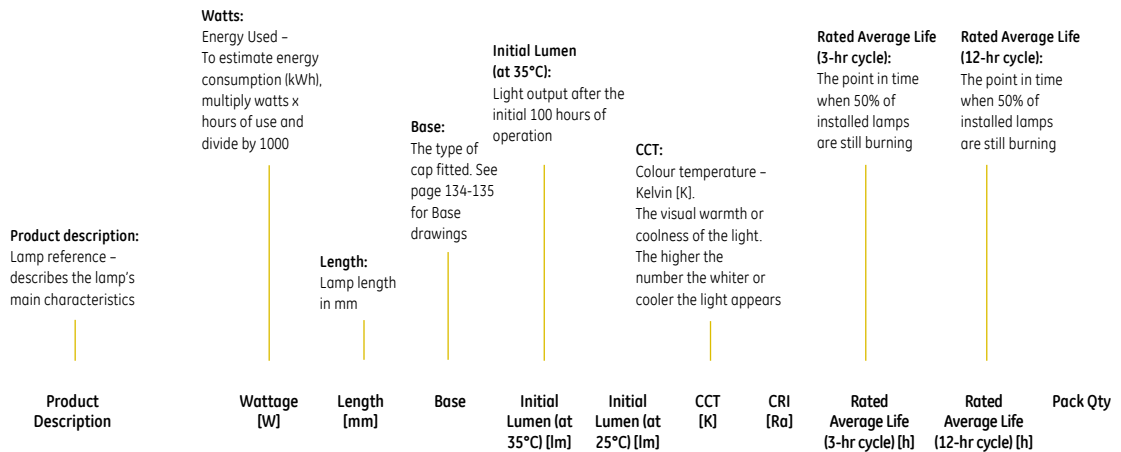
### For Best in Value

GE T5 StarV



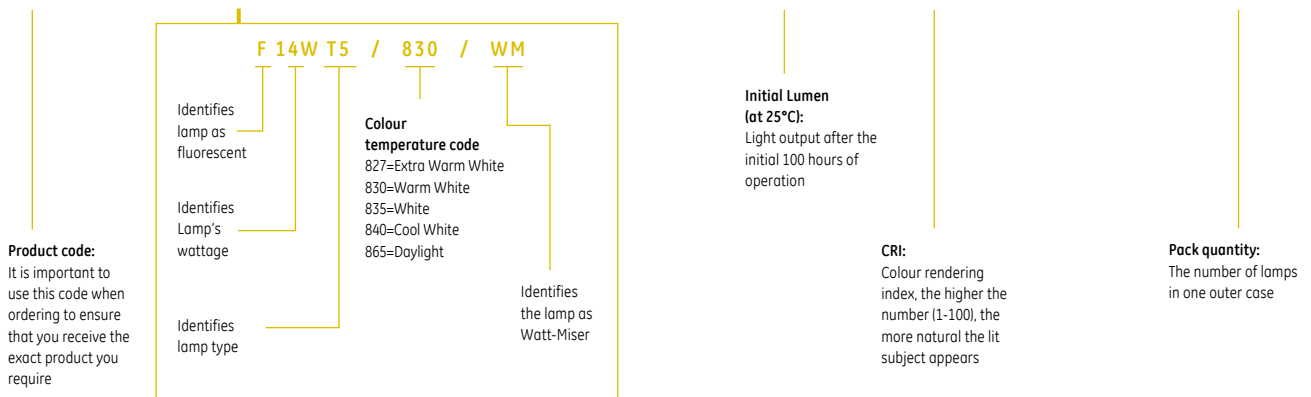
- 20,000 hour rated life
- superior lumen maintenance

## Product identification



### T5 StarCoat Watt-Miser

Product Code	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen (at 35°C) [lm]	Initial Lumen (at 25°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]	Pack Qty
71632	F14T5/830/WM/ECO	14	549	G5	1350	1230	3000	85	25,000	30,000	40
71633	F14T5/835/WM/ECO	14	549	G5	1350	1230	3500	85	25,000	30,000	40
71634	F14T5/841/WM/ECO	14	549	G5	1350	1230	4000	85	25,000	30,000	40



Product Code	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen (at 35°C) [lm]	Initial Lumen (at 25°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]	Pack Qty
71632	F14T5/830/WM/ECO	14	549	G5	1350	1230	3000	85	25,000	30,000	40
71633	F14T5/835/WM/ECO	14	549	G5	1350	1230	3500	85	25,000	30,000	40
71634	F14T5/841/WM/ECO	14	549	G5	1350	1230	4000	85	25,000	30,000	40
71636	F14T5/865/WM/ECO	14	549	G5	1250	1140	6500	85	25,000	30,000	40
71637	F21T5/830/WM/ECO	21	549	G5	2100	1910	3000	85	25,000	30,000	40
71638	F21T5/835/WM/ECO	21	849	G5	2100	1910	3500	85	25,000	30,000	40
71639	F21T5/841/WM/ECO	21	849	G5	2100	1910	4000	85	25,000	30,000	40
71641	F21T5/865/WM/ECO	21	849	G5	1950	1770	6500	85	25,000	30,000	40
71642	F28T5/830/WM/ECO	28	849	G5	2900	2640	3000	85	25,000	30,000	40
71643	F28T5/835/WM/ECO	28	849	G5	2900	2640	3500	85	25,000	30,000	40
71644	F28T5/841/WM/ECO	28	1,149	G5	2900	2640	4000	85	25,000	30,000	40
71646	F28T5/865/WM/ECO	28	1,149	G5	2700	2450	6500	85	25,000	30,000	40
71627	F54T5/830/WM/ECO	54	1,149	G5	5000	4460	3000	85	25,000	30,000	40
71628	F54T5/835/WM/ECO	54	1,149	G5	5000	4460	3500	85	25,000	30,000	40
71629	F54T5/841/WM/ECO	54	1,149	G5	5000	4460	4000	85	25,000	30,000	40
71631	F54T5/865/WM/ECO	54	1,449	G5	4750	4100	6500	85	25,000	30,000	40
71647	F35T5/830/WM/ECO	35	1,449	G5	3650	3320	3000	85	25,000	30,000	40
71648	F35T5/835/WM/ECO	35	1,449	G5	3650	3320	3500	85	25,000	30,000	40
71649	F35T5/841/WM/ECO	35	1,449	G5	3650	3320	4000	85	25,000	30,000	40
71657	F35T5/865/WM/ECO	35	1,449	G5	3400	3090	6500	85	25,000	30,000	40

Product Code 40 pc industrial pack	Product Code 30 pc sleeve pack	Product Code 30 pc sleeve pack For Taiwan only	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen (at 35°C) [lm]	Initial Lumen (at 25°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]
---------------------------------------	-----------------------------------	--	---------------------	-------------	-------------	------	------------------------------	------------------------------	---------	----------	-------------------------------------	--------------------------------------

### T5 StarCoat - High Efficiency

71632	73296	73296TW	F14W/T5/830/Starcoat/40	14	549	G5	1350	1230	3000	85	30,000	36,000
71633	73297	73297TW	F14W/T5/840/Starcoat/40	14	549	G5	1350	1230	4000	85	30,000	36,000
71634	73298	73298TW	F14W/T5/865/Starcoat/40	14	549	G5	1250	1140	6500	85	30,000	36,000
71636	73299	73299TW	F21W/T5/830/Starcoat/40	21	849	G5	2100	1910	3000	85	30,000	36,000
71637	73300	73300TW	F21W/T5/840/Starcoat/40	21	849	G5	2100	1910	4000	85	30,000	36,000
71638	73301	73301TW	F21W/T5/865/Starcoat/40	21	849	G5	1950	1770	6500	85	30,000	36,000
71639	73302	73302TW	F28W/T5/830/Starcoat/40	28	1149	G5	2900	2640	3000	85	30,000	36,000
71641	73303	73303TW	F28W/T5/840/Starcoat/40	28	1149	G5	2900	2640	4000	85	30,000	36,000
71642	73304	73304TW	F28W/T5/865/Starcoat/40	28	1149	G5	2700	2450	6500	85	30,000	36,000
71643			F35W/T5/830/Starcoat/40	35	1449	G5	3650	3320	3000	85	30,000	36,000
71644			F35W/T5/840/Starcoat/40	35	1449	G5	3650	3320	4000	85	30,000	36,000
71646			F35W/T5/865/Starcoat/40	35	1449	G5	3400	3090	6500	85	30,000	36,000

### T5 StarCoat - High Output

72420			F24W/T5/830/Starcoat/40	24	549	G5	2000	1750	3000	85	30,000	36,000
72421			F24W/T5/840/Starcoat/40	24	549	G5	2000	1750	4000	85	30,000	36,000
72422			F24W/T5/865/Starcoat/40	24	549	G5	1900	1600	6500	85	30,000	36,000
72423			F39W/T5/830/Starcoat/40	39	849	G5	3500	3200	3000	85	30,000	36,000
72424			F39W/T5/840/Starcoat/40	39	849	G5	3500	3200	4000	85	30,000	36,000
72425			F39W/T5/865/Starcoat/40	39	849	G5	3330	2950	6500	85	30,000	36,000
72429			F54W/T5/830/Starcoat/40	54	1149	G5	5000	4460	3000	85	30,000	36,000
72430			F54W/T5/840/Starcoat/40	54	1149	G5	5000	4460	4000	85	30,000	36,000
72431			F54W/T5/865/Starcoat/40	54	1149	G5	4750	4100	6500	85	30,000	36,000
72426	73317	73317TW	F49W/T5/830/Starcoat/40	49	1449	G5	4900	4450	3000	85	30,000	36,000
72427	73318	73318TW	F49W/T5/840/Starcoat/40	49	1449	G5	4900	4450	4000	85	30,000	36,000
72428	73319	73319TW	F49W/T5/865/Starcoat/40	49	1449	G5	4650	4100	6500	85	30,000	36,000
72432			F80W/T5/830/Starcoat/40	80	1449	G5	7000	6450	3000	85	30,000	36,000
72433			F80W/T5/840/Starcoat/40	80	1449	G5	7000	6450	4000	85	30,000	36,000
72434			F80W/T5/865/Starcoat/40	80	1449	G5	6650	5950	6500	85	30,000	36,000

# Linear Fluorescent Lamps

Product Code	Product Code For Taiwan only	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen (at 35°C) [lm]	Initial Lumen (at 25°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]	Pack Qty
<b>T5 StarV</b>												
62694E	62694TW	F14W/830 T5/StarV/SL30	14	549	G5	1350	1230	3000	82	17,000	20,000	30
62695E	62695TW	F14W/840 T5/StarV/SL30	14	549	G5	1350	1230	4000	82	17,000	20,000	30
62696E	62696TW	F14W/865 T5/StarV/SL30	14	549	G5	1250	1140	6500	82	17,000	20,000	30
62697E	62697TW	F21W/830 T5/StarV/SL30	21	849	G5	2100	1910	3000	82	17,000	20,000	30
62698E	62698TW	F21W/840 T5/StarV/SL30	21	849	G5	2100	1910	4000	82	17,000	20,000	30
62699E	62699TW	F21W/865 T5/StarV/SL30	21	849	G5	1950	1770	6500	82	17,000	20,000	30
62700E	62700TW	F28W/830 T5/StarV/SL30	28	1149	G5	2900	2640	3000	82	17,000	20,000	30
62701E	62701TW	F28W/840 T5/StarV/SL30	28	1149	G5	2900	2640	4000	82	17,000	20,000	30
62702E	62702TW	F28W/865 T5/StarV/SL30	28	1149	G5	2700	2450	6500	82	17,000	20,000	30

Product Code	Product Description	Wattage [W]	Length [mm]	Diameter [mm]	Base	Initial Lumen (at 25°C) [lm]	Colour Type	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Pack Qty
<b>T5 Miniature - Triphosphor</b>											
37008	F8W/T5/827/IND	8	302.5	16	G5	460	Extra Warm White	2720	80+	5,000	100
37009	F8W/T5/840/IND	8	302.5	16	G5	460	Cool White	4040	80+	5,000	100
39447	F13W/T5/827/SL	13	531.1	16	G5	1000	Extra Warm White	2700	80+	6,000	25

Product Code	Product Description	Wattage [W]	Length [mm]	Diameter [mm]	Base	Initial Lumen	Color	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]	Pack Qty
<b>T5 Miniature - Standard</b>												
39446	F4W/T5/35/SL	4	150.1	16	G5	130	White	3450	54	5,000	25	
10004	F4W/T5/CW	4	150.1	16	G5	130	Cool White	4040	58	5,000	25	
39442	F6W/T5/35/SL	6	226.3	16	G5	260	White	3450	54	5,000	25	
39445	F6W/T5/33/SL	6	226.3	16	G5	260	Cool White	4040	58	5,000	25	
10028	F6W/T5/D	6	226.3	16	G5	230	Day light	6500	75	5,000	25	
37754	F8W/T5/29/SL	8	302.5	16	G5	385	Warm White	2940	51	5,000	25	
37756	F8W/T5/35/SL	8	302.5	16	G5	385	White	3450	54	5,000	25	
10059	F8W/T5/CW	8	302.5	16	G5	385	Cool White	4040	58	5,000	25	
10055	F8W/T5/D	8	302.5	16	G5	330	Day light	6500	70	5,000	25	
10089	F13W/T5/WW	13	531.1	16	G5	850	Warm White	2950	51	6,000	25	
10086	F13W/T5/CW	13	531.1	16	G5	800	Cool White	4040	58	6,000	25	

Product Code	Product Code For Thailand On	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen	Color	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Rated Average Life (12-hr cycle) [h]	Pack Qty
<b>T8 TriTech Plus</b>												
79462/F		F18W/T8/WW/Tri-Tech plus	18	600	G13	1350	Warm White	3000	82	15,000	18,000	25
79463/F	79463T	F18W/T8/CW/Tri-Tech plus	18	600	G13	1350	Cool White	4000	82	15,000	18,000	25
79464/F	79464T	F18W/T8/DL/Tri-Tech plus	18	600	G13	1250	Daylight	6500	82	15,000	18,000	25
79465/F		F30W/T8/WW/Tri-Tech plus	30	900	G13	2450	Warm White	3000	82	15,000	18,000	25
79466/F		F30W/T8/CW/Tri-Tech plus	30	900	G13	2450	Cool White	4000	82	15,000	18,000	25
79469/F		F30W/T8/DL/Tri-Tech plus	30	900	G13	2300	Daylight	6500	82	15,000	18,000	25
79470/F		F36W/T8/WW/Tri-Tech plus	36	1200	G13	3200	Warm White	3000	82	15,000	18,000	25
79471/F	79471T	F36W/T8/CW/Tri-Tech plus	36	1200	G13	3200	Cool White	4000	82	15,000	18,000	25
79472/F	79472T	F36W/T8/DL/Tri-Tech plus	36	1200	G13	3100	Daylight	6500	82	15,000	18,000	25
66410		F58W/T8/830/Tri-Tech	58	1500	G13	5000	Warm White	3000	82	10,000	12,000	25
66411		F58W/T8/840/Tri-Tech	58	1500	G13	5000	Cool White	4000	82	10,000	12,000	25
66412		F58W/T8/865/Tri-Tech	58	1500	G13	4930	Daylight	6500	82	10,000	12,000	25

Product Code	Product Description	Wattage [W]	Length [mm]	Diameter [mm]	Initial Lumen (at 25°C) [lm]	Colour Type	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Pack Qty
<b>T8 Polylux XLR - G13 Cap</b>										
23248	F15W/T8/830/POLYLUX	15	451.6	26	1000	Warm White	2940	85	15,000	25
78133	F15W/T8/835 POLYLUX	15	451.6	26	1000	White	3450	85	15,000	25
23249	F15W/T8/840/POLYLUX	15	451.6	26	1000	Cool White	4040	85	15,000	25
78131	F15W/T8/860/POLYLUX	15	451.6	26	900	Daylight	6400	85	15,000	25
62560	F18W/T8/827/POLYLUX	18	604	26	1350	Extra Warm White	2720	85	15,000	25
62559	F18W/T8/830/POLYLUX	18	604	26	1350	Warm White	2940	85	15,000	25
62534	F18W/T8/835/POLYLUX	18	604	26	1350	White	3450	85	15,000	25
62558	F18W/T8/840/POLYLUX	18	604	26	1350	Cool White	4040	85	15,000	25
62557	F18W/T8/860/POLYLUX	18	604	26	1300	Daylight	6400	85	15,000	25
18141	F30W/T8/830/POLYLUX	30	908.8	26	2450	Warm White	2940	85	15,000	25
78132	F30W/T8/835/POLYLUX	30	908.8	26	2450	White	3450	85	15,000	25
18142	F30W/T8/840/POLYLUX	30	908.8	26	2450	Cool White	4040	85	15,000	25
62554	F36W/T8/827/POLYLUX	36	1,213.6	26	3350	Extra Warm White	2720	85	15,000	25
62553	F36W/T8/830/POLYLUX	36	1,213.6	26	3350	Warm White	2940	85	15,000	25
62532	F36W/T8/835/POLYLUX	36	1,213.6	26	3350	White	3450	85	15,000	25
62551	F36W/T8/840/POLYLUX	36	1,213.6	26	3350	Cool White	4040	85	15,000	25
62552	F36W/T8/860/POLYLUX	36	1,213.6	26	3250	Daylight	6400	85	15,000	25
93330	F58W/T8/827/POLYLUX	58	1,514.2	26	5200	Extra Warm White	2720	85	15,000	25
93334	F58W/T8/830/POLYLUX	58	1,514.2	26	5200	Warm White	2940	85	15,000	25
93331	F58W/T8/835/POLYLUX	58	1,514.2	26	5200	White	3450	85	15,000	25
93333	F58W/T8/840/POLYLUX	58	1,514.2	26	5200	Cool White	4040	85	15,000	25
12943	F58W/T8/860/POLYLUX	58	1,514.2	26	5000	Daylight	6400	85	15,000	25
62572	F70W/T8/835/POLYLUX	70	1,778	26	6300	White	3450	85	15,000	25
62573	F70W/T8/840/POLYLUX	70	1,778	26	6300	Cool White	4040	85	15,000	25



Product Code	Product Description	Wattage [W]	Length [mm]	Diameter [mm]	Initial Lumen (at 25°C) [lm]	Colour Type	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Pack Qty
<b>T8 Polylux XLR LongLast - G13 Cap</b>										
62567	F18/T8/830/POLYLUX/LL	18	604	26	1350	Warm White	3000	85	24,000	25
62566	F18/T8/840/POLYLUX/LL	18	604	26	1350	Cool White	4000	85	24,000	25
62565	F36/T8/830/POLYLUX/LL	36	1,200	26	3350	Warm White	3000	85	24,000	25
62564	F36/T8/840/POLYLUX/LL	36	1,200	26	3350	Cool White	4000	85	24,000	25
62563	F58/T8/830/POLYLUX/LL	58	1,500	26	5200	Warm White	3000	85	24,000	25
62562	F58/T8/840/POLYLUX/LL	58	1,500	26	5200	Cool White	4000	85	24,000	25

Product Code	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen	Color	CCT [K]	CRI [Ra]	Life	Pack Qty
--------------	---------------------	-------------	-------------	------	---------------	-------	---------	----------	------	----------

<b>T8 Standard - G13 Cap</b>											
Product Code	Product Code	Product Description	Wattage [W]	Length [mm]	Base	Initial Lumen	Color	CCT [K]	CRI [Ra]	Life	Pack Qty
81412	F10T8/33	F10T8/33	10	300	G13	420	Cool White	4000	60	5,000	25
17272	F10T8/54	F10T8/54	10	300	G13	400	Day light	6500	75	5,000	25
61516	F15W/33	F15W/33	15	450	G13	825	Cool White	4000	60	7,500	25
61517	F15W/54	F15W/54	15	450	G13	700	Day light	6500	75	7,500	25
65152	F18T8/WW	F18T8/WW	18	600	G13	1050	-	3000	51	10,000	30

Product Code	Product Code For Taiwan only	Product Description	Wattage [W]	Length [mm]	Initial Lumen (at 35°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life [h]	Pack Qty
--------------	------------------------------	---------------------	-------------	-------------	------------------------------	---------	----------	------------------------	----------

<b>T8 Standard</b>									
Product Code	Product Code For Taiwan only	Product Description	Wattage [W]	Length [mm]	Initial Lumen (at 35°C) [lm]	CCT [K]	CRI [Ra]	Rated Average Life [h]	Pack Qty
73335	73335T	F18T8/CW	18	600	1050	4000	58	10,000	30
73336	73336T	F18T8/DL	18	600	900	6500	76	10,000	30
65153		F36T8/WW	36	900	2750	3000	51	10,000	30
73337	73337T	F36T8/CW	36	900	2750	4000	58	10,000	30
73338	73338T	F36T8/DL	36	900	2350	6500	76	10,000	30

# Linear Fluorescent Lamps

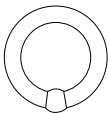
Product Code	Product Description	Wattage [W]	Base	Initial Lumen	Burn Position	CCT [K]	CRI [Ra]	Life [h]	Current [mA]	Control Gear
<b>T8 Standard - LongLast, G13 Cap</b>										
79462	F10W/DL XL	10	G13	377	Universal	6500	76	5000	230	T8 ELB/EMB
79463	F18W/WW XL	18	G13	1200	Universal	3000	51	15000	370	T8 ELB/EMB
79464	F18W/CW XL	18	G13	1150	Universal	4000	58	15000	370	T8 ELB/EMB
79465	F18W/DL XL	18	G13	960	Universal	6500	76	15000	370	T8 ELB/EMB
79466	F36W/WW XL	36	G13	2760	Universal	3000	51	15000	430	T8 ELB/EMB
79469	F36W/CW XL	36	G13	2650	Universal	4000	58	15000	430	T8 ELB/EMB
79470	F36W/DL XL	36	G13	2400	Universal	6500	76	15000	430	T8 ELB/EMB

Product Code	Product Description	Wattage [W]	Length [mm]	Cap	Initial Lumen	Color	CCT [K]	CRI [Ra]	Rated life [h]	Pack Qty
<b>T8 Standard for Philippines Only - G13 Cap</b>										
61535	F18T8/WW	18	600	G13	1150	Warm White	3000	51	10000	25
61536	F18T8/CW	18	600	G13	1100	Cool White	4000	58	10000	25
61537	F18T8/DL	18	600	G13	960	Daylight	6500	76	10000	25
61538	F30T8/WW	30	900	G13	2100	Warm White	3000	51	10000	25
61539	F30T8/CW	30	900	G13	2025	Cool White	4000	58	10000	25
61540	F30T8/DL	30	900	G13	1720	Daylight	6500	76	10000	25
61541	F36T8/WW	36	1200	G13	2760	Warm White	3000	51	10000	25
61542	F36T8/CW	36	1200	G13	2650	Cool White	4000	58	10000	25
61543	F36T8/DL	36	1200	G13	2400	Daylight	6500	76	10000	25

## T12 Standard

71708S	F20WT12/DL	20	600	G13	1100	Daylight	6500	76	15,000	36
71709S	F40WT12/DL	40	1200	G13	2640	Daylight	6500	76	10,000	36

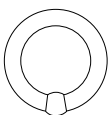
Product Code	Product Description	Wattage [W]	Diam. [mm]	Base	CCT [K]	Initial Lumens [lm]	CRI [Ra]	Avg. Life [Hr]	Pack Qty.
<b>T9 Circline - Standard</b>									
95543	Edison FCL22/DL	22	216	G10q	6500	1050	75	6000	30
95544	Edison FCL32/DL	32	305	G10q	6500	1750	75	6000	30
95545	Edison FCL40/DL	40	406	G10q	6500	2440	75	6000	20



Product Code	Product Description	Wattage [W]	Diam. [mm]	Base	CCT [K]	Initial Lumens [lm]	CRI [Ra]	Avg. Life [Hr]	Pack Qty.
--------------	---------------------	-------------	------------	------	---------	---------------------	----------	----------------	-----------

## T9 Circline - Triphosphate

61607	FCL22W/827	22	216	G10q	2700	1400	80	6000	30
61608	FCL22W/840	22	216	G10q	4000	1400	80	6000	30
61609	FCL22W/850	22	216	G10q	5000	1300	80	6000	30
24847	FCL22/HO/DL/860	22	216	G10q	6500	1300	80	6000	30
61610	FCL32W/827	32	305	G10q	2700	2480	80	6000	30
61611	FCL32W/840	32	305	G10q	4000	2480	80	6000	30
61612	FCL32W/850	32	305	G10q	5000	2300	80	6000	30
24848	FCL32/HO/DL/860	32	305	G10q	6500	2300	80	6000	30
61613	FCL40W/827	40	406	G10q	2700	3200	80	6000	20
61614	FCL40W/840	40	406	G10q	4000	3200	80	6000	20
61615	FCL40W/850	40	406	G10q	5000	3000	80	6000	20
24849	FCL40/HO/DL/W/860	40	406	G10q	6500	3000	80	6000	20



Product Code	Product Description	Wattage [W]	Length [mm]	Diameter [mm]	Base	Initial Lumen (at 25°C) [lm]	Colour Type	CCT [K]	CRI [Ra]	Rated Average Life (3-hr cycle) [h]	Pack Qty
--------------	---------------------	-------------	-------------	---------------	------	------------------------------	-------------	---------	----------	-------------------------------------	----------
















## T5 Circline - Triphosphor

75709	FC22W/T5/830	22	225	16	2Gx13	1900	Warm White	3000	82	12,000	10
75720	FC22W/T5/840	22	225	16	2Gx13	1900	Cool White	4000	82	12,000	10
75712	FC40W/T5/830	40	300	16	2Gx13	3300	Warm White	3000	82	12,000	10
75713	FC40W/T5/840	40	300	16	2Gx13	3300	Cool White	4000	82	12,000	10
75717	FC55W/T5/830	55	300	16	2Gx13	4200	Warm White	3000	82	12,000	10
75718	FC55W/T5/840	55	300	16	2Gx13	4200	Cool White	4000	82	12,000	10

# Compact Fluorescent Lamps



## Compact Fluorescent Lamps Non-Integrated

	Biax S-2 pin	35
	Biax D-2 pin	35
	Biax D/E-4 pin	36
	Biax D-D -2 pin	37
	Biax D-D -4 pin	37
	Biax S 2-pin, Internal Starter	38
	Biax S/E 4-pin, External Starter Required	38
	Biax D 2-pin, Internal Starter	38
	Biax D/E LongLast 4-pin	39
	Biax T 2-pin with Amalgam	39
	Biax T/E LongLast 4-pin with Amalgam	39
	Biax Q/E LongLast 4-pin	40
	Biax L LongLast 4-pin	40
	2D Watt-Miser	41
	Biax 2D	41

## Compact Fluorescent Lamps Integrated

	T3 Stick - Ultralife	47
	T3&T4 Stick - Economizer	48
	T3&T4 Economizer Plus	49
	T4 Stick - Sensor	49
	Electronic Stick T3 Mini	50
	T2 Spiral	50
	Electronic LongLast Spiral T2	52
	T3 Spiral	53
	T5 Spiral	54
	Decor	55

# Compact Fluorescent Lamps Non-Integrated

## The smart way for an efficient professional lighting application with GE non-integrated compact fluorescent lamps.

GE lighting has one of the most extensive range of compact fluorescent light sources available, providing extra energy saving with the Watt-Miser concept and long life performance with the LongLast range, which can be ideal for almost every application. Since compact fluorescent bulbs use less energy, these products save you money on your electricity bill and help protect the environment.

In response to the demand from the market for a lower energy consumption GE has developed the extra energy saving 2D<sup>M</sup> Watt-Miser.

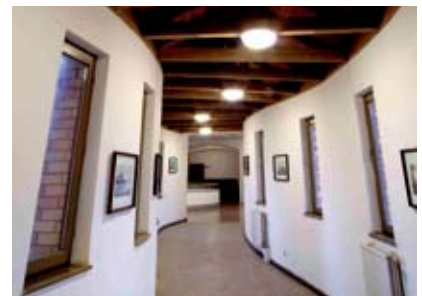
GE Watt-Miser is a new generation of lamp family where end users can save additional energy versus regular compact fluorescent lamps on the market. Currently this unique GE 2D range has this extra feature where extra energy saving can reach up to 12%.

GE LongLast plug-in range is over the standard, and can last up to 20,000 hours.

The range is wide, having this long life performance from 10-70W in variety of different product shapes.

### GE Biax lamps offers:

- Extra energy saving – up to 12%
- Long life – up to 20,000 hours
- High industry standard efficacy level
- Wide range of colour, wattage
- Suitable for dimming and motion detection
- Robust technical design
- High quality product
- Low running cost
- Warranty
- Environmentally friendly





## Plug-In CFL

**Biax S-2 pin**



- 8000hr to 10000hr rated life, which is 8 to 10 time compared to Inc
- 78% energy saving compared to INC
- can change lamp or ballast separately, save replacement cost
- Lumen maintenance keep 90% for 2000hr

### Application

- Down light
- Commercial & Industrial lighting
- Hotel, restaurant, airport

**Biax D-2 pin**



- 8000hr to 10000hr rated life, which is 8 to 10 time compared to Inc
- 78% energy saving compared to INC
- can change lamp or ballast separately, save replacement cost
- Lumen maintenance keep 90% for 2000hr

### HLBX Biax L: 36/40/55W

- 6000 hrs rated life
- Compact size, high wattage
- Round tube end, no dark area
- 36W is only with GE, fitting in 600mm\*600mm fixture

**Biax D-4 pin**



- 8000hr to 10000hr rated life, which is 8 to 10 time compared to Inc
- 78% energy saving compared to INC
- can change lamp or ballast separately, save replacement cost
- Lumen maintenance keep 90% for 2000hr



# Compact Fluorescent Lamps Non-Integrated

## Standard Biax D&T upgraded to LongLast

### For Maintenance Saving



Our new compact fluorescent LongLast lamps provide increased service life which significantly reduces replacement and maintenance costs. They are ultra compact energy saving fluorescent lamps with new, innovative double and triple tube designs giving an ideal light source for small fixtures and downlighters.

GE LongLast guarantees the same light output in any burning position. It can be used in closed luminaires and outdoor applications too without significant light loss due to GE Amalgam technology providing stable lumen performance within a wide temperature range.

- Standard product has been upgraded to LongLast
- Retrofit – can be used with existing fittings and control gears
- 20% life increase on 2-pin and 60% life increase on 4-pin range
- Reduces replacement and maintenance costs
- Best in class versus competition – standard price at premium performance
- Further energy saving with dimming possibilities
- Available in warm to cool temperatures (2700 – 6500K)

**LongLast™**

## Standard 2D upgraded to Watt-Miser

### For Energy Saving



New 2D Watt-Miser lamps are energy saving compact fluorescent tubes formed into a "2D" shape. All types are available with a 4-pin cap which permits use with conventional or electronic control gear, dimming and emergency lighting circuits.

2D lamps use rare earth triphosphors to give high efficacy with good colour rendering properties.

This new range of GE 2D Watt-Miser compact fluorescent lamps give additional energy savings, even on standard control gear.

- Direct replacements for 16-21-28-38W standard 2D range
- Unique shape suitable for broad range of applications
- Interchangeable – can be used with existing fittings and control gear
- Excellent for circular light distribution
- Extra 5-12% energy saving depending on lamp/gear/environment
- The only 'A' class energy 2D lamp on the market
- Highest saving of 12% using 28W in high frequency operation – fast payback
- Best performance at the best running cost on the market!

**2DWattMiser™**

## 2D Watt-Miser

### The next generation of 2D lamps



The new 2D Watt-Miser lamps are energy saving compact fluorescent tubes. Available in either 16W, 21W, 28W, or 38W versions, in a wide choice of colour temperatures. These lamps are a direct replacement for existing 2D lamps, delivering market leading life, with excellent energy saving performance that is unique to GE!

2D Watt-Miser lamps provide similar lumen output as standard 2D lamps, with an energy saving of up to 12% dependent upon ballast and wattage.



#### Key benefits

- Reduced energy consumption
- The only 'A' Class energy rated 2D lamp
- Maintains market leading lumen maintenance
- Retrofit products to existing fittings and ballasts
- 2 and 4 pin versions

#### Application areas

2D Watt-Miser lamps are suitable for a wide range of exterior and interior applications:

- Residential
- Domestic
- Utility areas
- Task lighting
- Hotels/offices/restaurants
- Emergency lighting
- Decorative installations



#### Energy saving possibilities

	16W			21W			28W			38W		
	W/ Electronic gear	W/ Standard gear	Lumen	W/ Electronic gear	W/ Standard gear	Lumen	W/ Electronic gear	W/ Standard gear	Lumen	W/ Electronic gear	W/ Standard gear	Lumen
2D Watt-Miser	14.05	14.84	1100	18.76	19.61	1350	24.24	26.74	2150	34	37.41	3000
Standard GE 2D lamp	15.4	15.75	1150	20.17	21.17	1450	27.57	28.05	2250	37.28	38.68	3000
Saving	8.8%	5.8%		7%	7.4%		12.1%	4.7%		8.8%	3.3%	

# Compact Fluorescent Lamps Non-Integrated

## Biax S



### Biax S - 2 pin

Cap: G23  
Wattages: 5-7-9-11W  
Colours: 2700 - 6500K  
Life: 8,000Hrs  
Page: 35

## Biax D



### Biax D - 2pin

Cap: G24d  
Wattages: 10-13-18-26W  
Colours: 2700 - 6500K  
Life: 7,000 - 10,000Hrs  
Page: 35



### Biax D/E - 4pin

Cap: G24q  
Wattage: 10-13-18-26W  
Colors: 2700 - 6500K  
Life: 7,000 - 10,000Hrs  
Page: 36

## Biax D-D



### Biax D-D -2 pin

Cap: GR-8  
Wattages: 16W  
Colours: 2700 - 6500K  
Life: 10,000Hrs  
Page: 37



### Biax D-D -2 pin

Cap: GR-10q  
Wattages: 16-28-38W  
Colours: 2700 - 6500K  
Life: 10,000Hrs  
Page: 37

# Selector

## Biax S



### Biax S - 2pin

Cap: G23  
Wattages: 5-7-9-11W  
Colours: 2700 - 6500K  
Life: 10,000Hrs  
Page: 38



### Biax S/E - 4pin

Cap: 2G7  
Wattages: 5-7-9-11W  
Colours: 2700 - 6500K  
Life: 10,000Hrs  
Page: 38

## Biax D



### Biax D - 2pin

Cap: G24d  
Wattages: 10-13-18-26W  
Colours: 2700 - 6500K  
Life: 12,000Hrs  
Page: 38

LongLast™



### Biax D/E - 4pin

Cap: G24q  
Wattage: 10-13-18-26W  
Colours: 2700 - 6500K  
Life: 20,000Hrs  
Page: 39

LongLast™

## Biax T



### Biax T - 2pin

Cap: GX24d  
Wattages: 13-18-26-32W  
Colours: 2700 - 6500K  
Life: 12,000Hrs  
Page: 39

LongLast™



### Biax T/E - 4pin

Cap: GX24q  
Wattages: 13-18-26-32-42W  
Colours: 2700 - 6500K  
Life: 20,000Hrs  
Pages: 39

LongLast™

## Biax Q



### Biax Q/E - 4pin

Cap: GX24q  
Wattages: 57-70W  
Colours: 2700 - 5000K  
Life: 20,000Hrs  
Page: 39

LongLast™

## Biax L



### Biax L - 4pin

Cap: 2G11  
Wattages: 18-26-36-40-55W  
Colours: 2700 - 6500K  
Life: 12,000-20,000Hrs  
Page: 40

LongLast™

## 2D



### Biax 2D - 2pin

Cap: GR8  
Wattages: 16-28W  
Colours: 2700 - 6000K  
Life: 12,000Hrs  
Page: 41

WattMiser™



### 2D - 4pin

Cap: GR10q, GRY10q  
Wattages: 10-16-28-38-55W  
Colours: 2700 - 6000K  
Life: 8,000-15,000Hrs  
Page: 41

WattMiser™



### Biax 2D Intergral

Cap: GRZ10d, GRZ10t  
Wattages: 18-30W  
Colours: 2700 - 6000K  
Life: 10,000Hrs  
Page: 41

WattMiser™

\*10W and 55W versions are not Watt-Miser type

# Compact Fluorescent Lamps Non-Integrated

## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage. The Product Description can be used as a quick reference to each product's attributes. Where Life or Average Life are stated we refer to the industry standard definition of how many hours of operation 50% of a given installation will exceed. All Biax CFL lamps manufactured with the high quality Polylux triphosphor technology.

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Diameter [mm]	Length [mm]	EEC	Pack Qty
--------------	---------------------	-------------	-----------	-----	------------	---------	----------	----------	---------------	-------------	-----	----------

**Watts:**  
Energy Used – Nominal Watts. To estimate energy consumption (kWh), multiply watts x hours of use and divide by 1000

**Volts:**  
Lamp data is based on operation at rated voltage

**Cap:**  
The type of cap fitted. See page 134-135 for cap drawings

**Lumens:**  
Light output after the initial 100 hours of operation

**CRI:**  
Colour rendering index, the higher the number (1-100), the more natural the lit subject appears

**Diameter:**  
Bulb diameter in mm

**EEC:**  
Energy Efficiency Class

### Biax S 2-pin, Internal Starter

37654	F5BX/SPX27/827	5	35	G23	265	2700	82	10,000	32	107.5	A	10
37661	F5BX/SPX41/840	5	35	G23	265	4000	82	10,000	32	107.5	A	10
37846	F7BX/SPX27/827	7	47	G23	425	2700	82	10,000	32	136.5	A	10

**Product code:**  
It is important to use this code when ordering to ensure that you receive the exact product you require

**F 5 B X / S P X 2 7 / 8 2 7**

Identifies lamp as fluorescent

Lamp's wattage

Product type

**American standard coding of colour temperature**

**Colour rendering**  
Ra 60-69 (group 2B)  
Ra 70-79 (group 2A)  
Ra 80-89 (group 1B)  
Ra 90-99 (group 1A)

**Colour temperature**  
XX=First 2 digits of temperature in Kelvin - XX00K  
Eg. 27 is 2700K

**Colour definition**  
827=Extra Warm White  
830=Warm White  
835=White  
840=Cool White  
865=Daylight

**CCT:**  
Colour temperature – Kelvin [K]. The visual warmth or coolness of the light. The higher the number the whiter or cooler the light appears

**Life:**  
The point in time when 50% of installed lamps are still burning


**Length:**  
Total length including the length of the pin in mm

**Pack quantity:**  
Number of product units packed in a case

Product Code	Product Description	Wattage [W]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Country	COO
<b>Biax S-2 pin</b>										
47201E	F7BX/NCO/840/2P/STD	7	G23	8000	4000	400	80	137	Australia	China
47231E	F9BX/NCO/827/2P/STD	9	G23	8000	2700	550	80	167	Australia	China
47232E	F9BX/NCO/840/2P/STD	9	G23	8000	4000	550	80	167	Australia	China
47285E	F11BX/NCO/827/2P/STD	11	G23	8000	2700	850	80	235	Australia	China
47286E	F11BX/NCO/840/2P/STD	11	G23	8000	4000	850	80	235	Australia	China
47200N	F7BX/827/2P	7	G23	8000	2700	400	80	137	MY/PH/SG/TH	China
47201N	F7BX/840/2P	7	G23	8000	4000	400	80	137	MY/PH/SG/TH	China
47202N	F7BX/865/2P	7	G23	8000	6500	400	80	137	MY/PH/SG/TH	China
47231N	F9BX/827/2P	9	G23	8000	2700	550	80	167	MY/PH/SG/TH	China
47232N	F9BX/840/2P	9	G23	8000	4000	550	80	167	MY/PH/SG/TH	China
47284N	F9BX/865/2P	9	G23	8000	6500	550	80	167	MY/PH/SG/TH	China
47285N	F11BX/827/2P	11	G23	8000	2700	850	80	235	MY/PH/SG/TH	China
47286N	F11BX/840/2P	11	G23	8000	4000	850	80	235	MY/PH/SG/TH	China
47287N	F11BX/865/2P	11	G23	8000	6500	850	80	235	MY/PH/SG/TH	China


<b>Biax D-2 pin</b>										
85182E	F10DBX/827/2P/STD	10	G24d-1	10000	2700	560	80	112	Australia	China
85183E	F10DBX/840/2P/STD	10	G24d-1	10000	4000	520	80	112	Australia	China
85185E	F13DBX/827/2P/STD	13	G24d-1	10000	2700	760	80	136	Australia	China
85186E	F13DBX/840/2P/STD	13	G24d-1	10000	4000	740	80	136	Australia	China
85194E	F18DBX/827/2P/STD	18	G24d-2	10000	2700	1100	80	156	Australia	China
85195E	F18DBX/840/2P/STD	18	G24d-2	10000	4000	990	80	156	Australia	China
65396E	F26DBX/827/2P/G24d-3	26	G24d-3	7000	2700	1600	80	180	Australia/ID/PH/SG/MY/TH	China
65397E	F26DBX/830/2P/G24d-3	26	G24d-3	7000	3000	1600	80	180	Australia/ID/PH/SG/MY/TH	China
65398E	F26DBX/835/2P/G24d-3	26	G24d-3	7000	3500	1600	80	180	Australia/ID/PH/SG/MY/TH	China
65399E	F26DBX/840/2P/G24d-3	26	G24d-3	7000	4000	1600	80	180	Australia/ID/PH/SG/MY/TH	China
65405E	F26DBX/865/2P/G24d-3	26	G24d-3	7000	6500	1485	78	180	Australia/ID/PH/SG/MY/TH	China
47288	F10DBX/827/2P	10	G24d-1	10000	2700	560	80	112	PH	China
47290	F10DBX/840/2P	10	G24d-1	10000	4000	520	80	112	PH	China
47291	F10DBX/865/2P	10	G24d-1	10000	6500	505	78	112	PH	China
47296	F13DBX/827/2P	13	G24d-1	10000	2700	760	80	136	PH	China
47300	F13DBX/840/2P	13	G24d-1	10000	4000	740	80	136	PH	China
47303	F13DBX/865/2P	13	G24d-1	10000	6500	720	78	136	PH	China
47306	F18DBX/827/2P	18	G24d-2	10000	2700	1100	80	156	PH	China
47318	F18DBX/840/2P	18	G24d-2	10000	4000	990	80	156	PH	China
47319	F18DBX/865/2P	18	G24d-2	10000	6500	920	78	156	PH	China
85194N	F18DBX/827/2P	18	G24d-2	10000	2700	1100	80	156	PH	China
85195N	F18DBX/840/2P	18	G24d-2	10000	4000	990	80	156	PH	China
85196N	F18DBX/865/2P	18	G24d-2	10000	6500	920	78	156	PH	China

# Compact Fluorescent Lamps Non-Integrated



Product Code	Product Description	Wattage [W]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Country	COO
<b>Biax D-2 pin</b>										
85182N	F10DBX/827/2P	10	G24d-1	10000	2700	560	80	112	SG/MY	China
72838N	F10DBX/830/2P	10	G24d-1	10000	3000	560	80	112	SG/MY	China
85183N	F10DBX/840/2P	10	G24d-1	10000	4000	520	80	112	SG/MY	China
85184N	F10DBX/865/2P	10	G24d-1	10000	6500	505	78	112	SG/MY	China
85185N	F13DBX/827/2P	13	G24d-1	10000	2700	760	80	136	SG/MY	China
72840N	F13DBX/830/2P	13	G24d-1	10000	3000	760	80	136	SG/MY	China
85186N	F13DBX/840/2P	13	G24d-1	10000	4000	740	80	136	SG/MY	China
85191N	F13DBX/865/2P	13	G24d-1	10000	6500	720	78	136	SG/MY	China
85194N	F18DBX/827/2P	18	G24d-2	10000	2700	1100	80	156	SG/MY	China
72842N	F18DBX/830/2P	18	G24d-2	10000	3000	1100	80	156	SG/MY	China
85195N	F18DBX/840/2P	18	G24d-2	10000	4000	990	80	156	SG/MY	China
85196N	F18DBX/865/2P	18	G24d-2	10000	6500	920	78	156	SG/MY	China
95824EN	F10DBX/827/2P	10	G24d-1	10000	2700	560	80	112	TH	China
95825EN	F10DBX/840/2P	10	G24d-1	10000	4000	520	80	112	TH	China
95826EN	F10DBX/865/2P	10	G24d-1	10000	6500	505	78	112	TH	China
95827EN	F13DBX/827/2P	13	G24d-1	10000	2700	760	80	136	TH	China
95828EN	F13DBX/840/2P	13	G24d-1	10000	4000	740	80	136	TH	China
95829EN	F13DBX/865/2P	13	G24d-1	10000	6500	720	78	136	TH	China
95830EN	F18DBX/827/2P	18	G24d-2	10000	2700	1100	80	156	TH	China
95831EN	F18DBX/840/2P	18	G24d-2	10000	4000	990	80	156	TH	China
95832EN	F18DBX/865/2P	18	G24d-2	10000	6500	920	78	156	TH	China

## Biax D/E-4 pin



85214E	F13DBX/840/4P/STD	13	G24q-1	10000	4000	740	80	130	Australia	China
85216E	F13DBX/865/4P/STD	13	G24q-1	10000	6500	720	78	130	Australia	China
72848E	F18DBX/ 830/4P/STD	18	G24q-2	10000	3000	1100	80	150	Australia	China
85232E	F18DBX/840/4P/STD	18	G24q-2	10000	4000	990	80	150	Australia	China
85236E	F18DBX/865/4P/STD	18	G24q-2	10000	6500	920	78	150	Australia	China
65407E	F26DBX/827/4P/G24q-3	26	G24q-3	7000	2700	1600	80	175	Australia/ID/MY/PH/SG/TH	China
65409E	F26DBX/830/4P/G24q-3	26	G24q-3	7000	3000	1600	80	175	Australia/ID/MY/PH/SG/TH	China
65411E	F26DBX/835/4P/G24q-3	26	G24q-3	7000	3500	1600	80	175	Australia/ID/MY/PH/SG/TH	China
65413E	F26DBX/840/4P/G24q-3	26	G24q-3	7000	4000	1600	80	175	Australia/ID/MY/PH/SG/TH	China
65415E	F26DBX/865/4P/G24q-3	26	G24q-3	7000	6500	1485	78	175	Australia/ID/MY/PH/SG/TH	China
85197N	GE F10DBX/827/4P	10	G24q-1	10000	2700	560	80	106	MY/PH/SG/TH	China
72844N	GE F10DBX/830/4P	10	G24q-1	10000	3000	560	80	106	MY/PH/SG/TH	China
85198N	GE F10DBX/840/4P	10	G24q-1	10000	4000	520	80	106	MY/PH/SG/TH	China
85199N	GE F10DBX/865/4P	10	G24q-1	10000	6500	505	78	106	MY/PH/SG/TH	China
85211N	GE F13DBX/827/4P	13	G24q-1	10000	2700	760	80	130	MY/PH/SG/TH	China
72846N	GE F13DBX/830/4P	13	G24q-1	10000	3000	760	80	130	MY/PH/SG/TH	China
85214N	GE F13DBX/840/4P	13	G24q-1	10000	4000	740	80	130	MY/PH/SG/TH	China
85216N	GE F13DBX/865/4P	13	G24q-1	10000	6500	720	78	130	MY/PH/SG/TH	China
85221N	GE F18DBX/827/4P	18	G24q-2	10000	2700	1100	80	150	MY/PH/SG/TH	China
72848N	GE F18DBX/830/4P	18	G24q-2	10000	3000	1100	80	150	MY/PH/SG/TH	China
85232N	GE F18DBX/840/4P	18	G24q-2	10000	4000	990	80	150	MY/PH/SG/TH	China
85236N	GE F18DBX/865/4P	18	G24q-2	10000	6500	920	78	150	MY/PH/SG/TH	China



Product Code	Product Description	Wattage [W]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Dimension [mm]	Country	COO
<b>Biax D-D - 2 pin</b>										
86354N	F16DDT4/827/2P	16	GR8	8000	2700	950	82	141x138	SG	China
86361N	F16DDT4/840/2P	16	GR8	8000	4000	950	82	141x138	SG	China
86376N	F16DDT4/865/2P	16	GR8	8000	6500	903	82	141x138	SG	China



<b>Biax D-D - 4 pin</b>										
86391N	F16DDT4/827/4P	16	GR10q	8000	2700	950	82	141x138	SG	China
86406N	F16DDT4/865/4P	16	GR10q	8000	6500	903	82	141x138	SG	China
86421N	F28DDT6/827/4P	28	GR10q	8000	2700	1950	82	207x205	SG	China
86436N	F28DDT6/840/4P	28	GR10q	8000	4000	1950	82	207x205	SG	China
86451N	F28DDT6/865/4P	28	GR10q	8000	6500	1853	82	207x205	SG	China
86466N	F38DDT6/827/4P	38	GR10q	8000	2700	2700	82	207x205	SG	China
86481N	F38DDT6/840/4P	38	GR10q	8000	4000	2700	82	207x205	SG	China
86496N	F38DDT6/865/4P	38	GR10q	8000	6500	2565	82	207x205	SG	China



# Compact Fluorescent Lamps Non-Integrated

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Diameter [mm]	Length [mm]	COO
<b>Biax S 2-pin, Internal Starter</b>											
37654	F5BX/SPX27/827	5	35	G23	265	2700	82	10,000	32	107.5	Hungary
37661	F5BX/SPX41/840	5	35	G23	265	4000	82	10,000	32	107.5	Hungary
37846	F7BX/SPX27/827	7	47	G23	425	2700	82	10,000	32	136.5	Hungary
38930	F7BX/830	7	47	G23	425	3000	82	10,000	32	136.5	Hungary
37659	F7BX/SPX35/835	7	47	G23	425	3500	82	10,000	32	136.5	Hungary
37660	F7BX/SPX41/840	7	47	G23	425	4000	82	10,000	32	136.5	Hungary
38984	F7BX/865	7	47	G23	425	6500	82	10,000	32	136.5	Hungary
37651	F9BX/827	9	60	G23	600	2700	82	10,000	32	167	Hungary
38929	F9BX/830	9	60	G23	600	3000	82	10,000	32	167	Hungary
37652	F9BX/SPX35/835	9	60	G23	600	3500	82	10,000	32	167	Hungary
37653	F9BX/SPX41/840	9	60	G23	600	4000	82	10,000	32	167	Hungary
38985	F9BX/865	9	60	G23	600	6500	82	10,000	32	167	Hungary
37663	F11BX/827	11	91	G23	900	2700	82	10,000	32	237	Hungary
38928	F11BX/830	11	91	G23	900	3000	82	10,000	32	237	Hungary
37666	F11BX/835	11	91	G23	900	3500	82	10,000	32	237	Hungary
37664	F11BX/840	11	91	G23	900	4000	82	10,000	32	237	Hungary
38986	F11BX/840	11	91	G23	900	6500	82	10,000	32	237	Hungary



## Biax S/E 4-pin, External Starter Required

37714	F5BX/827/4P	5	35	2G7	265	2700	82	10,000	37.5	92	Hungary
37715	F5BX/840/4P	5	35	2G7	265	4000	82	10,000	37.5	92	Hungary
37658	F7BX/827/4P	7	47	2G7	425	2700	82	10,000	37.5	121	Hungary
37716	F7BX/840/4P	7	47	2G7	425	4000	82	10,000	37.5	121	Hungary
37710	F9BX/827/4P	9	60	2G7	600	2700	82	10,000	37.5	151	Hungary
37711	F9BX/840/4P	9	60	2G7	600	4000	82	10,000	37.5	151	Hungary
37717	F11BX/827/4P	11	91	2G7	900	2700	82	10,000	37.5	222	Hungary
37713	F11BX/840/4P	11	91	2G7	900	4000	82	10,000	37.5	222	Hungary
12603	F11BX/865/4P	11	91	2G7	900	6500	82	10,000	37.5	222	Hungary

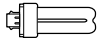


## Biax D 2-pin, Internal Starter

78211	F10DBX/T3/827/2P	10	64	G24D-1	600	2700	82	12000	34.4	108	Hungary
78212	F10DBX/T3/830/2P	10	64	G24D-1	600	3000	82	12000	34.4	108	Hungary
78213	F10DBX/T3/835/2P	10	64	G24D-1	600	3500	82	12000	34.4	108	Hungary
78214	F10DBX/T3/840/2P	10	64	G24D-1	600	4000	82	12000	34.4	108	Hungary
78215	F10DBX/T3/865/2P	10	64	G24D-1	600	6500	82	12000	34.4	108	Hungary
78221	F13DBX/T3/827/2P	13	91	G24D-1	900	2700	82	12000	34.4	139	Hungary
78222	F13DBX/T3/830/2P	13	91	G24D-1	900	3000	82	12000	34.4	139	Hungary
78223	F13DBX/T3/835/2P	13	91	G24D-1	900	3500	82	12000	34.4	139	Hungary
78224	F13DBX/T3/840/2P	13	91	G24D-1	900	4000	82	12000	34.4	139	Hungary
78225	F13DBX/T3/865/2P	13	91	G24D-1	900	6500	82	12000	34.4	139	Hungary
12860	F18DBXT4/SPX27/827	18	100	G24d-2	1200	2700	82	12,000	34.4	154	Hungary
12861	F18DBXT4/SPX30/830	18	100	G24d-2	1200	3000	82	12,000	34.4	154	Hungary
12863	F18DBXT4/SPX35/835	18	100	G24d-2	1200	3500	82	12,000	34.4	154	Hungary
12864	F18DBXT4/SPX41/840	18	100	G24d-2	1200	4000	82	12,000	34.4	154	Hungary
13017	F18DBXT4/SPX65/865	18	100	G24d-2	1200	6500	82	12,000	34.4	154	Hungary
35250	F26DBXT4/SPX27/827	26	105	G24d-3	1800	2700	82	12,000	34.4	169.5	Hungary
35237	F26DBXT4/SPX30/830	26	105	G24d-3	1800	3000	82	12,000	34.4	169.5	Hungary
35251	F26DBXT4/SPX35/835	26	105	G24d-3	1800	3500	82	12,000	34.4	169.5	Hungary
35252	F26DBXT4/SPX41/840	26	105	G24d-3	1800	4000	82	12,000	34.4	169.5	Hungary
35305	F26DBXT4/SPX65/865	26	105	G24d-3	1630	6500	82	12,000	34.4	169.5	Hungary

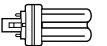


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Diameter [mm]	Length [mm]	COO
<b>Biax D/E LongLast 4-pin, External Starter Required</b>											
78217	F10DBX/T3/827/4P	10	51	G24Q-1	600	2700	82	20000	34.4	100.5	Hungary
78218	F10DBX/T3/830/4P	10	51	G24Q-1	600	3000	82	20000	34.4	100.5	Hungary
78219	F10DBX/T3/835/4P	10	51	G24Q-1	600	3500	82	20000	34.4	100.5	Hungary
78220	F10DBX/T3/840/4P	10	51	G24Q-1	600	4000	82	20000	34.4	100.5	Hungary
78231	F10DBX/T3/865/4P	10	51	G24Q-1	600	6500	82	20000	34.4	100.5	Hungary
78226	F13DBX/T3/827/4P	13	77	G24Q-1	900	2700	82	20000	34.4	131.5	Hungary
78227	F13DBX/T3/830/4P	13	77	G24Q-1	900	3000	82	20000	34.4	131.5	Hungary
78228	F13DBX/T3/835/4P	13	77	G24Q-1	900	3500	82	20000	34.4	131.5	Hungary
78229	F13DBX/T3/840/4P	13	77	G24Q-1	900	4000	82	20000	34.4	131.5	Hungary
78232	F13DBX/T3/865/4P	13	77	G24Q-1	900	6500	82	20000	34.4	131.5	Hungary
12865	F18DBX/SPX27/827/4P	18	80	G24q-2	1200	2700	82	20,000	34.4	146.5	Hungary
12866	F18DBX/SPX30/830/4P	18	80	G24q-2	1200	3000	82	20,000	34.4	146.5	Hungary
12869	F18DBX/SPX35/835/4P	18	80	G24q-2	1200	3500	82	20,000	34.4	146.5	Hungary
12870	F18DBX/SPX41/840/4P	18	80	G24q-2	1200	4000	82	20,000	34.4	146.5	Hungary
35247	F26DBX/SPX27/827/4P	26	80	G24q-3	1800	2700	82	20,000	34.4	162	Hungary
35235	F26DBX/SPX30/830/4P	26	80	G24q-3	1800	3000	82	20,000	34.4	162	Hungary
35248	F26DBX/SPX35/835/4P	26	80	G24q-3	1800	3500	82	20,000	34.4	162	Hungary
35236	F26DBX/SPX41/840/4P	26	80	G24q-3	1800	4000	82	20,000	34.4	162	Hungary
42798	F26DBX/SPX65/865/4P	26	80	G24q-3	1710	6500	82	12,000	34.40	162	Hungary



### Biax T 2-pin with Amalgam, Internal Starter

35940	F13TBX/827/A/2P	13	91	GX24d-1	900	2700	82	12,000	49.3	112.9	Hungary
35966	F13TBX/SPX30/830/A/2P	13	91	GX24d-1	900	3000	82	12,000	49.3	112.9	Hungary
35941	F13TBX/SPX41/A/2P	13	91	GX24d-1	900	4000	82	12,000	49.3	112.9	Hungary
35945	F18TBX/SPX27/827/A/2P	18	100	GX24d-2	1200	2700	82	12,000	49.3	127.4	Hungary
35944	F18TBX/SPX30/830/A/2P	18	100	GX24d-2	1200	3000	82	12,000	49.3	127.4	Hungary
35937	F18TBX/SPX35/835/A/2P	18	100	GX24d-2	1200	3500	82	12,000	49.3	127.4	Hungary
35939	F18TBX/SPX41/840/A/2P	18	100	GX24d-2	1200	4000	82	12,000	49.3	127.4	Hungary
35959	F26TBX/SPX27/827/A/2P	26	105	GX24d-3	1800	2700	82	12,000	49.3	139.9	Hungary
35952	F26TBX/SPX30/830/A/2P	26	105	GX24d-3	1800	3000	82	12,000	49.3	139.9	Hungary
35963	F26TBX/SPX35/835/A/2P	26	105	GX24d-3	1800	3500	82	12,000	49.3	139.9	Hungary
35964	F26TBX/SPX41/840/A/2P	26	105	GX24d-3	1800	4000	82	12,000	49.3	139.9	Hungary



### Biax T/E LongLast 4-pin with Amalgam, External Starter Required

34391	F13TBX/SPX27/827/A/4P	13	91	GX24q-1	900	2700	82	12,000	49.3	112.9	Hungary
34395	F13TBX/SPX30/830/A/4P	13	91	GX24q-1	900	3000	82	12,000	49.3	112.9	Hungary
34400	F13TBX/SPX35/835/A/4P	13	91	GX24q-1	900	3500	82	12,000	49.3	112.9	Hungary
34387	F13TBX/SPX41/840/A/4P	13	91	GX24q-1	900	4000	82	12,000	49.3	112.9	Hungary
34392	F18TBX/SPX27/827/A/4P	18	100	GX24q-2	1200	2700	82	12,000	49.3	127.4	Hungary
34396	F18TBX/SPX30/830/A/4P	18	100	GX24q-2	1200	3000	82	12,000	49.3	127.4	Hungary
34405	F18TBX/SPX35/835/A/4P	18	100	GX24q-2	1200	3500	82	12,000	49.3	127.4	Hungary
34385	F18TBX/SPX41/840/A/4P	18	100	GX24q-2	1200	4000	82	12,000	49.3	127.4	Hungary
34393	F26TBX/SPX27/827/A/4P	26	105	GX24q-3	1800	2700	82	12,000	49.3	139.9	Hungary
34397	F26TBX/SPX30/830/A/4P	26	105	GX24q-3	1800	3000	82	12,000	49.3	139.9	Hungary
34406	F26TBX/SPX35/835/A/4P	26	105	GX24q-3	1800	3500	82	12,000	49.3	139.9	Hungary
34381	F26TBX/SPX41/840/A/4P	26	105	GX24q-3	1800	4000	82	12,000	49.3	139.9	Hungary



# Compact Fluorescent Lamps Non-Integrated

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Diameter [mm]	Length [mm]	COO
<b>Biax T/E LongLast 4-pin with Amalgam, External Starter Required</b>											
39377	F32TBX/SPX27/827/AP4P	32	100	GX24q-3	2400	2700	82	17,000	49.3	141.2	Hungary
39378	F32TBX/SPX30/830/AP4P	32	100	GX24q-3	2400	3000	82	17,000	49.3	141.2	Hungary
39379	F32TBX/SPX35/835/A/4P	32	100	GX24q-3	2400	3500	82	17,000	49.3	141.2	Hungary
39380	F32TBX/SPX41/840/A/4P	32	100	GX24q-3	2400	4000	82	17,000	49.3	141.2	Hungary
46312	F42TBX/827/A/4P	42	135	GX24q-4	3200	2700	82	17,000	49.3	163.2	Hungary
46313	F42TBX/830/A/4P	42	135	GX24q-4	3200	3000	82	17,000	49.3	163.2	Hungary
46314	F42TBX/835/A/4P	42	135	GX24q-4	3200	3500	82	17,000	49.3	163.2	Hungary
46315	F42TBX/841/A/4P	42	135	GX24q-4	3200	3000	82	17,000	49.3	163.2	Hungary



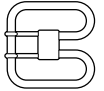
<b>Biax Q/E LongLast 4-pin</b>											
45213	F57QBX/827/A/4P/LL	57	175	GX24q-5	4300	2700	82	20,000	58.3	180.7	Hungary
45204	F57QBX/830/A/4P/LL	57	175	GX24q-5	4300	3000	82	20,000	58.3	180.7	Hungary
45202	F57QBX/835/A/4P/LL	57	175	GX24q-5	4300	3500	82	20,000	58.3	180.7	Hungary
45201	F57QBX/840/A/4P/LL	57	175	GX24q-5	4300	4000	82	20,000	58.3	180.7	Hungary
45208	F70QBX/830/A/4P/LL	70	219	GX24q-6	5200	3000	82	20,000	58.3	208.2	Hungary
45219	F70QBX/835/A/4P/LL	70	219	GX24q-6	5200	3500	82	20,000	58.3	208.2	Hungary
45218	F70QBX/840/A/4P/LL	70	219	GX24q-6	5200	4000	82	20,000	58.3	208.2	Hungary



<b>Biax L LongLast 4-pin, External Starter Required</b>											
41087	F18BX/827	18	58	2G11	1250	2700	82	10,000	43.8	231.3	Hungary
41088	F18BX/830	18	58	2G11	1250	3000	82	10,000	43.8	231.3	Hungary
41089	F18BX/835	18	58	2G11	1250	3500	82	10,000	43.8	231.3	Hungary
41090	F18BX/840	18	58	2G11	1250	4000	82	10,000	43.8	231.3	Hungary
41128	F24BX/827	24	87	2G11	1800	2700	82	10,000	43.8	326.8	Hungary
41134	F24BX/830	24	87	2G11	1800	3000	82	10,000	43.8	326.8	Hungary
41145	F24BX/835	24	87	2G11	1800	3500	82	10,000	43.8	326.8	Hungary
41155	F24BX/840	24	87	2G11	1800	4000	82	10,000	43.8	326.8	Hungary
41163	F34BX/830	34	120	2G11	2800	3000	82	10,000	43.8	538.8	Hungary
41166	F34BX/835	34	120	2G11	2800	3500	82	10,000	43.8	538.8	Hungary
41167	F34BX/840	34	120	2G11	2800	4000	82	10,000	43.8	538.8	Hungary
41307	F36BX/827	36	106	2G11	2900	2700	82	10,000	43.8	421.8	Hungary
41168	F36BX/830	36	106	2G11	2900	3000	82	10,000	43.8	421.8	Hungary
41169	F36BX/835	36	106	2G11	2900	3500	82	10,000	43.8	421.8	Hungary
41170	F36BX/840	36	106	2G11	2900	4000	82	10,000	43.8	421.8	Hungary
75694	F36BX/865	36	106	2G11	2750	6500	82	10000	43.8	421.8	Hungary
41171	F40BX/830	40	126	2G11	3500	3000	82	20,000	43.8	538.8	Hungary
41172	F40BX/835	40	126	2G11	3500	3500	82	20,000	43.8	538.8	Hungary
41173	F40BX/840	40	126	2G11	3500	4000	82	20,000	43.8	538.8	Hungary
41174	F55BX/830	55	101	2G11	4800	3000	82	20,000	43.8	538.8	Hungary
41260	F55BX/835	55	101	2G11	4800	3500	82	20,000	43.8	538.8	Hungary
41298	F55BX/840	55	101	2G11	4800	4000	82	20,000	43.8	538.8	Hungary
75695	F55BX/865	55	101	2G11	4550	6500	82	20000	43.8	538.8	Hungary

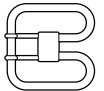


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Diameter [mm]	Length [mm]	COO
<b>2D Watt-Miser</b>											
41744	F162D/827	16	103	GR8	1100	2700	82	12,000	138	142	Hungary
41745	F162D/835	16	103	GR8	1100	3500	82	12,000	138	142	Hungary
41746	F162D/827/4P	16	103	GR10q	1100	2700	82	12,000	138	142	Hungary
75066	F162D/830/4P	16	103	GR10q	1100	3000	82	12,000	138	142	Hungary
41747	F162D/835/4P	16	103	GR10q	1100	3500	82	12,000	138	142	Hungary
41749	F162D/860	16	103	GR8	1050	6000	82	12,000	138	142	Hungary
41794	F212D/827/4P	21	103	GR10q	1375	2700	82	12,000	138	142	Hungary
41806	F212D/835/4P	21	103	GR10q	1375	3500	82	12,000	138	142	Hungary
41808	F212D/860/4P	21	103	GR10q	1375	6000	82	12,000	138	142	Hungary
10546	F282DT5/827/2P	28	108	GR8	2150	2700	82	15,000	202	204	Hungary
10547	F282DT5/827/4P	28	108	GR10q	2150	2700	82	15,000	202	204	Hungary
75068	F282DT5/830/4P	28	108	GR10q	2150	3000	82	18,000	202	204	Hungary
10567	F282DT5/835/4P	28	108	GR10q	2150	3500	82	15,000	202	204	Hungary
10548	F282DT5/840/4P	28	108	GR10q	2150	4000	82	15,000	202	204	Hungary
10550	F382DT5/827/4P	38	110	GR10q	3000	2700	82	18,000	202	204	Hungary
75067	F382DT5/830/4P	38	110	GR10q	3000	3000	82	18,000	202	204	Hungary
10566	F382DT5/835/4P	38	110	GR10q	3000	3500	82	18,000	202	204	Hungary



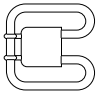
### Biax 2D

88105	F10W/2D/827/4P	10	60	GR10q	680	2700	82	8,000	92	95	Hungary
88106	F10W/2D/835/4P	10	60	GR10q	680	3500	82	8,000	92	95	Hungary



### Biax 2D Watt-Miser with Integral Control Gear

18122	FLE18W2D/827 GRZ10D	18	220-240	GRZ10d	1200	2700	80	10,000	138	142	Hungary
18123	FLE18W2D/835 GRZ10D	18	220-240	GRZ10d	1200	3500	80	10,000	138	142	Hungary
18120	FLE18W2D/840 GRZ10D	18	220-240	GRZ10d	1200	4000	80	10,000	138	142	Hungary



# Compact Fluorescent Lamps Integrated

GE's new compact fluorescent lamps give you the energy saving benefits you want and the high quality lighting you expect. These lamps are the perfect alternatives to incandescent lamps.

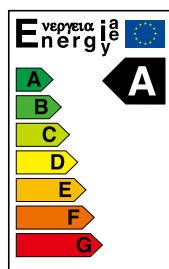
**Save money on energy bills and lose nothing in quality. The benefits of GE's compact fluorescent range are:**

- 80% energy efficient vs incandescent from our 'A' energy labeled products
- Available in small incandescent sizes and look-a-like shapes – they fit almost everywhere!
- Guaranteed outstanding light quality throughout the lamps' life, available in various colour temperatures
- Provide quick and flicker-free start, fast warm-up
- Last long years in service from 6,000 up to 15,000 hours
- Available in a wide range of shapes – from stick, spiral to decorative form

- Meeting specific requirements with special lamps that offer dimmability, dusk to dawn operation and high switching endurance.
- Environmentally friendly solutions – WEEE, RoHS and EUP compliant products with minimized mercury content.

#### Get Your shape back!

GE's brand new top performance Energy Smart compact fluorescent lamp is now your true look-a-like replacement of a frosted incandescent bulb – providing excellent light quality and energy savings for up to 10 years.



# Advanced lighting technologies

## LongLast Spiral T2 15,000 hours

Small size premium quality lamp providing fast light and long life.

### Key features

- Full range from 8-23W
- Fast warm-up
- 15,000 hours life
- 20,000 switching endurance
- Ecolabel certified quality



## T3 Dimmable

These premium compact fluorescent lamps are dimmable: this means that lighting can be adjusted to suit mood and also extra energy savings can be made.

### Key features

- 20W T3
- Fast warm-up
- 10,000 hours life
- Reduced mercury content <2mg
- 15-100% continuous dimming



## Incandescent Upgrade

Incandescent Product Group	Compact Fluorescent Standard Substitute	Compact Fluorescent Premium Substitute	Compact Fluorescent High Performance Substitute
GLS	Stick T3 Mini Eco 6,000 hours	Stick T3 Mini 10,000 hours LongLast Spiral T2 8,000 hours GLS T2 6,000 hours	LongLast Spiral T2 15,000 hours Dimmable Spiral T3 10,000 hours Energy Smart T2 10,000 hours
Krypton Mushroom	Stick T3 Mini Eco 6,000 hours	Stick T3 Mini 10,000 hours Spiral T2 8,000 hours GLS T2 6,000 hours	LongLast Spiral T2 15,000 hours Dimmable Spiral T3 10,000 hours Energy Smart T2 10,000 hours
Candle		Candle T2 6,000 hours	
Spherical		Spiral T2 8,000 hours Spherical T2 6,000 hours	LongLast Spiral T2 15,000 hours Energy Smart T2 10,000 hours
Globe	Stick T3 Mini Eco 6,000 hours	Stick T3 Mini 10,000 hours	Stick T3 Extra Mini 15,000 hours* Spiral T2 15,000 hours Dimmable Spiral T3 10,000 hours Energy Smart T2 10,000 hours

## Energy Smart At last, the NEW energy saving lamp that everyone's been waiting for

Miniaturized electronics developed by GE engineers are the enabling technology of a new covered Energy Smart compact fluorescent lamp featuring the "T2 GE Spiral" inside the glass bulb. With this new lamp – an exclusive design achievement that GE has protected with more than 16 patents – the electronics fit in the neck of the frosted-glass bulb. The result is a profile that's virtually identical to a standard incandescent light bulb – same size and shape.

The new premium Energy Smart compact fluorescent bulb is available only from GE, has instant-on technology, consists of eco-friendly components and provides excellent light quality combined with massive energy savings for up to 10 years.



With a T2 tube inside

### Key features

- Traditional soft light bulb
- The first glass frosted compact fluorescent lamp, compliant with European Legislation
- 9, 11, 15 and 20W versions
- 80% energy saving
- 10,000 hours lifetime
- Unique GE innovation using 16 patents
- Minimized mercury content, <0.8 mg

a product of  
**ecomagination**<sup>SM</sup>





# Selector

## Stick

**T3 Stick - Ultralife**

Cap: E27, E14, B22  
Wattages: 6-20W  
Colours: 2700 - 6500K  
Life: 8,000Hrs  
Page: 47



**T3&T4 Stick - Economizer**

Cap: E27  
Wattages: 9-23W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 48



**T3&T4 Economizer Plus**

Cap: E27, E14  
Wattages: 5-23W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 49



**T4 Stick - Sensor**

Cap: E27  
Wattages: 15W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 49



**T3 Mini**

Cap: E27, E14, B22  
Wattages: 9-23W  
Colours: 2700 - 6500K  
Life: 10,000Hrs  
Page: 50



## Spiral

**T2 Spiral - Tiny**

Cap: E27, E14, B22, B15  
Wattages: 8-20W  
Colours: 2700 - 6500K  
Life: 8,000Hrs, 15,000Hrs  
Page: 50



**T3 Spiral-Ultralife Plus**

Cap: E27, B22  
Wattages: 14-24W  
Colours: 2700 - 6500K  
Life: 8,000Hrs  
Page: 53



**T3 Spiral - Economizer Plus**

Cap: E27, E14  
Wattages: 9-23W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 54



**T3 Spiral - Dimmable**

Cap: E27, B22  
Wattages: 13W, 20W  
Colours: 2700 - 6500K  
Life: 8,000Hrs  
Page: 54



**T5 Spiral-High Power**

Cap: E27  
Wattages: 45W, 60W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 54




**T2 All Glass**

Cap: E27, B22  
Wattages: 9-20W  
Colours: 2700 - 6500K  
Life: 8,000-10,000Hrs  
Page: 55



**T2 Candle**

Cap: E27, E14, B22, B15  
Wattages: 5W, 7W  
Colours: 2700 - 4000K  
Life: 6,000-10,000Hrs  
Page: 56



**T2 Spherical**

Cap: E27, E14, B22, B15  
Wattages: 5W, 7W  
Colours: 2700 - 6500K  
Life: 6,000-10,000Hrs  
Page: 56



## Décor

**T2&T3 GLS**

Cap: E27, E14, B22  
Wattages: 8-20W  
Colours: 2700 - 4000K  
Life: 6,000Hrs  
Page: 57



**T2 REF**

Cap: E27, E14, B22  
Wattages: 7W, 11W  
Colours: 2700 - 4000K  
Life: 6,000Hrs  
Page: 57




**T2 SOFT**

Cap: E27, E14, B22  
Wattages: 8W, 12W  
Colours: 2700K  
Life: 6,000Hrs  
Page: 57



**T2 GU10**

Cap: GU10  
Wattages: 7W, 9W  
Colours: 2700 - 4000K  
Life: 6,000Hrs  
Page: 58



**T2 Buglite GLS**

Cap: E27, B22  
Wattages: 11W  
Colours: 2700K  
Life: 6,000Hrs  
Page: 58




**T3 GG**

Cap: E27  
Wattages: 20W  
Colours: 2700 - 6500K  
Life: 6,000Hrs  
Page: 58



**PAR38**

Cap: E27, B22  
Wattages: 23W  
Colours: 2700K  
Life: 8,000Hrs  
Page: 58



**R80**

Cap: E27, B22  
Wattages: 15W  
Colours: 2700K  
Life: 8,000Hrs  
Page: 58

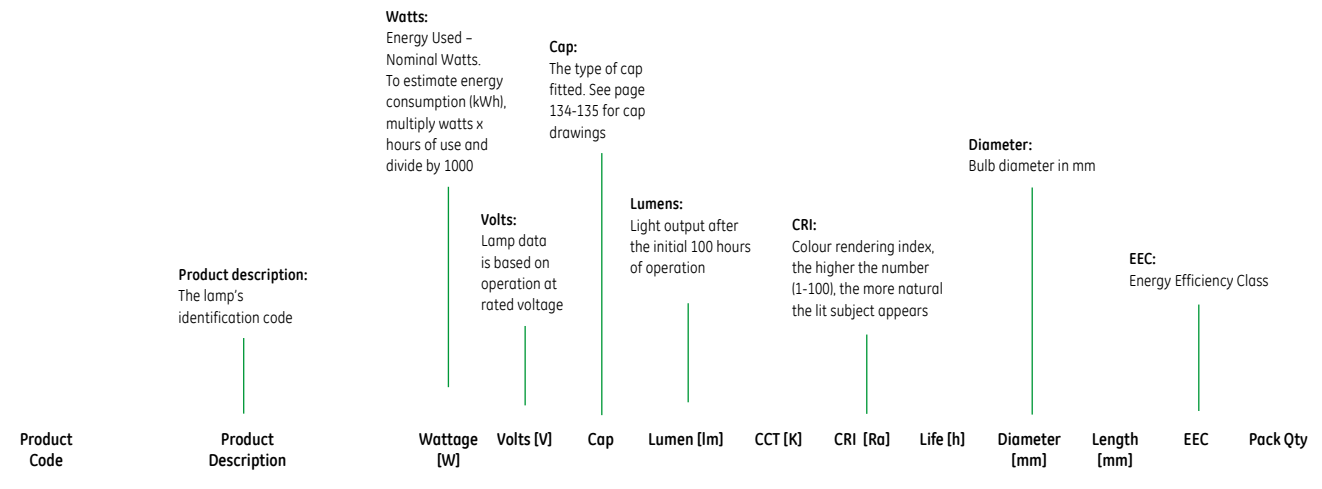


\*Range will be replaced by LongLast Spiral T2 15,000 hours in Q2 2010

# Compact Fluorescent Lamps Integrated

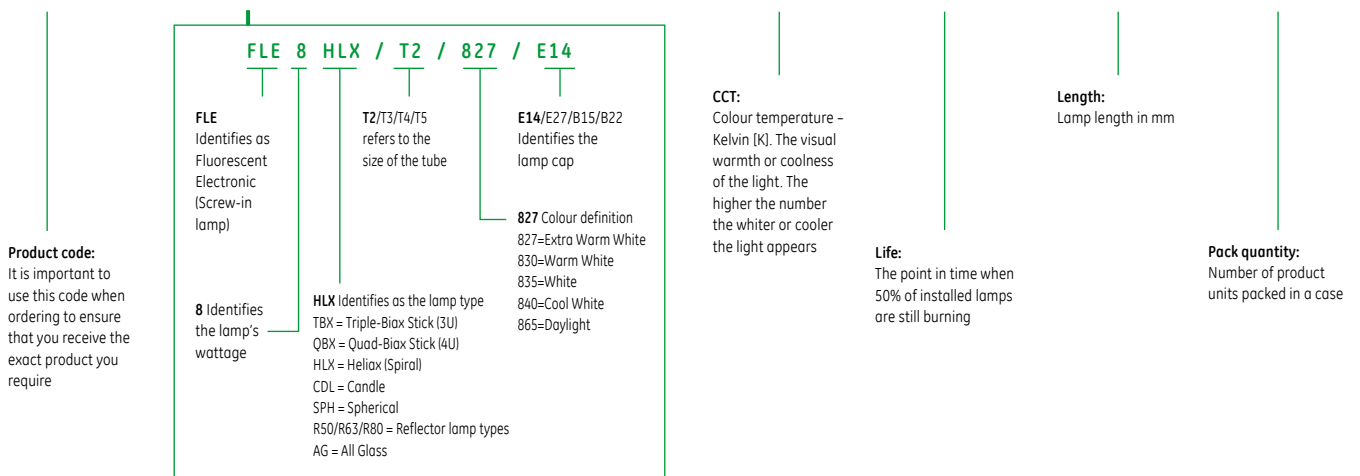
## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage. The Product Description can be used as a quick reference to each product's attributes. Where Life or Average Life are stated we refer to the industry standard definition of how many hours of operation 50% of a given installation will exceed.



### Electronic Spiral T2 - 15,000 hours

76153	FLE8HLX/T2/827/E14	8	220-240	E14	460	2700	80	15,000	100.5	46	A	8
76154	FLE8HLX/T2/827/E27	8	220-240	E27	460	2700	80	15,000	88.5	46	A	8
76155	FLE12HLX/T2/827/E14	12	220-240	E14	700	2700	80	15,000	112.5	53	A	6

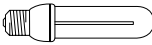
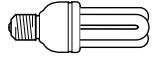


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T3 Stick - Ultralife</b>												
11241	FLE9TBX/827/B22/T3 BP1	9	220-240	B22	8000	2700	480	80	107	45	Australia	
74663	FLE9TBX/827/E27/T3 BX	9	220-240	E27	8000	2700	480	80	107	45	Australia	
74699	FLE9TBX/827/B22/T3 BX2	9	220-240	B22	10000	2700	480	82	116	44.5	Australia	
74700	FLE9TBX/827/E27/T3 BX2	9	220-240	E27	10000	2700	480	82	117	44.5	Australia	
95836	FLE9TBX/840/B22/T3	9	220-240	B22	8000	4000	480	80	107	45	Australia	
95837	FLE9TBX/840/E27/T3	9	220-240	E27	8000	4000	480	80	107	45	Australia	
74671	FLE12TBX/827/B22/T3 BX	12	220-240	B22	8000	2700	700	80	117	46	Australia	
74672	FLE12TBX/827/E27/T3 BX	12	220-240	E27	8000	2700	700	80	117	46	Australia	
48191	FLE12TBX/840/E27/T3	12	220-240	E27	8000	4000	700	80	117	46	Australia	
48192	FLE12TBX/840/B22/T3	12	220-240	B22	8000	4000	700	80	117	46	Australia	
95761P	FLE15TBX/827/B22/T3 BX1	15	220-240	B22	8000	2700	872	82	138	44.5	Australia	
74680	FLE15TBX/827/E27/T3 BX	15	220-240	E27	8000	2700	872	82	138	44.5	Australia	
74701	FLE15TBX/827/B22/T3 BX2	15	220-240	B22	10000	2700	850	82	135	44.5	Australia	
74702	FLE15TBX/827/E27/T3 BX2	15	220-240	E27	10000	2700	850	82	136	44.5	Australia	
95800P	FLE15TBX/840/B22/T3	15	220-240	B22	8000	4000	800	76	138	44.5	Australia	
95804P	FLE15TBX/840/E27/T3	15	220-240	E27	8000	4000	800	76	138	44.5	Australia	
74705	FLE15TBX/840/B22/T3 BX2	15	220-240	B22	10000	4000	800	82	139	44.5	Australia	
74706	FLE15TBX/840/E27/T3 BX2	15	220-240	E27	10000	4000	800	82	140	44.5	Australia	
81025	FLE15TBX/865/B22/T3	15	220-240	B22	8000	6500	800	76	138	44.5	Australia	
81026	FLE15TBX/865/E27/T3	15	220-240	E27	8000	6500	800	76	138	44.5	Australia	
74681	FLE18TBX/827/B22/T3 BX	18	220-240	B22	8000	2700	1096	82	139	44.5	Australia	
74684	FLE18TBX/827/E27/T3 BX	18	220-240	E27	8000	2700	1096	82	140	44.5	Australia	
95802P	FLE18TBX/840/B22/T3	18	220-240	B22	8000	4000	1010	76	151	44.5	Australia	
95805P	FLE18TBX/840/E27/T3	18	220-240	E27	8000	4000	1010	76	151	44.5	Australia	
74703	FLE20TBX/827/B22/T3 BX2	20	220-240	B22	10000	2700	1200	82	151	44.5	Australia	
74704	FLE20TBX/827/E27/T3 BX2	20	220-240	E27	10000	2700	1200	82	152	44.5	Australia	
74707	FLE20TBX/840/B22/T3 BX2	20	220-240	B22	10000	4000	1152	82	151	44.5	Australia	
74708	FLE20TBX/840/E27/T3 BX2	20	220-240	E27	10000	4000	1152	82	152	44.5	Australia	
24879E	FLE9TBX/865/E27/T3	9	220-240	E27	8000	6500	460	80	107	45	ID	
24880E	FLE9TBX/827/E27/T3	9	220-240	E27	8000	2700	480	80	107	45	ID	
95414E	FLE6DBX/827/E27/T3	6	220-240	E27	8000	2700	300	82	108	40	PH	
95416E	FLE6DBX/864/E27/T3	6	220-240	E27	8000	6500	280	76	108	40	PH	
89584E	FLE9DBX/827/E27/T3	9	220-240	E27	8000	2700	497	82	126	40	PH	
89587E	FLE9DBX/864/E27/T3	9	220-240	E27	8000	6500	440	76	126	40	PH	
11236E	FLE9TBX/827/E27	9	220-240	E27	8000	2700	480	80	107	45	PH	
11238E	FLE9TBX/865/E27	9	220-240	E27	8000	6500	460	80	107	45	PH	
11349E	FLE9TBX/827/E14	9	220-240	E14	8000	2700	480	80	109	45	PH	
11350E	FLE9TBX/865/E14	9	220-240	E14	8000	6500	460	80	109	45	PH	
89588E	FLE11DBX/827/E27	11	220-240	E27	8000	2700	615	82	144	44.5	PH	
89590E	FLE11DBX/864/E27	11	220-240	E27	8000	6500	590	76	144	44.5	PH	
48189EP	FLE12TBX/827/E27	12	220-240	E27	8000	2700	700	80	117	46	PH	
48191EP	FLE12TBX/840/E27	12	220-240	E27	8000	4000	700	80	117	46	PH	
48193EP	FLE12TBX/865/E27	12	220-240	E27	8000	6500	650	80	117	46	PH	
89591E	FLE15TBX/827/E27	15	220-240	E27	8000	2700	872	82	138	44.5	PH	
89593E	FLE15TBX/865/E27	15	220-240	E27	8000	6500	800	76	138	44.5	PH	
89594E	FLE18TBX/827/E27	18	220-240	E27	8000	2700	1096	82	151	44.5	PH	
89596E	FLE18TBX/864/E27	18	220-240	E27	8000	6500	1010	76	151	44.5	PH	



# Compact Fluorescent Lamps Integrated

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T3 Stick - Ultralife</b>												
95414EN	FLE6DBX/827/E27	6	220-240	E27	8000	2700	300	82	108	40	SG/MY	China
95416EN	FLE6DBX/865/E27	6	220-240	E27	8000	6500	280	76	108	40	SG/MY	China
89637EN	FLE6DBX/827/E14	6	220-240	E14	8000	2700	300	82	108	40	SG/MY	China
89639EN	FLE6DBX/865/E14	6	220-240	E14	8000	6500	280	76	108	40	SG/MY	China
89584EN	FLE9DBX/827/E27	9	220-240	E27	8000	2700	497	82	126	40	SG/MY	China
89585EN	FLE9DBX/840/E27	9	220-240	E27	8000	4000	440	76	126	40	SG/MY	China
89587EN	FLE9DBX/865/E27	9	220-240	E27	8000	6500	440	76	126	40	SG/MY	China
11236EN	FLE9TBX/827/E27	9	220-240	E27	8000	2700	480	80	107	45	SG/MY	China
11238EN	FLE9TBX/865/E27	9	220-240	E27	8000	6500	460	80	107	45	SG/MY	China
11349EN	FLE9TBX/827/E14	9	220-240	E14	8000	2700	480	80	109	45	SG/MY	China
11350EN	FLE9TBX/865/E14	9	220-240	E14	8000	6500	460	80	109	45	SG/MY	China
89588EN	FLE11DBX/827/E27	11	220-240	E27	8000	2700	615	82	144	44.5	SG/MY	China
89589EN	FLE11DBX/840/E27	11	220-240	E27	8000	4000	590	76	144	44.5	SG/MY	China
89590EN	FLE11DBX/865/E27	11	220-240	E27	8000	6500	590	76	144	44.5	SG/MY	China
89591EN	FLE15TBX/827/E27	15	220-240	E27	8000	2700	872	82	138	44.5	SG/MY	China
89592EN	FLE15TBX/840/E27	15	220-240	E27	8000	4000	800	76	138	44.5	SG/MY	China
89593EN	FLE15TBX/865/E27	15	220-240	E27	8000	6500	800	76	138	44.5	SG/MY	China
89594EN	FLE18TBX/827/E27	18	220-240	E27	8000	2700	1096	82	151	44.5	SG/MY	China
89595EN	FLE18TBX/840/E27	18	220-240	E27	8000	4000	1010	76	151	44.5	SG/MY	China
89596EN	FLE18TBX/865/E27	18	220-240	E27	8000	6500	1010	76	151	44.5	SG/MY	China
95414ET	FLE6DBX/827/E27	6	220-240	E27	8000	2700	300	82	108	40	TH	China
95416ET	FLE6DBX/864/E27	6	220-240	E27	8000	6500	280	76	108	40	TH	China
89637ET	FLE6DBX/827/E14	6	220-240	E14	8000	2700	300	82	108	40	TH	China
89639ET	FLE6DBX/865/E14	6	220-240	E14	8000	6500	280	76	108	40	TH	China
11236ET	FLE9TBX/827/E27	9	220-240	E27	8000	2700	480	80	107	45	TH	China
11237ET	FLE9TBX/840/E27	9	220-240	E27	8000	4000	480	80	107	45	TH	China
11238ET	FLE9TBX/865/E27	9	220-240	E27	8000	6500	460	80	107	45	TH	China
89584ET	FLE9DBX/827/E27	9	220-240	E27	8000	2700	497	82	126	40	TH	China
89585EN	FLE9DBX/840/E27	9	220-240	E27	8000	4000	440	76	126	40	TH	China
89587EN	FLE9DBX/865/E27	9	220-240	E27	8000	6500	440	76	126	40	TH	China
89588ET	FLE11DBX/827/E27	11	220-240	E27	8000	2700	615	82	144	44.5	TH	China
89589ET	FLE11DBX/840/E27	11	220-240	E27	8000	4000	590	76	144	44.5	TH	China
89590ET	FLE11DBX/865/E27	11	220-240	E27	8000	6500	590	76	144	44.5	TH	China
89591ET	FLE15TBX/827/E27	15	220-240	E27	8000	2700	872	82	138	44.5	TH	China
89592ET	FLE15TBX/840/E27	15	220-240	E27	8000	4000	800	76	138	44.5	TH	China
89593ET	FLE15TBX/865/E27	15	220-240	E27	8000	6500	800	76	138	44.5	TH	China
89594ET	FLE18TBX/827/E27	18	220-240	E27	8000	2700	1096	82	151	44.5	TH	China
89595ET	FLE18TBX/840/E27	18	220-240	E27	8000	4000	1010	76	151	44.5	TH	China
89596ET	FLE18TBX/865/E27	18	220-240	E27	8000	6500	1010	76	151	44.5	TH	China
<b>T3&amp;T4 Stick - Economizer</b>												
24875E	FLE9DBX/827/E27/220-240V	9	220-240	E27	6000	2700	490	80	135	42	ID	China
95595EID	FLE9DBX/865/E27/220-240V	9	220-240	E27	6000	6500	460	80	135	42	ID	China
24876E	FLE15DBX/827/E27/220-240V	15	220-240	E27	6000	2700	875	80	168	46	ID	China
95596EID	FLE15DBX/865/E27/220-240V	15	220-240	E27	6000	6500	810	80	168	46	ID	China
95650EID	FLE20TBX/827/E27/220-240V	20	220-240	E27	6000	2700	1200	80	165	49	ID	China
95597EID	FLE20TBX/865/E27/220-240V	20	220-240	E27	6000	6500	1120	81	165	49	ID	China
24877E	FLE23W/QBX/865/E27	23	220-240	E27	6000	6500	1380	80	167	56	ID	China
24878E	FLE23W/QBX/827/E27	23	220-240	E27	6000	2700	1380	80	167	56	ID	China
11305ET	FLE9DBX/827/E27/6k	9	220-240	E27	6000	2700	490	80	135	42	TH	China
11321ET	FLE9DBX/864/E27/6K	9	220-240	E27	6000	6500	460	80	135	42	TH	China
11324ET	FLE11DBX/827/E27/6K	11	220-240	E27	6000	2700	640	80	152	42	TH	China
11328ET	FLE11DBX/865/E27/6K	11	220-240	E27	6000	6500	590	80	152	42	TH	China
11332ET	FLE15TBX/827/E27/6k	15	220-240	E27	6000	2700	920	80.5	144	49	TH	China
11335ET	FLE15TBX/864/E27/6K	15	220-240	E27	6000	6500	830	80	144	49	TH	China
11336ET	FLE20TBX/827/E27	20	220-240	E27	6000	2700	1200	80	165	49	TH	China
11342ET	FLE20TBX/865/E27	20	220-240	E27	6000	6500	1120	81	165	49	TH	China
95600ET	FLE23QBX/827/E27	23	220-240	E27	6000	2700	1380	80	167	56	TH	China
95602ET	FLE23QBX/865/E27	23	220-240	E27	6000	6500	1380	80	167	56	TH	China



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T3&amp;T4 Economizer Plus</b>												
78168E	FLE5DBX/827/E27/T3 220-240V	5	220-240	E27	6000	2700	200	80	109	38	SG/MY/PH	China
78169E	FLE5DBX/865/E27/T3 220-240V	5	220-240	E27	6000	6500	180	80	109	38	SG/MY/PH	China
78170E	FLE8DBX/827/E27/T3 220-240V	8	220-240	E27	6000	2700	430	80	135	38	SG/MY/PH	China
78171E	FLE8DBX/865/E27/T3 220-240V	8	220-240	E27	6000	6500	390	80	135	38	SG/MY/PH	China
78172E	FLE11DBX/827/E27/T3 220-240V	11	220-240	E27	6000	2700	520	80	145	38	SG/MY/PH	China
78173E	FLE11DBX/865/E27/T3 220-240V	11	220-240	E27	6000	6500	480	80	145	38	SG/MY/PH	China
78174E	FLE14TBX/827/E27/T4 220-240V	14	220-240	E27	6000	2700	820	80	140	44	SG/MY/PH	China
78175E	FLE14TBX/865/E27/T4 220-240V	14	220-240	E27	6000	6500	760	80	140	44	SG/MY/PH	China
78176E	FLE20TBX/827/E27/T4 220-240V	20	220-240	E27	6000	2700	1100	80	160	48	SG/MY/PH	China
78177E	FLE20TBX/865/E27/T4 220-240V	20	220-240	E27	6000	6500	1020	80	160	48	SG/MY/PH	China
78178E	FLE23TBX/827/E27/T4 220-240V	23	220-240	E27	6000	2700	1260	80	170	48	SG/MY/PH	China
78179E	FLE23TBX/865/E27/T4 220-240V	23	220-240	E27	6000	6500	1170	80	170	48	SG/MY/PH	China
64556E	FLE6DBX/827/E27/T3	6	220-240	E27	6000	2700	240	80	111	40	SG/MY/PH	China
64557E	FLE6DBX/865/E27/T3	6	220-240	E27	6000	6500	216	80	111	40	SG/MY/PH	China
64558E	FLE8DBX/827/E27/T3	8	220-240	E27	6000	2700	430	80	126.5	40	SG/MY/PH	China
64559E	FLE8DBX/865/E27/T3	8	220-240	E27	6000	6500	390	80	126.5	40	SG/MY/PH	China
64560E	FLE11DBX/827/E27/T3	11	220-240	E27	6000	2700	532	80	146	44.5	SG/MY/PH	China
64561E	FLE11DBX/865/E27/T3	11	220-240	E27	6000	6500	480	80	146	44.5	SG/MY/PH	China
64562E	FLE14TBX/827/E27/T3	14	220-240	E27	6000	2700	820	80	140	44.5	SG/MY/PH	China
64563E	FLE14TBX/865/E27/T3	14	220-240	E27	6000	6500	760	80	140	44.5	SG/MY/PH	China
64564E	FLE20TBX/827/E27/T3	20	220-240	E27	6000	2700	1100	80	158	44.5	SG/MY/PH	China
64565E	FLE20TBX/865/E27/T3	20	220-240	E27	6000	6500	1020	80	158	44.5	SG/MY/PH	China
64566E	FLE23TBX/827/E27/T3	23	220-240	E27	6000	2700	1260	80	158	44.5	SG/MY/PH	China
64567E	FLE23TBX/865/E27/T3	23	220-240	E27	6000	6500	1170	80	158	44.5	SG/MY/PH	China
95600EN	FLE23QBX/827/E27	23	220-240	E27	6000	2700	1380	80	167	56	SG/MY/PH	China
95601EN	FLE23QBX/840/E27	23	220-240	E27	6000	4000	1380	80	167	56	SG/MY/PH	China
95602EN	FLE23QBX/865/E27	23	220-240	E27	6000	6500	1380	80	167	56	SG/MY/PH	China
65031E	FLE6DBX/827/E14/T3	6	220-240	E14	6000	2700	240	80	108.5	40	SG/MY/TH	China
65032E	FLE6DBX/865/E14/T3	6	220-240	E14	6000	6500	216	80	108.5	40	SG/MY/TH	China
65033E	FLE8DBX/827/E14/T3	8	220-240	E14	6000	2700	430	80	125.5	40	SG/MY/TH	China
65034E	FLE8DBX/865/E14/T3	8	220-240	E14	6000	6500	390	80	125.5	40	SG/MY/TH	China
65035E	FLE11DBX/827/E14/T3	11	220-240	E14	6000	2700	532	80	144.5	44.5	SG/MY/TH	China
65036E	FLE11DBX/865/E14/T3	11	220-240	E14	6000	6500	480	80	144.5	44.5	SG/MY/TH	China
78168T	FLEBX/827/E27/T3 220-240V	6	220-240	E27	6000	2700	240	80	111	40	TH	China
78169T	FLEBX/865/E27/T3 220-240V	6	220-240	E27	6000	6500	216	80	111	40	TH	China
78170T	FLE8DBX/827/E27/T3 220-240V	8	220-240	E27	6000	2700	430	80	126.5	40	TH	China
78171T	FLE8DBX/865/E27/T3 220-240V	8	220-240	E27	6000	6500	390	80	126.5	40	TH	China
78172T	FLE11DBX/827/E27/T3 220-240V	11	220-240	E27	6000	2700	532	80	146	44.5	TH	China
78173T	FLE11DBX/865/E27/T3 220-240V	11	220-240	E27	6000	6500	480	80	146	44.5	TH	China
78174T	FLE14TBX/827/E27/T3 220-240V	14	220-240	E27	6000	2700	820	80	140	44.5	TH	China
78175T	FLE14TBX/865/E27/T3 220-240V	14	220-240	E27	6000	6500	760	80	140	44.5	TH	China
78176T	FLE20TBX/827/E27/T3 220-240V	20	220-240	E27	6000	2700	1100	80	158	44.5	TH	China
78177T	FLE20TBX/865/E27/T3 220-240V	20	220-240	E27	6000	6500	1020	80	158	44.5	TH	China
78178T	FLE23TBX/827/E27/T3 220-240V	23	220-240	E27	6000	2700	1260	80	158	44.5	TH	China
78179T	FLE23TBX/865/E27/T3 220-240V	23	220-240	E27	6000	6500	1170	80	158	44.5	TH	China



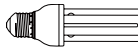
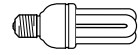
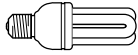
### T4 Stick - Sensor

66839TH	FLE15TBX/827/E27 SENSOR	15	220-240	E27	6000	2700	800	80	148	56	TH	China
66841TH	FLE15TBX/865/E27 SENSOR	15	220-240	E27	6000	6500	800	80	148	56	TH	China



# Compact Fluorescent Lamps Integrated

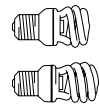
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Length [mm]	Diameter [mm]	EEC	COO
<b>Electronic Stick T3 Mini - 10,000 hours</b>												
88697	FLE9TBX/T3/827/E14	9	220-240	E14	480	2700	82	10,000	117	45	A	China
88695	FLE9TBX/T3/827/E27	9	220-240	E27	480	2700	82	10,000	115	45	A	China
88696	FLE9TBX/T3/827/B22	9	220-240	B22	480	2700	82	10,000	114	46	A	China
88700	FLE9TBX/T3/840/E14	9	220-240	E14	455	4000	82	10,000	117	45	A	China
88698	FLE9TBX/T3/840/E27	9	220-240	E27	455	4000	82	10,000	115	45	A	China
88703	FLE9TBX/T3/865/E14	9	220-240	E14	455	6500	82	10,000	117	45	A	China
88701	FLE9TBX/T3/865/E27	9	220-240	E27	455	6500	82	10,000	115	45	A	China
78690	FLE11TBX/T3/827/E14	11	220-240	E14	660	2700	82	10,000	126	45	A	China
72689	FLE11TBX/T3/827/E27	11	220-240	E27	660	2700	82	10,000	124	45	A	China
72690	FLE11TBX/T3/827/B22	11	220-240	B22	660	2700	82	10,000	123	45	A	China
88709	FLE11TBX/T3/840/E14	11	220-240	E14	620	4000	82	10,000	126	45	A	China
88712	FLE11TBX/T3/865/E14	11	220-240	E14	620	6500	82	10,000	126	45	A	China
75730	FLE11TBX/T3/865/E27	11	220-240	E27	620	6500	82	10,000	124	45	A	China
72688	FLE15TBX/T3/827/E27	15	220-240	E27	850	2700	82	10,000	139.5	46	A	China
88713	FLE15TBX/T3/827/B22	15	220-240	B22	850	2700	82	10,000	138.5	45	A	China
88714	FLE15TBX/T3/840/E27	15	220-240	E27	800	4000	82	10,000	139.5	46	A	China
88716	FLE15TBX/T3/865/E27	15	220-240	E27	800	6500	82	10,000	139.5	46	A	China
88718	FLE20TBX/T3/827/E27	20	220-240	E27	1200	1200	82	10,000	153	46	A	China
88719	FLE20TBX/T3/827/B22	20	220-240	B22	1200	1200	82	10,000	153	46	A	China
88720	FLE20TBX/T3/840/E27	20	220-240	E27	1152	4000	82	10,000	153	46	A	China
88722	FLE20TBX/T3/865/E27	20	220-240	E27	1152	6500	82	10,000	153	46	A	China
88723	FLE20TBX/T3/865/B22	20	220-240	B22	1152	6500	82	10,000	153	46	A	China
75039	FLE23QBX/T3/827/B22	23	220-240	B22	1450	2700	82	10,000	147	50	A	China
75268	FLE23QBX/T3/827/E27	23	220-240	E27	1450	2700	82	10,000	147	50	A	China
97000	FLE23QBX/T3/840/E27	23	220-240	E27	1450	4000	82	10,000	147	50	A	China
97006	FLE23QBX/T3/865/E27	23	220-240	E27	1380	6500	82	10,000	147	50	A	China



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T2 Spiral - Tiny 15000Hrs</b>												
89514	FLE10HLX/827/E27/XL	10	220-240	E27	15000	2700	520	80	117	44	Australia	China
89517	FLE10HLX/827/B22/XL	10	220-240	B22	15000	2700	520	80	117	44	Australia	China
89520	FLE15HLX/827/E27/XL	15	220-240	E27	15000	2700	900	80	128	53	Australia	China
89523	FLE15HLX/827/B22/XL	15	220-240	B22	15000	2700	900	80	128	53	Australia	China
89526	FLE20HLX/827/E27/XL	20	220-240	E27	15000	2700	1200	80	127	60	Australia	China
89529	FLE20HLX/827/B22/XL	20	220-240	B22	15000	2700	1200	80	127	60	Australia	China



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T2 Spiral - Tiny 8000Hrs</b>												
74658	FLE8HLX/827/B15/T2	8	220-240	B15	8000	2700	460	80	101.5	46	Australia	China
74659	FLE8HLX/827/B22/T2	8	220-240	B22	8000	2700	460	80	85	46	Australia	China
74660	FLE8HLX/827/E14/T2	8	220-240	E14	8000	2700	460	80	103	46	Australia	China
74661	FLE8HLX/827/E27/T2	8	220-240	E27	8000	2700	460	80	85	46	Australia	China
47375	FLE8HLX/840/E27/T2	8	220-240	E27	8000	4000	460	80	85	46	Australia	China
47382	FLE8HLX/840/E14/T2	8	220-240	E14	8000	4000	460	80	103	46	Australia	China
47385	FLE8HLX/840/B22/T2	8	220-240	B22	8000	4000	460	80	85	46	Australia	China
47386	FLE8HLX/840/B15/T2	8	220-240	B15	8000	4000	460	80	101.5	46	Australia	China
74668	FLE12HLX/827/B15/T2	12	220-240	B15	8000	2700	700	80	110.5	46	Australia	China
74669	FLE12HLX/827/E14/T2	12	220-240	E14	8000	2700	700	80	112	46	Australia	China
30472	FLE12HLX/827/E27/T2	12	220-240	E27	8000	2700	700	80	95	46	Australia	China
30490	FLE12HLX/827/B22/T2	12	220-240	B22	8000	2700	700	80	95	46	Australia	China
47389	FLE12HLX/840/E27/T2	12	220-240	E27	8000	4000	700	80	95	46	Australia	China
47392	FLE12HLX/840/E14/T2	12	220-240	E14	8000	4000	700	80	112	46	Australia	China
47393	FLE12HLX/840/B22/T2	12	220-240	B22	8000	4000	700	80	95	46	Australia	China
47394	FLE12HLX/840/B15/T2	12	220-240	B15	8000	4000	700	80	110.5	46	Australia	China
30474	FLE12HLX/865/E27/T2	12	220-240	E27	8000	6500	660	80	95	46	Australia	China
30492	FLE12HLX/865/B22/T2	12	220-240	B22	8000	6500	660	80	95	46	Australia	China
74677	FLE15HLX/827/B22/T2	15	220-240	B22	8000	2700	900	80	100	53	Australia	China
74678	FLE15HLX/827/E27/T2	15	220-240	E27	8000	2700	900	80	101	53	Australia	China
71040	FLE15HLX/840/E27/T2	15	220-240	E27	8000	4000	900	80	101	53	Australia	China
71308	FLE15HLX/840/B22/T2	15	220-240	B22	8000	4000	900	80	100	53	Australia	China
61414	FLE15HLX/865/T2/B22	15	220-240	B22	8000	6500	850	80	100	53	Australia	China
61415	FLE15HLX/865/T2/E27	15	220-240	E27	8000	6500	850	80	101	53	Australia	China
74687	FLE20HLX/827/B22/T2	20	220-240	B22	8000	2700	1100	80	104	57	Australia	China
74689	FLE20HLX/827/E27/T2	20	220-240	E27	8000	2700	1100	80	105	57	Australia	China
71043	FLE20HLX/840/E27/T2	20	220-240	E27	8000	4000	1100	80	105	57	Australia	China
71311	FLE20HLX/840/B22/T2	20	220-240	B22	8000	4000	1100	80	104	57	Australia	China
61412	FLE20HLX/865/T2/B22	20	220-240	B22	8000	6500	1040	80	104	57	Australia	China
61413	FLE20HLX/865/T2/E27	20	220-240	E27	8000	6500	1040	80	105	57	Australia	China
30431ID	FLE8HLX/827/E27/T2	8	220-240	E27	8000	2700	460	80	85	46	ID	China
30433ID	FLE8HLX/865/E27/T2	8	220-240	E27	8000	6500	430	80	85	46	ID	China
30472ID	FLE12HLX/827/E27/T2	12	220-240	E27	8000	2700	700	80	95	46	ID	China
30474ID	FLE12HLX/865/E27/T2	12	220-240	E27	8000	6500	660	80	95	46	ID	China
30431EP	FLE8HLX/827E27/T2	8	220-240	E27	8000	2700	460	80	85	46	PH	China
30433EP	FLE8HLX865E27/T2	8	220-240	E27	8000	6500	430	80	85	46	PH	China
47738EP	FLE8HLX/827/E14/T2	8	220-240	E14	8000	2700	460	80	103	46	PH	China
47740EP	FLE8HLX/865/E14/T2	8	220-240	E14	8000	6500	430	80	103	46	PH	China
30472EP	FLE12HLX/827/E27/T2	12	220-240	E27	8000	2700	700	80	95	46	PH	China
30474EP	FLE12HLX/865/E27/T2	12	220-240	E27	8000	6500	660	80	95	46	PH	China
47742EP	FLE12HLX/827/E14/T2	12	220-240	E14	8000	2700	700	80	112	46	PH	China
47755EP	FLE12HLX/865/E14/T2	12	220-240	E14	8000	6500	660	80	112	46	PH	China
71039EN	FLE15HLX/827/T2/E27	15	220-240	E27	8000	2700	900	80	101	53	PH/SG/MY	China
71040EN	FLE15HLX/840/T2/E27	15	220-240	E27	8000	4000	900	80	101	53	PH/SG/MY	China
71041EN	FLE15HLX/865/T2/E27	15	220-240	E27	8000	6500	850	80	101	53	PH/SG/MY	China
71042EN	FLE20HLX/827/T2/E27	20	220-240	E27	8000	2700	1100	80	105	57	PH/SG/MY	China
71043EN	FLE20HLX/840/T2/E27	20	220-240	E27	8000	4000	1100	80	105	57	PH/SG/MY	China
71044EN	FLE20HLX/865/T2/E27	20	220-240	E27	8000	6500	1040	80	105	57	PH/SG/MY	China

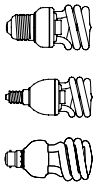


# Compact Fluorescent Lamps Integrated

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>T2 Spiral - Tiny 8000Hrs</b>												
30431EN	FLE8HLX/827/E27/T2	8	220-240	E27	8000	2700	460	80	85	46	SG/MY	China
47375EN	FLE8HLX/840/E27/T2	8	220-240	E27	8000	4000	460	80	85	46	SG/MY	China
30433EN	FLE8HLX/865/E27/T2	8	220-240	E27	8000	6500	430	80	85	46	SG/MY	China
47738EN	FLE8HLX/827/E14/T2	8	220-240	E14	8000	2700	460	80	103	46	SG/MY	China
47382EN	FLE8HLX/840/E14/T2	8	220-240	E14	8000	4000	460	80	103	46	SG/MY	China
47740EN	FLE8HLX/865/E14/T2	8	220-240	E14	8000	6500	430	80	103	46	SG/MY	China
30472EN	FLE12HLX/827/E27/T2	12	220-240	E27	8000	2700	700	80	95	46	SG/MY	China
47389EN	FLE12HLX/840/E27/T2	12	220-240	E27	8000	4000	700	80	95	46	SG/MY	China
30474EN	FLE12HLX/865/E27/T2	12	220-240	E27	8000	6500	660	80	95	46	SG/MY	China
47742EN	FLE12HLX/827/E14/T2	12	220-240	E14	8000	2700	700	80	112	46	SG/MY	China
47392EN	FLE12HLX/840/E14/T2	12	220-240	E14	8000	4000	700	80	112	46	SG/MY	China
47755EN	FLE12HLX/865/E14/T2	12	220-240	E14	8000	6500	660	80	112	46	SG/MY	China
30431ET	FLE8HLX/827/E27/T2	8	220-240	E27	8000	2700	460	80	85	46	SG/MY	China
30433ET	FLE8HLX/865/E27/T2	8	220-240	E27	8000	6500	430	80	85	46	SG/MY	China
47738ET	FLE8HLX/827/E14/T2	8	220-240	E14	8000	2700	460	80	103	46	TH	China
47740ET	FLE8HLX/865/E14/T2	8	220-240	E14	8000	6500	430	80	103	46	TH	China
30472ET	FLE12HLX/827/E27/T2	12	220-240	E27	8000	2700	700	80	95	46	TH	China
30474ET	FLE12HLX/865/E27/T2	12	220-240	E27	8000	6500	660	80	95	46	TH	China
47742ET	FLE12HLX/827/E14/T2	12	220-240	E14	8000	2700	700	80	112	46	TH	China
47755ET	FLE12HLX/865/E14/T2	12	220-240	E14	8000	6500	660	80	112	46	TH	China
71039T	FLE15HLX/827/E27/T2	15	220-240	E27	8000	2700	900	80	101	53	TH	China
71040T	FLE15HLX/840/E27/T2	15	220-240	E27	8000	4000	900	80	101	53	TH	China
71041T	FLE15HLX/865/E27/T2	15	220-240	E27	8000	6500	850	80	101	53	TH	China
71042T	FLE20HLX/827/E27/T2	20	220-240	E27	8000	2700	1100	80	105	57	TH	China
71043T	FLE20HLX/840/E27/T2	20	220-240	E27	8000	4000	1100	80	105	57	TH	China
71044T	FLE20HLX/865/E27/T2	20	220-240	E27	8000	6500	1040	80	105	57	TH	China



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Length [mm]	Diameter [mm]	EEC	COO
<b>Electronic LongLast Spiral T2 - 15,000 hours</b>												
76153	FLE8HLX/T2/827/E14	8	220-240	E14	470	2700	80	15,000	100.5	46	A	China
76154	FLE8HLX/T2/827/E27	8	220-240	E27	470	2700	80	15,000	88.5	46	A	China
78156	FLE8HLX/T2/827/B22	8	220-240	B22	470	2700	80	15,000	88.5	46	A	China
78157	FLE8HLX/T2/840/E14	8	220-240	E14	460	4000	80	15,000	100.5	46	A	China
78188	FLE8HLX/T2/840/E27	8	220-240	E27	460	4000	80	15,000	88.5	46	A	China
78189	FLE8HLX/T2/865/E27	8	220-240	E27	430	6500	80	15,000	88.5	46	A	China
76155	FLE12HLX/T2/827/E14	12	220-240	E14	715	2700	80	15,000	112.5	53	A	China
76157	FLE12HLX/T2/827/E27	12	220-240	E27	715	2700	80	15,000	100	53	A	China
78190	FLE12HLX/T2/827/B22	12	220-240	B22	715	2700	80	15,000	100	53	A	China
78191	FLE12HLX/T2/840/E14	12	220-240	E14	700	4000	80	15,000	112.5	53	A	China
78192	FLE12HLX/T2/840/E27	12	220-240	E27	700	4000	80	15,000	100	53	A	China
78193	FLE12HLX/T2/865/E14	12	220-240	E14	665	6500	80	15,000	112.5	53	A	China
78194	FLE12HLX/T2/865/E27	12	220-240	E27	665	6500	80	15,000	100	53	A	China
76156	FLE15HLX/T2/827/E27	15	220-240	E27	950	2700	80	15,000	100	53	A	China
78195	FLE15HLX/T2/827/B22	15	220-240	B22	950	2700	80	15,000	100	53	A	China
78196	FLE15HLX/T2/840/E27	15	220-240	E27	950	4000	80	15,000	100	53	A	China
78197	FLE15HLX/T2/865/E27	15	220-240	E27	900	6500	80	15,000	100	53	A	China
76158	FLE20HLX/T2/827/E27	20	220-240	E27	1220	2700	80	15,000	108	57	A	China
78198	FLE20HLX/T2/827/B22	20	220-240	B22	1220	2700	80	15,000	108	57	A	China
78199	FLE20HLX/T2/840/E27	20	220-240	E27	1200	4000	80	15,000	108	57	A	China
78200	FLE20HLX/T2/865/E27	20	220-240	E27	1152	6500	80	15,000	108	57	A	China
76159	FLE23HLX/T2/827/E27	23	220-240	E27	1500	2700	80	15,000	127	58	A	China
78202	FLE23HLX/T2/840/E27	23	220-240	E27	1380	4000	80	15,000	127	58	A	China
78203	FLE23HLX/T2/865/E27	23	220-240	E27	1380	6500	80	15,000	127	58	A	China





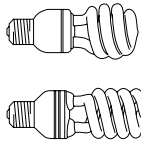
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
85940	FLE14HLX/827/B22/T3	14	220-240	B22	8000	2700	950	80	128	53	Australia	China
85942	FLE14HLX/827/E27/T3	14	220-240	E27	8000	2700	950	80	128	53	Australia	China
74709	FLE14HLX/827/B22/T3 BX2	14	220-240	B22	8000	2700	950	80	128	53	Australia	China
74710	FLE14HLX/827/E27/T3 BX2	14	220-240	E27	8000	2700	950	80	128	53	Australia	China
90147	FLE14HLX/840/E27/T3	14	220-240	E27	8000	4000	950	80	128	53	Australia	China
90148	FLE14HLX/840/B22/T3	14	220-240	B22	8000	4000	950	80	128	53	Australia	China
74715	FLE14HLX/840/B22/T3 BX2	14	220-240	B22	8000	4000	950	80	128	53	Australia	China
74716	FLE14HLX/840/E27/T3 BX2	14	220-240	E27	8000	4000	950	80	128	53	Australia	China
85956	FLE20HLX/827/B22/T3	20	220-240	B22	8000	2700	1350	80	124	60	Australia	China
85966	FLE20HLX/827/E27/T3	20	220-240	E27	8000	2700	1350	80	124	60	Australia	China
74711	FLE20HLX/827/B22/T3 BX2	20	220-240	B22	8000	2700	1350	80	124	60	Australia	China
74712	FLE20HLX/827/E27/T3 BX2	20	220-240	E27	8000	2700	1350	80	124	60	Australia	China
90145	FLE20HLX/840/E27/T3	20	220-240	E27	8000	4000	1300	80	124	60	Australia	China
90146	FLE20HLX/840/B22/T3	20	220-240	B22	8000	4000	1300	80	124	60	Australia	China
74717	FLE20HLX/840/B22/T3 BX2	20	220-240	B22	8000	4000	1300	80	124	60	Australia	China
74718	FLE20HLX/840/E27/T3 BX2	20	220-240	E27	8000	4000	1300	80	124	60	Australia	China
76598	FLE23HLX/827/B22/T2 BX2	23	220-240	B22	8000	2700	1380	80	127	57	Australia	China
76599	FLE23HLX/827/E27/T2 BX2	23	220-240	E27	8000	2700	1380	80	128	57	Australia	China
76600	FLE23HLX/840/B22/T2 BX2	23	220-240	B22	8000	4000	1380	80	127	57	Australia	China
76601	FLE23HLX/840/E27/T2 BX2	23	220-240	E27	8000	4000	1380	80	128	57	Australia	China
81262	FLE14HLX/827/E27/T3 220-240V	14	220-240	E27	8000	2700	950	80	128	53	ID	China
81263	FLE14HLX/865/E27/T3 220-240V	14	220-240	E27	8000	6500	900	80	128	53	ID	China
81264	FLE20HLX/827/E27/T3 220-240V	20	220-240	E27	8000	2700	1350	80	124	60	ID	China
81265	FLE20HLX/865/E27/T3 220-240V	20	220-240	E27	8000	6500	1260	80	124	60	ID	China
81266	FLE24HLX/827/E27/T3 220-240V	24	220-240	E27	8000	2700	1750	80	136	60	ID	China
81267	FLE24HLX/865/E27/T3 220-240V	24	220-240	E27	8000	6500	1650	80	136	60	ID	China
24172E	FLE14HLX/827/T3	14	220-240	E27	8000	2700	950	80	128	53	PH	China
24173E	FLE14HLX/865/E27/T3	14	220-240	E27	8000	6500	900	80	128	53	PH	China
24174E	FLE20HLX/827/T3	20	220-240	E27	8000	2700	1350	80	124	60	PH	China
24175E	FLE20HLX/865/E27/T3	20	220-240	E27	8000	6500	1260	80	124	60	PH	China
24176E	FLE24HLX/827/T3	24	220-240	E27	8000	2700	1750	80	136	60	PH	China
24177E	FLE24HLX/E27/T3	24	220-240	E27	8000	6500	1650	80	136	60	PH	China
24172EN	FLE14HLX/827/E27/T3 220-240V	14	220-240	E27	8000	2700	950	80	128	53	SG/MY	China
71402EN	FLE14HLX/840/E27/T3 220-240V	14	220-240	E27	8000	4000	950	80	128	53	SG/MY	China
24173EN	FLE14HLX/865/E27/T3 220-240V	14	220-240	E27	8000	6500	900	80	128	53	SG/MY	China
24174EN	FLE20HLX/827/E27/T3 220-240V	20	220-240	E27	8000	2700	1350	80	124	60	SG/MY	China
80961EN	FLE20HLX/840/E27/T3 220-240V	20	220-240	E27	8000	4000	1300	80	124	60	SG/MY	China
24175EN	FLE20HLX/865/E27/T3 220-240V	20	220-240	E27	8000	6500	1260	80	124	60	SG/MY	China
24176EN	FLE24HLX/827/E27/T3 220-240V	24	220-240	E27	8000	2700	1750	80	136	60	SG/MY	China
71400EN	FLE24HLX/840/E27/T3 220-240V	24	220-240	E27	8000	4000	1700	80	136	60	SG/MY	China
24177EN	FLE24HLX/865/E27/T3 220-240V	24	220-240	E27	8000	6500	1650	80	136	60	SG/MY	China
24172ET	FLE14HLX/827/E27/T3 EDIS	14	220-240	E27	8000	2700	950	80	128	53	TH	China
24173ET	FLE14HLX/865/E27/T3 EDIS	14	220-240	E27	8000	6500	900	80	128	53	TH	China
24174ET	FLE20HLX/827/E27/T3 EDIS	20	220-240	E27	8000	2700	1350	80	124	60	TH	China
24175ET	FLE20HLX/865/E27/T3 EDIS	20	220-240	E27	8000	6500	1260	80	124	60	TH	China
24176ET	FLE24HLX/827/E27/T3 EDIS	24	220-240	E27	8000	2700	1750	80	136	60	TH	China
24177ET	FLE24HLX/865/E27/T3 EDIS	24	220-240	E27	8000	6500	1650	80	136	60	TH	China



# Compact Fluorescent Lamps Integrated

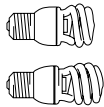
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
--------------	---------------------	-------------	-----------	-----	----------	---------	------------	----------	-------------	---------------	---------	-----

## T3 Spiral - Economizer Plus



64568E	FLE9HLX/827/E27/T3	9	220-240	E27	6000	2700	430	80	116	44	SG/MY/PH	China
64569E	FLE9HLX/865/E27/T3	9	220-240	E27	6000	6500	390	80	116	44	SG/MY/PH	China
64570E	FLE14HLX/827/E27/T3	14	220-240	E27	6000	2700	820	80	129	52	SG/MY/PH	China
64571E	FLE14HLX/865/E27/T3	14	220-240	E27	6000	6500	760	80	129	52	SG/MY/PH	China
64572E	FLE20HLX/827/E27/T3	20	220-240	E27	6000	2700	1100	80	126	59	SG/MY/PH	China
64573E	FLE20HLX/865/E27/T3	20	220-240	E27	6000	6500	1020	80	126	59	SG/MY/PH	China
64574E	FLE23HLX/827/E27/T3	23	220-240	E27	6000	2700	1320	80	139.5	59	SG/MY/PH	China
64575E	FLE23HLX/865/E27/T3	23	220-240	E27	6000	6500	1224	80	139.5	59	SG/MY/PH	China
78180E	FLE9HLX/827/E27/T3 220-240V	9	220-240	E27	6000	2700	430	80	110	52	SG/MY/PH	China
78181E	FLE9HLX/865/E27/T3 220-240V	9	220-240	E27	6000	6500	390	80	110	52	SG/MY/PH	China
78182E	FLE15HLX/827/E27/T3 220-240V	15	220-240	E27	6000	2700	820	80	126	52	SG/MY/PH	China
78183E	FLE15HLX/865/E27/T3 220-240V	15	220-240	E27	6000	6500	760	80	126	52	SG/MY/PH	China
78184E	FLE20HLX/827/E27/T3 220-240V	20	220-240	E27	6000	2700	1100	80	125	62	SG/MY/PH	China
78185E	FLE20HLX/865/E27/T3 220-240V	20	220-240	E27	6000	6500	1020	80	125	62	SG/MY/PH	China
78186E	FLE23HLX/827/E27/T3 220-240V	23	220-240	E27	6000	2700	1260	80	137	62	SG/MY/PH	China
78187E	FLE23HLX/865/E27/T3 220-240V	23	220-240	E27	6000	6500	1170	80	137	62	SG/MY/PH	China
65037E	FLE9HLX/827/E14/T3	9	220-240	E14	6000	2700	430	80	117	44	SG/MY/TH	China
65038E	FLE9HLX/865/E14/T3	9	220-240	E14	6000	6500	390	80	117	44	SG/MY/TH	China
78180T	FLE9HLX/827/E27/T3 220-240V	9	220-240	E27	6000	2700	430	80	116	44	TH	China
78181T	FLE9HLX/865/E27/T3 220-240V	9	220-240	E27	6000	6500	390	80	116	44	TH	China
78182T	FLE14HLX/827/E27/T3 220-240V	14	220-240	E27	6000	2700	820	80	129	52	TH	China
78183T	FLE14HLX/865/E27/T3 220-240V	14	220-240	E27	6000	6500	760	80	129	52	TH	China
78184T	FLE20HLX/827/E27/T3 220-240V	20	220-240	E27	6000	2700	1100	80	126	59	TH	China
78185T	FLE20HLX/865/E27/T3 220-240V	20	220-240	E27	6000	6500	1020	80	126	59	TH	China
78186T	FLE23HLX/827/E27/T3 220-240V	23	220-240	E27	6000	2700	1320	80	139.5	59	TH	China
78187T	FLE23HLX/865/E27/T3 220-240V	23	220-240	E27	6000	6500	1224	80	139.5	59	TH	China

## T3 Spiral - Dimmable



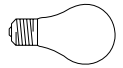
30606a	FLE13HLX/827/B22/DIM BP1	13	220-240	B22	8000	2700	850	80	133	60	Australia	China
74674	FLE13HLX/827/E27/DIM BP1	13	220-240	E27	8000	2700	850	80	133	60	Australia	China
74675	FLE13HLX/865/B22/DIM	13	220-240	B22	8000	6500	765	80	133	60	Australia	China
74676	FLE13HLX/865/E27/DIM	13	220-240	E27	8000	6500	765	80	133	60	Australia	China
30608a	FLE20HLX/827/E27/DIM BP1	20	220-240	E27	8000	2700	1350	80	138	60	Australia	China
30616A	FLE20HLX/827/B22/DIM BP1	20	220-240	B22	8000	2700	1350	80	138	60	Australia	China
30544A	FLE20HLX/865/B22/DIM	20	220-240	B22	8000	6500	1215	80	138	60	Australia	China
30540A	FLE20HLX/865/E27/DIM	20	220-240	E27	8000	6500	1215	80	138	60	Australia	China
30493N	FLE13HLX/827/E27/T3DIM*	13	230	E27	8000	2700	850	80	133	60	SG/MY/TH	China
30494N	FLE13HLX/865/E27/T3DIM*	13	230	E27	8000	6500	765	80	133	60	SG/MY/TH	China
30523N	FLE20HLX/827/E27/T3DIM*	20	230	E27	8000	2700	1350	80	138	60	SG/MY/TH	China
30540N	FLE20HLX/865/E27/T3DIM*	20	230	E27	8000	6500	1215	80	138	60	SG/MY/TH	China

## T5 Spiral-High Power



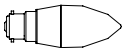
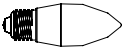
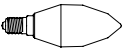
24666EN	FLE45HLX/864/E27/220-240V	45	220-240	E27	6000	6500	2900	83	211	80	Indonesia	China
95495EN	FLE60HLX/864/E27/220-240V	60	220-240	E27	6000	6500	3400	82	218	80	Indonesia	China
24666E	FLE45HLX/864/E27	45	220-240	E27	6000	6500	2900	83	211	80	PH	China
24668E	FLE60HLX/864/E27	60	220-240	E27	6000	6500	3400	82	218	80	PH	China
95520	FLE60HLX/827/E27 220-240V	60	220-240	E27	6000	2700	3600	82	218	80	SG/MY	China
95495	FLE60HLX/865/E27 220-240V	60	220-240	E27	6000	6500	3400	82	218	80	SG/MY	China
61429T	FLE45HLX/827/E27 220V	45	220-240	E27	6000	2700	2900	83	211	80	Thailand	China
61430T	FLE45HLX/865/E27 220V	45	220-240	E27	6000	6500	2900	83	211	80	Thailand	China
61431T	FLE60HLX/827/E27 220V	60	220-240	E27	6000	2700	3600	82	218	80	Thailand	China
61432T	FLE60HLX/865/E27 220V	60	220-240	E27	6000	6500	3400	82	218	80	Thailand	China

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
61001E	FLE9AG/T2/830/E27	9	220-240	E27	10000	3000	450	80	115.7	62	SG/MY	China
61002E	FLE9AG/T2/840/E27	9	220-240	E27	10000	4000	450	80	115.7	62	SG/MY	China
61003E	FLE9AG/T2/865/E27	9	220-240	E27	10000	6500	450	80	115.7	62	SG/MY	China
61004E	FLE11AG/T2/830/E27	11	220-240	E27	10000	3000	590	80	115.7	62	SG/MY	China
61005E	FLE11AG/T2/840/E27	11	220-240	E27	10000	4000	550	80	115.7	62	SG/MY	China
61006E	FLE11AG/T2/865/E27	11	220-240	E27	10000	6500	532	80	115.7	62	SG/MY	China
61007E	FLE15AG/T2/830/E27	15	220-240	E27	10000	3000	800	80	115.7	62	SG/MY	China
61008E	FLE15AG/T2/840/E27	15	220-240	E27	10000	4000	800	80	115.7	62	SG/MY	China
61009E	FLE15AG/T2/865/E27	15	220-240	E27	10000	6500	800	80	115.7	62	SG/MY	China
61010E	FLE20AG/T3/830/E27	20	220-240	E27	8000	3000	1152	80	137.9	69	SG/MY	China
61011E	FLE20AG/T3/840/E27	20	220-240	E27	8000	4000	1152	80	137.9	69	SG/MY	China
61012E	FLE20AG/T3/865/E27	20	220-240	E27	8000	6500	1152	80	137.9	69	SG/MY	China
61013E	FLE9AG/T2/830/B22	9	220-240	B22	10000	3000	450	80	118	62	SG/MY	China
61014E	FLE9AG/T2/840/B22	9	220-240	B22	10000	4000	450	80	118	62	SG/MY	China
61015E	FLE9AG/T2/865/B22	9	220-240	B22	10000	6500	450	80	118	62	SG/MY	China
61016E	FLE11AG/T2/830/B22	11	220-240	B22	10000	3000	590	80	118	62	SG/MY	China
61017E	FLE11AG/T2/840/B22	11	220-240	B22	10000	4000	550	80	118	62	SG/MY	China
61018E	FLE11AG/T2/865/B22	11	220-240	B22	10000	6500	532	80	118	62	SG/MY	China
61019E	FLE15AG/T2/830/B22	15	220-240	B22	10000	3000	800	80	118	62	SG/MY	China
61020E	FLE15AG/T2/840/B22	15	220-240	B22	10000	4000	800	80	118	62	SG/MY	China
61021E	FLE15AG/T2/865/B22	15	220-240	B22	10000	6500	800	80	118	62	SG/MY	China
61022E	FLE20AG/T3/830/B22	20	220-240	B22	8000	3000	1152	80	140.2	69	SG/MY	China
61023E	FLE20AG/T3/840/B22	20	220-240	B22	8000	4000	1152	80	140.2	69	SG/MY	China
61024E	FLE20AG/T3/865/B22	20	220-240	B22	8000	6500	1152	80	140.2	69	SG/MY	China
61001T	FLE9AG/T2/830/E27	9	220-240	E27	10000	3000	450	80	115.7	62	TH	China
61002T	FLE9AG/T2/840/E27	9	220-240	E27	10000	4000	450	80	115.7	62	TH	China
61003T	FLE9AG/T2/865/E27	9	220-240	E27	10000	6500	450	80	115.7	62	TH	China
61004T	FLE11AG/T2/830/E27	11	220-240	E27	10000	3000	590	80	115.7	62	TH	China
61005T	FLE11AG/T2/840/E27	11	220-240	E27	10000	4000	550	80	115.7	62	TH	China
61006T	FLE11AG/T2/865/E27	11	220-240	E27	10000	6500	532	80	115.7	62	TH	China
61007T	FLE15AG/T2/830/E27	15	220-240	E27	10000	3000	800	80	115.7	62	TH	China
61008T	FLE15AG/T2/840/E27	15	220-240	E27	10000	4000	800	80	115.7	62	TH	China
61009T	FLE15AG/T2/865/E27	15	220-240	E27	10000	6500	800	80	115.7	62	TH	China
61010T	FLE20AG/T3/830/E27	20	220-240	E27	8000	3000	1152	80	137.9	69	TH	China
61011T	FLE20AG/T3/840/E27	20	220-240	E27	8000	4000	1152	80	137.9	69	TH	China
61012T	FLE20AG/T3/865/E27	20	220-240	E27	8000	6500	1152	80	137.9	69	TH	China
61013T	FLE9AG/T2/830/B22	9	220-240	B22	10000	3000	450	80	118	62	TH	China
61014T	FLE9AG/T2/840/B22	9	220-240	B22	10000	4000	450	80	118	62	TH	China
61015T	FLE9AG/T2/865/B22	9	220-240	B22	10000	6500	450	80	118	62	TH	China
61016T	FLE11AG/T2/830/B22	11	220-240	B22	10000	3000	590	80	118	62	TH	China
61017T	FLE11AG/T2/840/B22	11	220-240	B22	10000	4000	550	80	118	62	TH	China
61018T	FLE11AG/T2/865/B22	11	220-240	B22	10000	6500	532	80	118	62	TH	China
61019T	FLE15AG/T2/830/B22	15	220-240	B22	10000	3000	800	80	118	62	TH	China
61020T	FLE15AG/T2/840/B22	15	220-240	B22	10000	4000	800	80	118	62	TH	China
61021T	FLE15AG/T2/865/B22	15	220-240	B22	10000	6500	800	80	118	62	TH	China
61022T	FLE20AG/T3/830/B22	20	220-240	B22	8000	3000	1152	80	140.2	69	TH	China
61023T	FLE20AG/T3/840/B22	20	220-240	B22	8000	4000	1152	80	140.2	69	TH	China
61024T	FLE20AG/T3/865/B22	20	220-240	B22	8000	6500	1152	80	140.2	69	TH	China



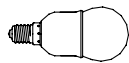
# Compact Fluorescent Lamps Integrated

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - Candle</b>												
88852A	FLE5CDL//827/E27/T2	5	220-240	E27	10000	2700	200	80	107	38	Australia	China
88853A	FLE5CDL//827/B22/T2	5	220-240	B22	10000	2700	200	80	106	38	Australia	China
73406A	FLE5CDL//827/E14/T2	5	220-240	E14	10000	2700	200	80	110	38	Australia	China
78005A	FLE5CDL/827/B15/T2	5	220-240	B15	10000	2700	200	80	110	38	Australia	China
73411A	FLE7CDL//827/E14/T2	7	220-240	E14	10000	2700	300	80	110	38	Australia	China
88855A	FLE7CDL//827/E27/T2	7	220-240	E27	10000	2700	300	80	107	38	Australia	China
88856A	FLE7CDL//827/B22/T2	7	220-240	B22	10000	2700	300	80	106	38	Australia	China
78006A	FLE7CDL/827/B15/T2	7	220-240	B15	10000	2700	300	80	110	38	Australia	China
79935E	FLE5CDL/T2/827/E14	5	220-240	E14	10000	2700	200	80	110	38	ID/MY/SG/PH	China
79936E	FLE5CDL/T2/840/E14	5	220-240	E14	10000	4000	200	80	110	38	ID/MY/SG/PH	China
79937E	FLE5CDL/T2/827/E27	5	220-240	E27	10000	2700	200	80	107	38	ID/MY/SG/PH	China
79938E	FLE5CDL/T2/840/E27	5	220-240	E27	10000	4000	200	80	107	38	ID/MY/SG/PH	China
79939E	FLE5CDL/T2/827/B22	5	220-240	B22	10000	2700	200	80	106	38	ID/MY/SG/PH	China
79940E	FLE7CDL/T2/827/E14	7	220-240	E14	10000	2700	300	80	110	38	ID/MY/SG/PH	China
79941E	FLE7CDL/T2/840/E14	7	220-240	E14	10000	4000	300	80	110	38	ID/MY/SG/PH	China
79942E	FLE7CDL/T2/827/E27	7	220-240	E27	10000	2700	300	80	107	38	ID/MY/SG/PH	China
79943E	FLE7CDL/T2/840/E27	7	220-240	E27	10000	4000	300	80	107	38	ID/MY/SG/PH	China
79944E	FLE7CDL/T2/827/B22	7	220-240	B22	10000	2700	300	80	106	38	ID/MY/SG/PH	China

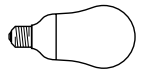


## Decor - Spherical

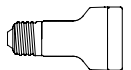
88839A	FLE5SPH//827/E14/T2	5	220-240	E14	10000	2700	200	80	102	46	Australia	China
88841A	FLE5SPH//827/B22/T2	5	220-240	B22	10000	2700	200	80	90	46	Australia	China
73386A	FLE5SPH//827/E27/T2	5	220-240	E27	10000	2700	200	80	91	46	Australia	China
78012A	FLE5SPH/827/B15/T2	5	220-240	B15	10000	2700	200	80	100	46	Australia	China
88842A	FLE7SPH//827/E14/T2	7	220-240	E14	10000	2700	310	80	102	46	Australia	China
88844A	FLE7SPH//827/B22/T2	7	220-240	B22	10000	2700	310	80	90	46	Australia	China
73396A	FLE7SPH//827/E27/T2	7	220-240	E27	10000	2700	310	80	91	46	Australia	China
78013A	FLE7SPH/827/B15/T2	7	220-240	B15	10000	2700	310	80	100	46	Australia	China
79945E	FLE5SPH/T2/827/E14	5	220-240	E14	10000	2700	200	80	102	46	ID/MY/SG/PH	China
79946E	FLE5SPH/T2/840/E14	5	220-240	E14	10000	4000	200	80	102	46	ID/MY/SG/PH	China
79947E	FLE5SPH/T2/827/E27	5	220-240	E27	10000	2700	200	80	91	46	ID/MY/SG/PH	China
79948E	FLE5SPH/T2/840/E27	5	220-240	E27	10000	4000	200	80	91	46	ID/MY/SG/PH	China
79949E	FLE5SPH/T2/865/E27	5	220-240	E27	10000	6500	190	80	91	46	ID/MY/SG/PH	China
79950E	FLE5SPH/T2/827/B22	5	220-240	B22	10000	2700	200	80	90	46	ID/MY/SG/PH	China
79951E	FLE7SPH/T2/827/E14	7	220-240	E14	10000	2700	310	80	102	46	ID/MY/SG/PH	China
79952E	FLE7SPH/T2/840/E14	7	220-240	E14	10000	4000	310	80	102	46	ID/MY/SG/PH	China
79953E	FLE7SPH/T2/827/E27	7	220-240	E27	10000	2700	310	80	91	46	ID/MY/SG/PH	China
79954E	FLE7SPH/T2/840/E27	7	220-240	E27	10000	4000	310	80	91	46	ID/MY/SG/PH	China
79955E	FLE7SPH/T2/827/B22	7	220-240	B22	10000	2700	310	80	90	46	ID/MY/SG/PH	China



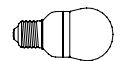
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - GLS</b>												
45850A	FLE8GLS//827/E27/T2	8	220-240	E27	6000	2700	370	80	102	53.5	Australia	China
45849A	FLE8GLS//827/B22/T2	8	220-240	B22	6000	2700	370	80	101	53.5	Australia	China
45848A	FLE8GLS//827/E14/T2	8	220-240	E14	6000	2700	370	80	105.5	53.5	Australia	China
45837A	FLE12GLS//827/E27/T2	12	220-240	E27	6000	2700	625	80	112	57	Australia	China
45836A	FLE12GLS//827/B22/T2	12	220-240	B22	6000	2700	625	80	111	57	Australia	China
45835A	FLE12GLS//827/E14/T2	12	220-240	E14	6000	2700	625	80	115.5	57	Australia	China
45830A	FLE15GLS//827/B22/T3	15	220-240	B22	6000	2700	830	80	122	62	Australia	China
45831A	FLE15GLS//827/E27/T3	15	220-240	E27	6000	2700	830	80	123	62	Australia	China
80375	FLE11GLS/O/B22 BP1	11	220-240	B22	6000	2700	530	80	132	62	Australia	China
80376	FLE11GLS/O/E27 BP1	11	220-240	E27	6000	2700	530	80	132	62	Australia	China
80389	FLE20GLS/O/B22 BP1	20	220-240	B22	6000	2700	1050	82	158	72.5	Australia	China
80390	FLE20GLS/O/E27 BP1	20	220-240	E27	6000	2700	1050	82	158	72.5	Australia	China
79972E	FLE8GLS/T2/827/E14	8	220-240	E14	6000	2700	370	80	105.5	53.5	ID/MY/SG/PH	China
79973E	FLE8GLS/T2/840/E14	8	220-240	E14	6000	4000	370	80	105.5	53.5	ID/MY/SG/PH	China
79974E	FLE8GLS/T2/827/E27	8	220-240	E27	6000	2700	370	80	102	53.5	ID/MY/SG/PH	China
79975E	FLE8GLS/T2/840/E27	8	220-240	E27	6000	4000	370	80	102	53.5	ID/MY/SG/PH	China
79976E	FLE8GLS/T2/827/B22	8	220-240	B22	6000	2700	370	80	101	53.5	ID/MY/SG/PH	China
79977E	FLE12GLS/T2/827/E27	12	220-240	E27	6000	2700	625	80	112	57	ID/MY/SG/PH	China
79978E	FLE12GLS/T2/827/E14	12	220-240	E14	6000	2700	625	80	115.5	57	ID/MY/SG/PH	China
79979E	FLE12GLS/T2/840/E14	12	220-240	E14	6000	4000	600	80	115.5	57	ID/MY/SG/PH	China
79980E	FLE12GLS/T2/840/E27	12	220-240	E27	6000	4000	600	80	112	57	ID/MY/SG/PH	China
79981E	FLE12GLS/T2/827/B22	12	220-240	B22	6000	2700	625	80	111	57	ID/MY/SG/PH	China
79982E	FLE15GLS/T3/827/E27	15	220-240	E27	6000	2700	830	80	123	62	ID/MY/SG/PH	China
79983E	FLE15GLS/T3/840/E27	15	220-240	E27	6000	4000	825	80	123	62	ID/MY/SG/PH	China
79984E	FLE15GLS/T3/827/B22	15	220-240	B22	6000	2700	830	80	122	62	ID/MY/SG/PH	China



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Intensity [Cd]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - REF</b>													
79956E	FLE7R50/T2/827/E14	7	220-240	E14	6000	2700	65	90	80	93	51	ID/MY/SG/PH	China
79957E	FLE7R50/T2/840/E14	7	220-240	E14	6000	4000	65	90	80	93	51	ID/MY/SG/PH	China
79958E	FLE7R50/T2/827/E27	7	220-240	E27	6000	2700	65	90	80	93	51	ID/MY/SG/PH	China
79959E	FLE7R50/T2/827/B22	7	220-240	B22	6000	2700	65	90	80	92	51	ID/MY/SG/PH	China
79960E	FLE11R63/T2/827/E14	11	220-240	E14	6000	2700	85	185	80	107	64	ID/MY/SG/PH	China
79961E	FLE11R63/T2/840/E14	11	220-240	E14	6000	4000	85	185	80	107	64	ID/MY/SG/PH	China
79962E	FLE11R63/T2/827/E27	11	220-240	E27	6000	2700	85	185	80	107	64	ID/MY/SG/PH	China
79963E	FLE11R63/T2/827/B22	11	220-240	B22	6000	2700	85	185	80	106	64	ID/MY/SG/PH	China

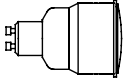


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - SOFT</b>												
79964E	FLE8SOFT/T2/827/E14	8	220-240	E14	6000	2700	360	80	109.5	54.5	ID/MY/SG/PH	China
79965E	FLE8SOFT/T2/827/E27	8	220-240	E27	6000	2700	360	80	106	54.5	ID/MY/SG/PH	China
79966E	FLE8SOFT/T2/827/B22	8	220-240	B22	6000	2700	360	80	105	54.5	ID/MY/SG/PH	China
79967E	FLE12SOFT/T2/827/E14	12	220-240	E14	6000	2700	600	80	119.5	57	ID/MY/SG/PH	China
79968E	FLE12SOFT/T2/827/E27	12	220-240	E27	6000	2700	600	80	116	57	ID/MY/SG/PH	China
79969E	FLE12SOFT/T2/827/B22	12	220-240	B22	6000	2700	600	80	115	57	ID/MY/SG/PH	China
79970E	FLE15SOFT/T3/827/E27	15	220-240	E27	6000	2700	825	80	123	62	ID/MY/SG/PH	China
79971E	FLE15SOFT/T3/827/B22	15	220-240	B22	6000	2700	825	80	122	62	ID/MY/SG/PH	China

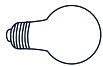


# Compact Fluorescent Lamps Integrated

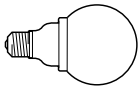
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Intensity [Cd]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - GU10</b>													
79985E	FLE7GU10/T2/827	7	220-240	GU10	6000	2700	62	75	80	86.5	51	ID/MY/SG/PH	China
79986E	FLE7GU10/T2/840	7	220-240	GU10	6000	4000	62	75	80	86.5	51	ID/MY/SG/PH	China
79987E	FLE9GU10/T2/827	9	220-240	GU10	6000	2700	96	140	80	86.5	51	ID/MY/SG/PH	China
79988E	FLE9GU10/T2/840	9	220-240	GU10	6000	4000	96	140	80	86.5	51	ID/MY/SG/PH	China



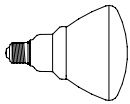
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - Buglite GLS</b>												
74667	FLE11GLS/O/B22/BUG BX	11	220-240	E27	6000	Anti-Insect	380	80	132	62	Australia	China
74666	FLE11GLS/O/E27/BUG BX	11	220-240	B22	6000	Anti-Insect	380	80	132	62	Australia	China



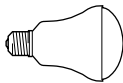
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - GG</b>												
11368EN	FLE20HLX/GG/827/E27 Edison	20	220-240	E27	6000	2700	1100	82	147	91	SG/MY	China
11371EN	FLE20HLX/GG/865/E27 Edison	20	220-240	E27	6000	6500	1000	82	147	91	SG/MY	China



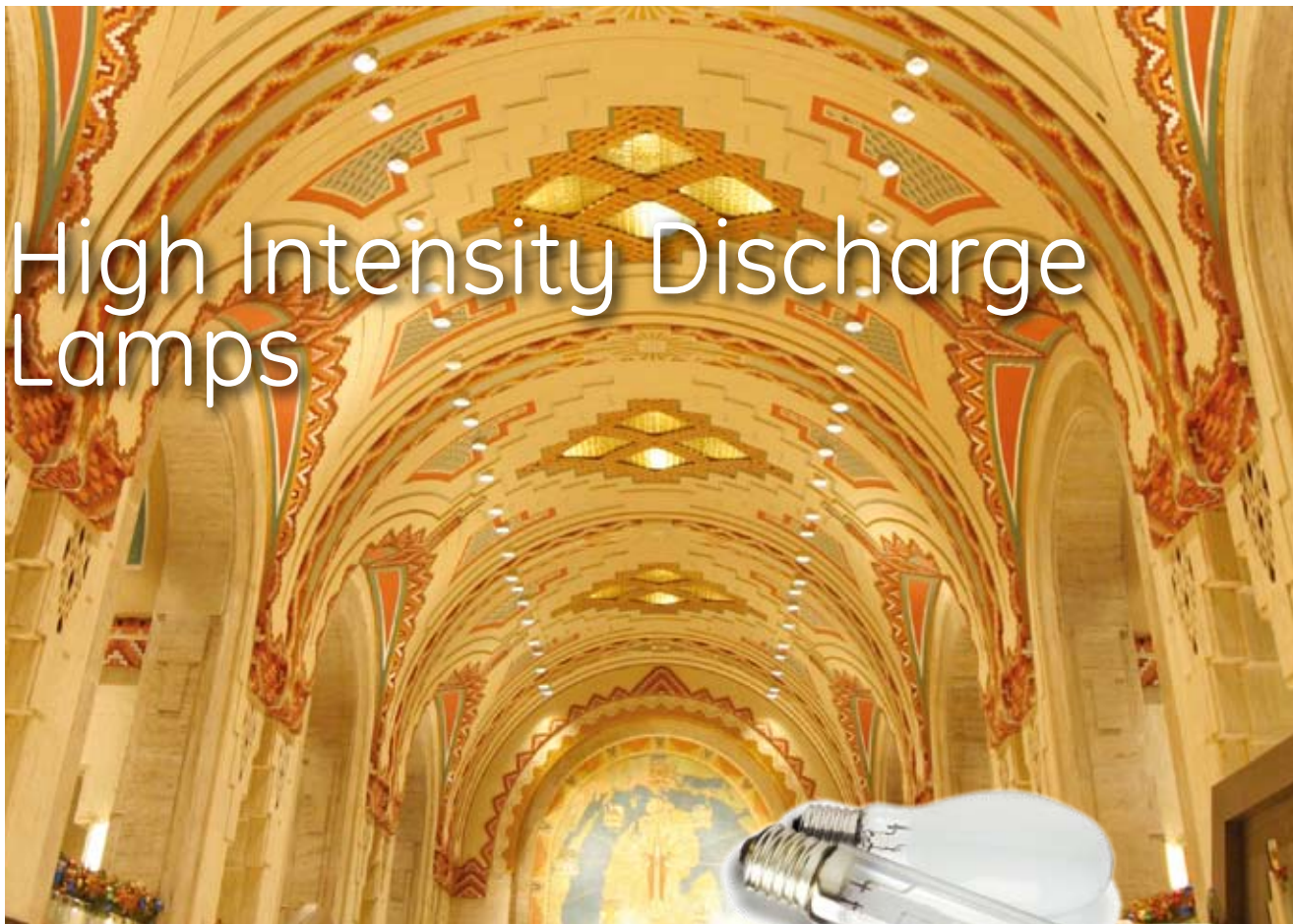
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Intensity [Cd]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - PAR38</b>													
72480	FLE23PAR38/827/E27	23	220-240	E27	8000	2700	339	80	157	121	Australia	China	
72481	FLE23PAR38/827/B22	23	220-240	B22	8000	2700	339	80	156	121	Australia	China	
61742T	FLE23/827/E27/PAR38 220-240V	23	220-240	E27	8000	2700	339	80	157	121	Thailand	China	
61744T	FLE23/865/E27/PAR38 220-240V	23	220-240	E27	8000	6500	288.15	80	157	121	Thailand	China	
















Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Life [h]	CCT [K]	Intensity [Cd]	Lumen [lm]	CRI [Ra]	Length [mm]	Diameter [mm]	Country	COO
<b>Decor - R80</b>													
72478	FLE15R80/827/E27	15	220-240	E27	8000	2700	210	82	140	80	Australia	China	
72479	FLE15R80/827/B22	15	220-240	B22	8000	2700	210	82	139	80	Australia	China	















# High Intensity Discharge Lamps










## Ceramic Metal Halide

	CMH Single Ended Super Mini	71
	CMH MR16	71
	CMH Single Ended "Mini"	71
	CMH Single Ended G12	71
	CMH Ultra	71
	CMH PAR20/PAR30/PAR38	72
	CMH Double Ended	72
	CMH Tubular	72
	CMH Elliptical	73
	CMH DIMMABLE	73
	CMH DIMMABLE StreetWise	73
	CMH OPEN RATED	73
	CMH China Made	74






## Quartz Metal Halide

	EU Standard High CRI	75
	EU Standard	75
	70W-400W Mid End China Made	75
	ANSI Standard Multi-Vapor	76
	ANSI Standard High Qutput	76
	ANSI Standard Watt-Miser	77
	ANSI Standard Protected	77
	ANSI Standard HPM-Retrofit	77
	ANSI Standard Low-watt Double-Ended	77
	Colored Double Ended	77
	Double Ended China Made	78
	Spotlight	78

## High Pressure Sodium

	Standard	79
	Standard China Made	79
	High Output China Made	79
	Xtra Output	80
	Standby	80
	Internal Ignitor	80
	Lucalox E-ZLux	80

## Mercury

	EU Standard Std	81
	EU Standard Deluxe	81
	ANSI Standard Std	81
	ANSI Standard Deluxe	81
	Mixlight Lamps	81

# High Intensity Discharge Lamps

## High Intensity Discharge Lamps – the most efficient light sources. Solutions for quality of light and reliability.

When considering lamp life, light efficiency and excellent colour rendering, GE's Ceramic Metal Halide range is the perfect solution in terms of energy saving without compromising quality of light. From retail, decorative or industrial applications to outdoor applications like floodlighting or city beautification the wide range of GE Ceramic Metal Halide products has been designed to provide the highest standard of quality lighting with the widest flexibility for all design needs. Ceramic Metal Halide lamps today represent the most advanced technology to deliver unbeatable product reliability and performance.

GE also provides a wide range of Lucalox High Pressure Sodium products for street lighting and industrial applications. GE's Lucalox range offers outstanding efficacy, extremely long life and reliability to meet increasing performance expectations and new regulations in these market segments. The Lucalox XO (Extra Output) and Lucalox XO Superlife lamps offer the highest energy efficient solutions with long lifetime.

### Benefits of Ceramic Metal Halide (CMH)

- Highly controllable point source of light
- Wide range of wattages from 20W to 400W in elliptical, tubular, linear single and double ended and reflector shapes
- High efficacy – up to 110 lm/W
- Long life – up to 24,000 hours
- Bright light and excellent colour rendering
- Consistent colour over life
- Two colour temperatures: 3000K, 3500K and 4200K
- UV control
- Direct replacement of High Pressure Sodium and Quartz Metal Halide lamps
- High reliability
- Universal burning position for most lamp types

### Benefits of High Pressure Sodium (HPS)

- Energy efficiency up to 150lm/W
- Lumen output up to 130,000 lumens
- Lifetime up to 55,000 hours
- Wide product range from 50W to 1000W





## Indoor Lighting

### Quality of Light



#### ConstantColor CMH – Single Ended, Double Ended and Reflectors

ConstantColor Ceramic Metal Halide (CMH) lighting offers a high quality light source for a wide range of applications.

- High colour rendering
  - Allows merchandise to be seen in the best lighting conditions and reveals features, detail, colour and texture
- Stable colour through life
  - Merchandise looks more attractive for longer
  - Instills confidence in store's fashion or quality awareness
- High lumen output
  - High luminance levels to attract customers into stores
  - Creates lively visual environment
- Long life – to reduce maintenance cost

### Energy Saving



#### ConstantColor CMH Miniature – Supermini & MR16

GE technology has always been at the forefront of CMH lighting with products that deliver the best possible energy efficiency as well as excellent performance:

- Outstanding efficiency: >80lm/W for 3000K
- 20W available in 830, 35W available in 930 and 942
- Robust design for reliability
- Compact size for fixture flexibility and better optical efficiency
- More stable colour through life
- Improved life performance
- Easy to fit
- Multiple beam spreads for MR16: 12°, 25°, 40°

## The power of CMH From the leader in miniature CMH technology

Energy saving is not only a cost saving but is also a social responsibility, and the lighting industry is constantly researching products that produce more light using less electricity. GE is in the vanguard of this research and the company's CMH Supermini range is exceptionally efficient. Coupled with an efficient spotlight fixture, Superminis yield massive energy saving because they generate extremely high luminous flux in a very small space. In the retail environment, in particular, this provides a significant saving with no loss of lighting quality.



### NEW for 2011

#### Ultra versions launched

Ultra versions of the 35W Supermini and MR16 lamps have been released – the benefits of Ultra combined with the benefits of miniaturisation.

### Key features

- Outstanding efficiency: four times better than halogen
- Compact capsule, or reflector version
- Outstanding long life – up to 12,000 hours
- Robust and reliable
- Colour uniformity lamp to lamp
- Stable colour throughout lamp life
- Small size enables better optical design
- Simple ballast and lamp holder change

### Applications

- Display lighting
- Spot and track lighting
- Mini floodlighting
- Indoor/outdoor

### Energy Efficient

If we compare CMH 20W with a 50W halogen lamp, there are four primary attributes to consider. These are: life, lumen, efficacy and heat. CMH 20W wins in every area!

#### CMH 20W vs 50W Halogen

	Life [h]	Lumens [lm]	Efficacy [lm/w]	Heat [W]
50W Halogen Capsule	4,000	900	18	33W
CMH 20W Supermini	12,000	1615	80.8	7W
	x3	x1.8	x4.6	20%

- 20% of beam heat
- 80% more light
- Three times the life
- 4.5 times better efficiency

#### End User Benefits

- Reduced air conditioning costs
- More design potential
- Reduced replacement costs
- Reduced energy costs



# ConstantColor CMH Ultra

## The new generation of CMH

Our next generation of CMH lamps are the ultimate light source for retail applications where quality of light, colour and efficacy are important. Now, anyone with critical colour needs can enjoy the outstanding energy efficiency and the savings that CMH lamps provide.

### Key features

- 35W and 70W 3000K CMH lamps in G12, G8.5, G6.5, MR16 formats
- New arctube design – lumen maintenance and colour rendering (CRI) are both significantly improved vs. standard CMH, while maintaining our industry leading 18,000 hours life
- The 930 colour gives a true representation of all colours in the spectrum
- These lamps will operate in any existing CMH70 and 35 G12, G8.5, G6.5, MR16 systems. In addition, they are compatible with both electronic and magnetic ballasts

### Applications

- Retail and accent lighting
- General retail display
- Wherever current generation CMH 35&70W G12, G8.5, G6.5, MR16 products are in use



### Benefits

- Extended service life and lamp replacement cycles
- Creates a higher level product offering through improved lumen maintenance and colour rendering
- Improved lumen maintenance keeps stores brighter longer

# High Intensity Discharge Lamps

## Advanced lighting technologies

### CMH Single Ended Mini G8.5

#### With ULTRA efficient lighting

- New generation - more usable light over life, 33% more lumen output at end of life vs. standard CMH lamps
- Excellent 930 colour
- Outstanding long life up to 18,000 hours



### CMH Single Ended G12

#### With ULTRA efficient lighting

- New generation - more usable light over life, 33% more lumen output at end of life vs. standard CMH lamps
- Excellent 930 colour
- Outstanding long life up to 18,000 hours



### CMH Supermini

#### With ULTRA efficient lighting

- Allows miniaturisation of fixtures (only 52mm long)
- Available in 20W and 35W versions
- 35W available in 930 & 942 colours
- 35W Ultra version released
- Outstanding long life up to 16,500 hours



### CMH Precise MR16

#### With ULTRA efficient lighting

- World's smallest CMH reflector lamp. Beam angles: 12°, 25° & 40°
- Industry standard GX10 base
- 35W available in 930 & 942 colours
- 35W Ultra version released
- Outstanding long life up to 16,500 hours



### CMH PAR 20 & 30

#### Design upgrade

- New design without metal ring
- The 3000k, 3500k, 4200K colour temperature offers flexibility to lighting designers



### CMH Open Rated

#### Performance Upgrade

- Protective shroud allows for use in open-fixtures
- 10-20% more efficient than standard metal halide
- Fits standard HPS and metal halide sockets



### CMH 250W

#### Performance Upgrade

- A leading combination of quality and efficient light versus other HID lamps
- Lamp life - 24,000 hours
- Colour consistency and 80+ CRI



### CMH 400W

#### Performance Upgrade

- Highest wattage CMH available
- Lamp life - 20,000 hours
- Colour consistency and 80+ CRI



### CMH TD Range

#### Unique Range

- New 35W added to 70W and 150W range
- 35W allows energy saving in wall-wash fixtures



### Dimmable CMH StreeWise

#### Energy Savers

- New generation tubular 50 - 150W launched in 2011
- Very efficient, up to 110 LPW
- Direct retrofit to HPS
- Lamp is dimmable to 65% without significant impact to lamp colour
- Lamp life - 24,000 hours



### CMH Tubular 70-400W

#### Improved Versatility

- Quality of light
- Lamp life up to 24,000 hours
- Colour consistency and 80+ CRI



### CMH Elliptical 70-400W

#### Improved Versatility

- Quality of light
- Lamp life up to 24,000 hours
- Colour consistency and 80+ CRI



# Outdoor Lighting

## Prime Requirements

- High efficacy and long service life to minimize cost
- Create high uniform lighting on the road for safety reasons
- Better colour appearance and rendering for visual needs of pedestrians

### Quality of Light



#### CMH – street lighting – bright, safe white light

It is generally observed that white light makes it easier for drivers to recognize shapes and colour, particularly in the peripheral vision. For pedestrians white light promotes a feeling of security and confidence, much more than under yellow or orange street lighting.

#### A comprehensive range of CMH lamps are available and provide excellent benefits:

- High efficacy and long life to minimize cost and reduce emission of CO<sub>2</sub> for better environment
- Compact source, allowing flexible optical design to achieve high illumination uniformity on the road
- Better colour appearance and rendering for visual needs of pedestrians
- Improved feeling of security
- Dimmable Mesopic CMH lamp – is able to achieve a brighter level of light output better matched to human eye sensitivity and at a reduced power

**A brand new range of CMH outdoor lighting StreetWise is available Since 2011.**

### Solution for Reliability



#### Lucalox XO – solution for reliability in street lighting

GE Lucalox XO High Pressure Sodium lamps offer outstanding luminous efficacy, lumen maintenance and long life, thus reducing energy and maintenance costs.

#### These lamps deliver a new level of reliability by a comprehensive redesign of the lamp construction:

- Revolutionary arc tube design (monolithic) – for simpler, more robust construction
- Precise arc tube sealing process
- New getter material improves vacuum protection
- New starting aid GRS (GE Reliable Starting Technology) improves lumen maintenance
- Direct replacement for standard Lucalox
- Up to 150 lm/W – currently the most efficient lamp within the HID range
- Life up to 32,000 hours – the longest life lamp in the HID range in single arc tube design
- Dimmable on electromagnetic and GE approved electronic ballasts

## GE ConstantColor CMH StreetWise Naturally better, naturally safer.

GE ConstantColor CMH StreetWise ceramic metal halide lamps have been designed as the easy-fit replacement for outdated technologies. They are also the logical first choice for new installations.

They are fitted with standard E27/E40 bases and can be dimmed, they outperform most standard HID systems. And with high reliability and sustained lumen output across a longer working life of 24,000 hours, they are supremely cost effective.

They support electronic and electromagnetic ballasts and are compatible with the major street light ballasts, retrofitting the existing HPS systems. Approved ballasts included Tridonic and Harvard and the ballast testing process is on-going with other major manufacturers. If you have any particular needs please contact your GE sales representative.

StreetWise ceramic metal halide lamps are the excellent white light energy efficient choice, offering:

- **Lowest total cost of ownership**
- **Wide range: 50/70/100/150 Watts**
- **Dimmable for all wattages for further energy saving**
- **System flexibility, operating on both electronic and electromagnetic ballasts**
- **Standard E27/E40 bases for simplicity**
- **Compatible with existing fixtures and optics**
- **Same size and LCL as current HPS**
- **Horizontal burning position**

### When to specify StreetWise

In applications where lighting class reduction using lamps above Ra8 60 can be considered, StreetWise is a clear leader. Its excellent Ra8 value of 70 provides improved colour rendering over similar systems of comparable life and efficacy.



**NEW**  
for 2011

### Applications include:

#### CMH StreetWise range can be applied ...

- **Specify in new installations.** Achieve very high efficiency with standard bases and flexible ballast choices.
- **Replace HPS or mercury applications.** Dimmable CMH will achieve lowest cost and most efficient white light.
- **Choose instead of HPS.** Benefits include white light and lower energy at similar lumen output for same wattage.
- **Replace mercury vapour installations.** Lower Watt CMH will maintain white light at similar lumen and save the most energy.

**StreetWise**



## GE Lucalox XO Extra Output

The ideal lamp for road lighting. Improved quality brings down life-cycle costs by reducing spot replacements. Extended lamp life means less lamps for disposal and further cost savings as stricter waste legislation becomes imposed.

### Improved reliability The simplicity of the design

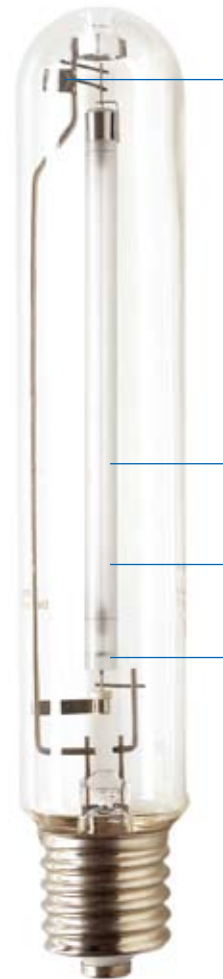
Lucalox XO lamps are of very robust and reliable construction, designed to meet the most demanding requirements. There are fewer parts and only 5 critical welds.

Simplicity and robustness deliver higher reliability, even for exposed, vibration prone roadway situations.

In addition, they are compatible with both electronic\* and magnetic ballasts.

\*GE approved electronic ballast

- Lucalox XO lamps reach luminous efficacy up to 150 lumens/watt
- Lucalox XO lamps, due to their high efficacy, are an outstanding economical solution to combat rising energy costs
- Lucalox XO lamps combine excellent lumen maintenance with extended life
- Lucalox XO lamps combine long life and excellent luminous efficacy to reduce their impact on the global environment

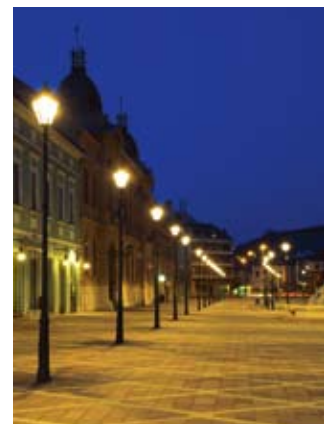


**Zirconium-Iron getter**  
Improves lumen maintenance

**GE reliable starting technology**  
Improves lumen maintenance

**Higher transparency ceramic**  
More light output

**Monolithic construction**  
More robust



# High Intensity Discharge Lamps

## CostantColor CMH (Ceramic Metal Halide) T, TC, TD



### Single Ended Mini Ultra and Standard

Cap: G8.5  
Wattages: 20-70W  
Colours: 830, 930, 942  
Life: 12,000-18,000Hrs  
Page: 71



### Single Ended Supermini Ultra and Standard

Cap: G6.5  
Wattages: 20-35W  
Colours: 830, 930, 942  
Life: 10,000-16,500Hrs  
Page: 71



### Single Ended G12 Ultra and Standard

Cap: G12  
Wattages: 20-150W  
Colours: 830, 842, 930, 942  
Life: 12,000-18,000Hrs  
Page: 71



### Double Ended

Cap: RX7s or RX7s-24  
Wattages: 35-150W  
Colours: 830, 942  
Life: 10,000-15,000Hrs  
Page: 72

## CostantColor CMH (Ceramic Metal Halide) Reflectors



### MR16 Ultra and Standard

Cap: GX10  
Wattages: 20-35W  
Colours: 830, 930, 942  
Life: 10,000-16,500Hrs  
Page: 71



### PAR20

Cap: E27  
Wattages: 20-35W  
Colours: 830, 942  
Life: 10,000-12,000Hrs  
Page: 72



### PAR30

Cap: E27  
Wattages: 20-70W  
Colours: 830, 835, 942  
Life: 10,000-13,000Hrs  
Page: 72

## CostantColor CMH (Ceramic Metal Halide) Elliptical and Tubular



### Elliptical

Cap: E27, E40  
Wattages: 70-400W  
Colours: 830, 942  
Finish: Clear or Diffuse  
Life: 15,000-24,000Hrs  
Page: 73



### Open Rated Elliptical

Cap: E27  
Wattages: 70-150W  
Colours: 940, 942  
Finish: Clear or Diffuse  
Life: 15,000Hrs  
Page: 73



### StreetWise

Cap: E27, E40  
Wattages: 50-150W  
Colours: 730  
Finish: Clear  
Life: 24,000Hrs  
Page: 73



### Tubular

Cap: E27, E40  
Wattages: 70-400W  
Colours: 830, 942  
Finish: Clear  
Life: 10,000-24,000Hrs  
Page: 72



### Open Rated Tubular

Cap: E40  
Wattages: 150W  
Colours: 830, 942  
Finish: Clear  
Life: 12,000Hrs  
Page: 73

## Arcstream Metal Halide Operates on suitable metal halide/high pressure sodium ballast and metal halide ignitor



### Double Ended

Cap: Rx7s-Fc2  
Wattages: 70-250W  
Colours: 3000-6500K  
CRI: 70-90  
Life: 9,000Hrs  
Page:



### Double Ended Coloured

Cap: RX7s-24  
Wattages: 150W  
Colours: Green, Blue, Orange, Magenta  
Life: 6,000Hrs  
Page:



### Elliptical

Cap: E40, E27  
Wattages: 70-250W  
Colours: 4000-6000K  
CRI: 65-90  
Finish: Clear or Diffuse  
Life: 8,000-14,000Hrs  
Page:



### Tubular

Cap: E40  
Wattages: 150-400W  
Colours: 4000-6000K  
CRI: 63-90  
Finish: Clear  
Life: 8,000-12,000Hrs  
Page:



# Selector

## Multi-Vapour Metal Halide

Operates from CWA Control Gear



### Standard - Elliptical

Cap: E40, E26, E39  
Wattages: 175-1500W  
Colours: 3700-4200K  
CRI: 65-70  
Finish: Clear or Diffuse  
Life: 10,000 -20,000Hrs  
Page:



### High Output - Elliptical

Cap: POSMpg, E39  
Wattages: 175-1000W  
Colours: 3000-4000K  
CRI: 65-70  
Finish: Clear or Diffuse  
Life: 20,000Hrs  
Page:

## Kolorarc Metal Halide

Operates from suitable mercury or metal halide ballast rated 3.5A and metal halide ignitor



### Elliptical

Cap: E40  
Wattages: 250-400W  
Colours: 4000-6000K  
CRI: 63-90  
Finish: Clear or Diffuse  
Life: 8,000 -14,000Hrs  
Page:



### Tubular

Cap: E40  
Wattages: 250-400W  
Colours: 4000-6000K  
CRI: 63-90  
Finish: Clear  
Life: 8,000-10,000Hrs  
Page:

## Sportlight Metal Halide

For sports and floodlighting



### Linear

Cap: RX7s - spec  
Wattages: 1500-2000W  
Colours: 5200K  
CRI: 65  
Life: 6,000Hrs  
Page:



### Tubular Clear

Cap: E40  
Wattages: 1000-2000W  
Colours: 4000-6000K  
CRI: 65-93  
Life: 2,000 -8,000Hrs  
Page:



### Internal Ignitor

Cap: E40  
Wattages: 2000W  
Colours: 6000K  
CRI: 93  
Life: 5,000Hrs  
Page:

## High Pressure Sodium



### Lucalox

Cap: E27, E40  
Wattages: 50-1000W  
Finish: Tubular Clear or Elliptical Diffuse  
Life: 24,000 -28,500Hrs  
Page:



### Lucalox XO

Cap: E27, E40  
Wattages: 50-600W  
Feature: Extra high lumen output  
Finish: Tubular Clear or Elliptical Diffuse  
Life: 28,500 -32,000Hrs  
Page:



### Lucalox HO

Cap: E40  
Wattages: 150-600W  
Feature: China-made high lumen output  
Finish: Tubular Clear  
Life: 24,000Hrs  
Page:

## High Pressure Sodium - Others



### Lucalox ANSI Standard

Cap: E26, E39, E40  
Wattages: 150-1000W  
Life: 24,000Hrs  
Page: 80



### Lucalox E-Z Lux

Cap: E27  
Wattages: 110W  
Feature: Direct replacement for mercury lamps  
Life: 24,000Hrs  
Page: 80



### Lucalox Internal Ignitor

Cap: E27  
Wattages: 50-70W  
Feature: Internal ignitor  
Finish: Elliptical Clear or Diffuse  
Life: 12,000Hrs  
Page: 80



### Lucalox XO Superlife

Cap: E27, E40  
Wattages: 70-400W  
Feature: Extra high lumen output and Twin Arc tubes for extra life  
Finish: Tubular Clear or Elliptical Diffuse  
Life: 50,000 -55,000Hrs  
Page:



### Lucalox Superlife

Cap: E27, E40  
Wattages: 50-400W  
Feature: Twin Arc tubes for extra life  
Finish: Tubular Clear or Elliptical Diffuse  
Life: 40,000 -55,000Hrs  
Page:

## Mercury Lamps



### EU Standard

Cap: E27, E40  
Wattages: 50-400W  
Life: 20,000Hrs  
Page: 81



### EU standard Deluxe

Cap: E27, E40  
Wattages: 50-400W  
Life: 20,000Hrs  
Page: 81



### Mixed Light

Cap: E27, E40  
Wattages: 160-500W  
Voltage: 230-240V or 240-250V  
Life: 8,000Hrs  
Page: 18



### ANSI Standard

Cap: E39, E40  
Wattages: 150-400W  
Life: 20,000Hrs  
Page: 81



### ANSI standard Deluxe

Cap: E26, E39  
Wattages: 100-400W  
Life: 20,000Hrs  
Page: 81

# High Intensity Discharge Lamps

## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage. The Product Description can be used as a quick reference to each product's attributes. Where Life or Average Life are stated we refer to the industry standard definition of how many hours of operation 50% of a given installation will exceed.

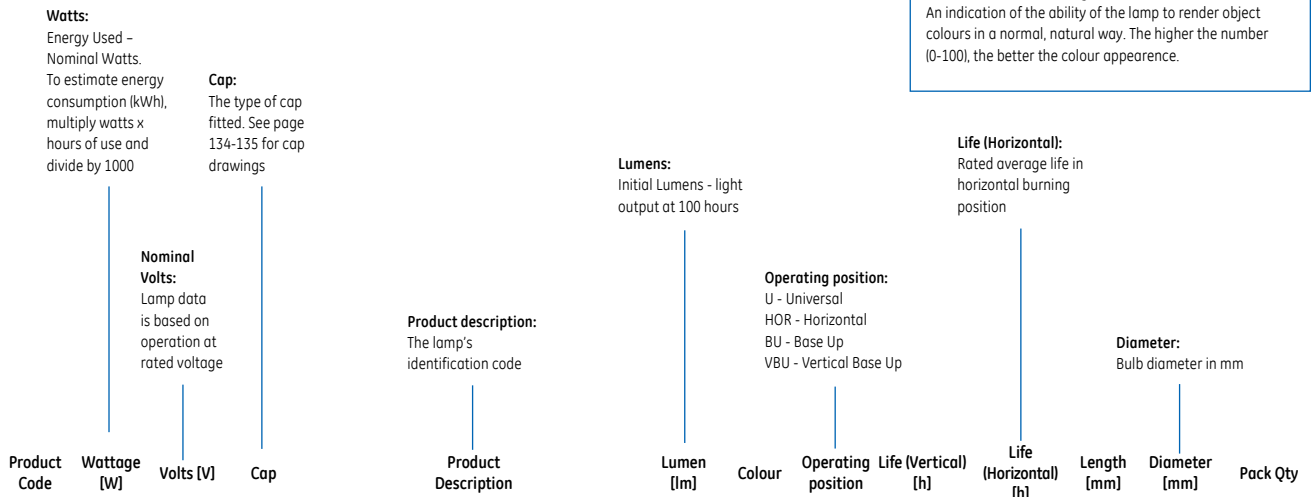
### Additional parameters:

#### CCT [K]: Colour Temperature – Kelvins

A measure of the visual "warmth" or "coolness" of the light from the lamp. The higher the value the whiter or "cooler" the light appears.

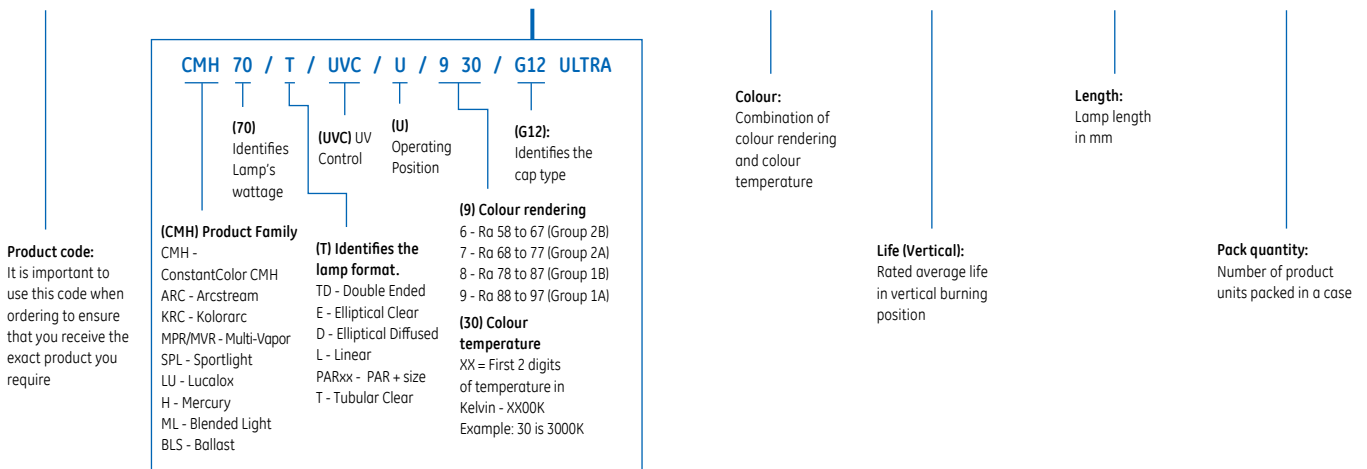
#### CRI [Ra]: Colour Rendering Index

An indication of the ability of the lamp to render object colours in a normal, natural way. The higher the number (0-100), the better the colour appearance.




### ConstantColor - CMH Supermini


Product Code	Wattage [W]	Volts [V]	Cap	Product Description	Lumen [lm]	Colour	Operating position	Life (Vertical) [h]	Life (Horizontal) [h]	Length [mm]	Diameter [mm]	Pack Qty
40399	20	95	GU6.5	CMH20/T/UVC/830/GU6.5	1615	830	U	12,000	12,000	52	13	12
88656	35	95	GU6.5	CMH35/T/UVC/930/GU6.5	3400	930	U	10000*	10,000*	52	13	12

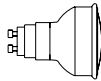



# Ceramic Metal Halide

Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>CMH Single Ended Super Mini</b> 										
40399	CMH20/TC/UVC/U/830/GU6.5	20	0.2A	3000K	81+	GU6.5	52	1615	12000	1/12
88656	CMH35/T/UVC/930/GU6.5	35	0.5A	3000K	88	GU6.5	52	3400	10000	1/12
88657	CMH35/T/UVC/942/GU6.5	35	0.5A	4200K	90	GU6.5	52	3400	12000	1/12




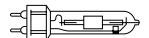
Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Initial Lumens (lm)	CBCP	Beam Spread	Avg.Life (Hr)	Pack Qty.
<b>CMH MR16</b> 												
40400	CMH20/MR16/UVC/830/GX10/SP	20	0.2A	3000K	80	GX10	54.5	1000	9000	12°	12000	1/12
40401	CMH20/MR16/UVC/830/GX10/FL	20	0.2A	3000K	80	GX10	54.5	1000	2900	25°	12000	1/12
42691	CMH20/MR16/UVC/830/GX10/WFL	20	0.2A	3000K	80	GX10	54.5	1000	1500	40°	12000	1/12
88658	CMH35/MR16/UVC/930/GX10/SP	35	0.5A	3000K	90	GX10	54.5	2200	16000	12°	10000	1/12
88659	CMH35/MR16/UVC/930/GX10/FL	35	0.5A	3000K	90	GX10	54.5	2200	5500	25°	10000	1/12
88660	CMH35/MR16/UVC/930/GX10/WFL	35	0.5A	3000K	90	GX10	54.5	2200	3000	40°	10000	1/12
88661	CMH35/MR16/UVC/942/GX10/SP	35	0.5A	4200K	92	GX10	54.5	2200	16000	12°	12000	1/12
88662	CMH35/MR16/UVC/942/GX10/FL	35	0.5A	4200K	92	GX10	54.5	2200	5500	25°	12000	1/12
88663	CMH35/MR16/UVC/942/GX10/WFL	35	0.5A	4200K	92	GX10	54.5	2200	3000	40°	12000	1/12




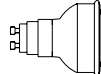
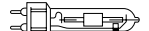
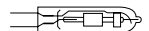
Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>CMH Single Ended "Mini's"</b> 												
39858	CMH20/T/UVC/U/830/G8.5 PLUS	20	0.2A	3000K	80+	T4.5	G8.5	85	Universal	1650	12000	1/12
43273	CMH35/TC/UVC/U/830/G8.5 PLUS	35	0.5A	3000K	80+	T4.5	G8.5	85	Universal	3400	16500	1/12
26348	CMH35/TC/UVC/U/942/G8.5	35	0.5A	4200K	88+	T4.5	G8.5	85	Universal	3200	18000	1/12
43274	CMH70/TC/UVC/U/830/G8.5 PLUS	70	0.98A	3000K	80+	T4.5	G8.5	85	Universal	6450	15000	1/12
26349	CMH70/TC/UVC/U/942/G8.5	70	0.98A	4200K	90+	T4.5	G8.5	85	Universal	6200	15000	1/12



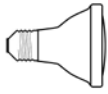
Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>CMH Single Ended G12</b> 												
42708	CMH20/T/UVC/U/830/G12 PLUS	20	0.2A	3000K	80+	T6	G12	90	Universal	1650	12000	1/12
92141	CMH35/T/UVC/U/942/G12	35	0.5A	4200K	85+	T6	G12	90	Universal	3200	18000	1/12
43272	CMH35/T/UVC/U/830/G12 PLUS	35	0.5A	3000K	80+	T6	G12	90	Universal	3400	16500	1/12
20005	CMH70/T/UVC/U/830/G12	70	0.98A	3000K	80+	T6	G12	90	Universal	6200	15000	1/12
20013	CMH70/T/UVC/U/942/G12	70	0.98A	4200K	90+	T6	G12	90	Universal	6300	15000	1/12
20012	CMH150/T/UVC/U/830/G12	150	1.8A	3000K	80+	T7	G12	100	Universal	14000	12000	1/12
20014	CMH150/T/UVC/U/942/G12	150	1.8A	4200K	90+	T7	G12	100	Universal	13000	12000	1/12



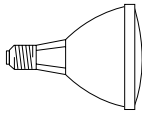
Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Avg.Life (Hr)	Pack Qty.
<b>CMH Ultra</b> 													
76120	CMH35/TC/UVC/U/930/G8.5 Ultra	35	0.5A	3000K	87	T4.5	G8.5	85	Universal	3500	-	16500	1/12
76121	CMH35/T/UVC/U/930/G12 Ultra	35	0.5A	3000K	87	T6	G12	90	Universal	3500	-	16500	1/12
76122	CMH35/T/UVC/930/GU6.5 Ultra	35	0.5A	3000K	88	-	GU6.5	52	Universal	3500	-	16500	1/12
76123	CMH35/MR16/UVC/930/GX10/SP Ultra	35	0.5A	3000K	90	-	GX10	54.5	Universal	2200	16000	16500	1/12
76124	CMH35/MR16/UVC/930/GX10/FL Ultra	35	0.5A	3000K	90	-	GX10	54.5	Universal	2200	5500	16500	1/12
76125	CMH35/MR16/UVC/930/GX10/WFL Ultra	35	0.5A	3000K	90	-	GX10	54.5	Universal	2200	3000	16500	1/12
96751	CMH70/TC/UVC/U/930/G8.5 Ultra	70	0.98A	3000K	88	T4.5	G8.5	85	Universal	6200	-	18000	1/12
96752	CMH70/TC/UVC/U/930/G12 Ultra	70	0.98A	3000K	87	T6	G12	90	Universal	6400	-	18000	1/12
63595	CMH70/TC/UVC/U/930/G8.5 Ultra White	70	0.98A	3000K	88	T4.5	G8.5	85	Universal	6700	-	18000	1/12
63596	CMH70/TC/UVC/U/930/G12 Ultra White	70	0.98A	3000K	88	T6	G12	90	Universal	6600	-	18000	1/12



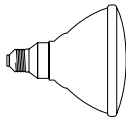
# High Intensity Discharge Lamps



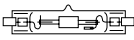
Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Beam Spread	Avg.Life (Hr)	Pack Qty.
<b>CMH PAR20</b>													
26478	CMH20/PAR20/UVC/830/E27/SP	20	0.2A	3000K	80+	E27	92	Universal	1000	13000	10°	12000	1/6
26481	CMH20/PAR20/UVC/830/E27/FL	20	0.2A	3000K	80+	E27	92	Universal	1000	3750	25°	12000	1/6
21684	CMH35/PAR20/UVC/830/E27/SP	35	0.5A	3000K	80+	E27	92	Universal	2100	22000	10°	10000	1/6
21685	CMH35/PAR20/UVC/830/E27/FL	35	0.5A	3000K	80+	E27	92	Universal	2100	7500	25°	10000	1/6
44890	CMH35/PAR20/UVC/942/E27/SP10	35	0.5A	4200K	90+	E27	92	Universal	1950	19450	10°	10000	1/6
44919	CMH35/PAR20/UVC/942/E27/FL25	35	0.5A	4200K	90+	E27	92	Universal	1950	6950	25°	10000	1/6



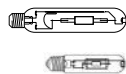
Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Beam Spread	Avg.Life (Hr)	Pack Qty.
<b>CMH PAR30</b>													
26497	CMH20/PAR30/UVC/830/E27/SP10	20	0.2A	3000K	80+	E27	124	Universal	1200	19800	10°	12000	1/6
26518	CMH20/PAR30/UVC/830/E27/FL25	20	0.2A	3000K	80+	E27	124	Universal	1200	4900	25°	12000	1/6
21689	CMH35/PAR30/UVC/830/E27/SP	35	0.5A	3000K	80+	E27	124	Universal	2400	39600	10°	10000	1/6
21690	CMH35/PAR30/UVC/830/E27/FL	35	0.5A	3000K	80+	E27	124	Universal	2400	11000	25°	10000	1/6
44939	CMH35/PAR30/UVC/942/E27/SP10	35	0.5A	4200K	89	E27	124	Universal	2225	36700	10°	10000	1/6
44942	CMH35/PAR30/UVC/942/E27/FL25	35	0.5A	4200K	89	E27	124	Universal	2225	10200	25°	10000	1/6
21683	CMH70/PAR30/UVC/830/E27/SP	70	0.98A	3000K	80+	E27	124	Universal	4700	43000	15°	13000	1/6
21682	CMH70/PAR30/UVC/830/E27/FL	70	0.98A	3000K	80+	E27	124	Universal	4700	10000	40°	13000	1/6
74620	CMH70/PAR30/UVC/942/E27/SP	70	0.98A	4200K	89	E27	124	Universal	4300	33500	15°	10000	1/6
74619	CMH70/PAR30/UVC/942/E27/FL	70	0.98A	4200K	89	E27	124	Universal	4300	9000	40°	10000	1/6



Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Beam Spread	Avg.Life (Hr)	Pack Qty.
<b>CMH PAR38</b>													
45675	CMH70/PAR38/830/SP15	70	0.98A	3000K	80+	E26	120	Universal	4800	40000	15°	10000	1/6
45677	CMH70/PAR38/830/FL15	70	0.98A	3000K	80+	E26	120	Universal	4800	14000	25°	10000	1/6
45679	CMH70/PAR38/830/WFL	70	0.98A	3000K	80+	E26	120	Universal	4800	4400	40°	10000	1/6
45680	CMH100/PAR38/830/SP15	100	1.1A	3000K	80+	E26	120	Universal	6500	45000	15°	10000	1/6
45681	CMH100/PAR38/830/FL15	100	1.1A	3000K	80+	E26	120	Universal	6500	15000	25°	10000	1/6
45682	CMH100/PAR38/830/WFL	100	1.1A	3000K	80+	E26	120	Universal	6500	5500	40°	10000	1/6



Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH Double Ended</b>													
43278	CMH35/TD/UVC/830/RX7s	35	0.5A	3000K	80+	T6	Rx7s	118	horizontal±45	3400	15000	-	1/12
36910	CMH70/TD/UVC/830/RX7s	70	0.98A	3000K	80+	T6	Rx7s	118	horizontal±45	7000	15000	-	1/12
38698	CMH70/TD/UVC/942/RX7s	70	0.98A	4200K	90+	T6	Rx7s	118	horizontal±45	6200	15000	-	1/12
36912	CMH150/TD/UVC/830/RX7s-24	150	1.8A	3000K	80+	T7	Rx7s-24	135	horizontal±45	14500	15000	-	1/12
38692	CMH150/TD/UVC/942/RX7s-24	150	1.8A	4200K	90+	T7	Rx7s-24	135	horizontal±45	12500	15000	-	1/12

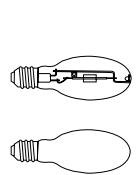


Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH Tubular</b>													
38752	CMH70/TT/UVC/830/E27	70	0.98A	3000K	80+	Clear	E27	156	Universal	6400	20000	15000	1/12
92478	CMH100/TT/UVC/830/E40	100	1.1A	3000K	80+	Clear	E40	207	Universal	9200	15000	10000	1/12
38749	CMH150/TT/UVC/830/E40	150	1.8A	3000K	80+	Clear	E40	207	Universal	14000	20000	15000	1/12
20302	KRC250/CMH/830/T/H/E40	250	2.3A	3000K	80+	Clear	E40	251	Universal	20000	24000	-	1/12
10589	CMH250/TT/U/830/E40	250	2.7A	3000K	80+	Clear	E40	251	Universal	25000	24000	24000	1/12
62356	CMH250/T/U/942/E40	250	2.9A	4200K	90	Clear	E40	251	Universal	25000	16000**	16000**	1/12
13067	CMH400/TT/UVC/U/830/E40	400	4.2A	3000K/3600K*	80+	Clear	E40	270	Universal	41000	20000	20000	1/12

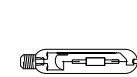


# Ceramic Metal Halide

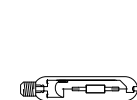
Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH Elliptical</b>													
46189	CMH70/E/UVC/U/830/E27/C	70	0.98A	3000K	80+	Clear	E27	137	Universal	6300	15000	15000	1/6
46187	CMH70/E/UVC/U/830/E27/D	70	0.98A	3000K	80+	Diffuse	E27	137	Universal	6000	15000	15000	1/6
46194	CMH100/E/UVC/U/830/E27/D	100	1.1A	3000K	80+	Diffuse	E27	137	Universal	8700	10000	10000	1/6
46191	CMH100/E/UVC/U/830/E27/C	100	1.1A	3000K	80+	Clear	E27	137	Universal	9200	15000	15000	1/6
10591	CMH250/E/UVC/U/830/E40/D	250	2.7A	3000K	80+	Diffuse	E40	251	Universal	23500	24000	24000	1/6
13087	CMH400/E/UVC/U/830/E40/D	400	4.2A	3000K/3600K*	80+	Diffuse	E40	280	Universal	39000	20000	20000	1/6



Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH DIMMABLE</b>													
21514	CMH150/UVC/T/U/842/E40	150	1.8A	4000K	89	Tubular	E40	207	Universal	14500	15000	15000	1/12

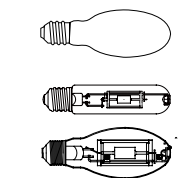


Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (EL/EM) (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH DIMMABLE StreetWise</b>													
64982	CMH50/TT/UVC/730/E27/ECG STREETWISE	50	0.76A	3000K	70+	Tubular	E27	156	horizontal±15°	-/5000	24000**	16000**	1/12
77400	CMH50/TT/UVC/730/E27/EM STREETWISE	50	0.76A	3000K	67	Tubular	E27	156	horizontal±15°	4500/-	24000**	16000**	1/12
77401	CMH70/TT/UVC/730/E27 STREETWISE	70	0.95A	3000K	70+	Tubular	E27	156	horizontal±15°	7640/7300	24000**	16000**	1/12
77399	CMH100/TT/UVC/730/E40 STREETWISE	100	1.16A	3000K	70+	Tubular	E40	211	horizontal±15°	10900/10100	24000**	16000**	1/12
77402	CMH150/TT/UVC/730/E40 STREETWISE	150	1.8A	3000K	68	Tubular	E40	211	horizontal±15°	16200/16300	24000**	-	1/12



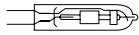
\* Horizontal Burning Position - 3000K CCT, Vertical burning Position - 3600K CCT  
 \*\* Testing still on going, will upgrade.

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life Horizontal (Hr)	Avg.Life Vertical (Hr)	Pack Qty.
<b>CMH OPEN RATED</b>													
43282	CMH70/UVC/O/U/940/E27/D	70	0.98A	4000K	90+	Diffuse	E27	137	Universal	5300	15000	15000	1/6
21516	CMH150/UVC/O/T/U/830/E40	150	1.8A	3000K	80+	Tubular	E40	207	Universal	14000	12000	12000	1/6
43286	CMH150/UVC/O/U/940/E27/D	150	1.8A	4000K	90+	Diffuse	E27	137	Universal	12300	15000	15000	1/6
43285	CMH150/UVC/O/U/942/E27/C	150	1.8A	4200K	90+	Elliptical	E27	137	Universal	13200	15000	15000	1/6
21517	CMH150/UVC/O/T/U/942/E40	150	1.8A	4200K	90+	Tubular	E40	207	Universal	14000	12000	12000	1/6

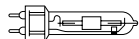


# High Intensity Discharge Lamps

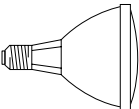
Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>CMH China Made - CMH Single Ended Mini</b>												
73685E	CMH20/TC/UVC/830/G8.5	20	0.2A	3000K	81	T4.5	G8.5	85	Universal	1650	12000	1/12
73686E	CMH35/TC/UVC/U/830/G8.5	35	0.5A	3000K	84	T4.5	G8.5	85	Universal	3400	15000	1/12
63434E	CMH35/TC/UVC/U/942/G8.5	35	0.5A	4200K	88	T4.5	G8.5	85	Universal	3200	12000	1/12
73687E	CMH70/TC/UVC/U/830/G8.5	70	0.98A	3000K	83	T4.5	G8.5	85	Universal	6200	15000	1/12
63433E	CMH70/TC/UVC/U/942/G8.5	70	0.98A	4200K	90	T4.5	G8.5	85	Universal	6200	15000	1/12



Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>CMH China Made - CMH Single Ended G12</b>												
63437E	CMH35/T/UVC/U/830/G12 Plus	35	0.5A	3000K	84	T6	G12	90	Universal	3400	15000	1/12
63438E	CMH35/T/UVC/U/942/G12	35	0.5A	4200K	88	T6	G12	90	Universal	3200	12000	1/12
63435E	CMH70/T/UVC/U/830/G12	70	0.98A	3000K	83	T6	G12	90	Universal	6200	15000	1/12
63436E	CMH70/T/UVC/U/942/G12	70	0.98A	4200K	91	T6	G12	90	Universal	6300	15000	1/12



Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Beam Spread	Avg.Life (Hr)	Pack Qty.
<b>CMH China Made - CMH PAR30</b>													
63441E	CMH35/PAR30/UVC/830/E27/SP10	35	0.5A	3000K	81	E27	125	Universal	2400	39600	10°	10000	1/6
63442E	CMH35/PAR30/UVC/830/E27/FL25	35	0.5A	3000K	81	E27	125	Universal	2400	11060	25°	10000	1/6
64950E	CMH35/PAR30/UVC/835/E27/SP10	35	0.5A	3500K	80	E27	125	Universal	2400	29100	10°	10000	1/6
64951E	CMH35/PAR30/UVC/835/E27/FL25	35	0.5A	3500K	80	E27	125	Universal	2400	10000	25°	10000	1/6
63443E	CMH35/PAR30/UVC/942/E27/SP10	35	0.5A	4200K	89	E27	125	Universal	2225	36700	10°	10000	1/6
63444E	CMH35/PAR30/UVC/942/E27/FL25	35	0.5A	4200K	89	E27	125	Universal	2225	10200	25°	10000	1/6
73683E	CMH70/PAR30/UVC/830/E27/FL15	70	0.98A	3000K	80	E27	125	Universal	4700	43000	15°	13000	1/6
73684E	CMH70/PAR30/UVC/830/E27/SP40	70	0.98A	3000K	80	E27	125	Universal	4700	10000	40°	13000	1/6
64952E	CMH70/PAR30/UVC/835/E27/SP15	70	0.98A	3500K	80	E27	125	Universal	4300	33100	15°	10000	1/6
64953E	CMH70/PAR30/UVC/835/E27/FL40	70	0.98A	3500K	80	E27	125	Universal	4300	7900	40°	10000	1/6
63439E	CMH70/PAR30/UVC/942/E27/SP15	70	0.98A	4200K	89	E27	125	Universal	4300	33500	15°	10000	1/6
63440E	CMH70/PAR30/UVC/942/E27/FL40	70	0.98A	4200K	89	E27	125	Universal	4300	9000	40°	10000	1/6



# Quartz Metal Halide

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>EU Standard High CRI</b>												
73033	ARC250/T/H/960/E40	250	2.75A	6000K	90	Tubular	E40	220	horizontal±45°	19000	12000	1/12
32665	ARC250/T/VBU/960/E40	250	2.75A	6000K	90	Tubular	E40	220	Vertical±45°	19000	12000	1/12
30052	KRC400/T/H/960/E40	400	3.5A	6000K	90	Tubular	E40	270	horizontal±45°	25000	10000	1/12
30704	KRC400/T/VBU/960/E40	400	3.5A	6000K	90	Tubular	E40	270	Vertical±45°	28000	10000	1/12
30047	ARC250/D/H/960/E40	250	3.0A	6000K	90	Diffuse	E40	227	horizontal±45°	17000	12000	1/12
32666	ARC250/D/VBU/960/E40	250	3.0A	6000K	90	Diffuse	E40	227	Vertical±45°	17000	12000	1/12
10834	KRC400/D/H/960/E40	400	3.5A	6000K	90	Diffuse	E40	282	horizontal±45°	24000	10000	1/6
10837	KRC400/D/VBU/960/E40	400	3.5A	6000K	90	Diffuse	E40	282	Vertical±45°	26000	10000	1/6

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>EU Standard</b>												
42357	ARC250/T/H/742/E40	250	2.75A	4200K	70	Tubular	E40	220	horizontal±15°	21000	12000	1/12
42369	KRC400/T/H/742/E40	400	4.35A	4200K	70	Tubular	E40	260	horizontal±15°	35000	10000	1/12
16871	KRC400/E/VBU/645/E40	400	3.5A	4500K	65	Elliptical	E40	286	Vertical±30°	30500	14000	1/10
16870	ARC250/D/H/740/E40	250	3.0A	4000K	70	Diffuse	E40	227	horizontal±15°	19500	14000	1/10
16872	KRC400/D/VBU/740/E40	400	3.5A	4000K	70	Diffuse	E40	286	Vertical±30°	32000	14000	1/10
16875	KRC400/D/H/740/E40	400	3.5A	4000K	70	Diffuse	E40	286	horizontal±15°	34000	14000	1/10

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>70W-400W Mid End China Made</b>												
65117E	ARC70/E/U/740/E27	70	0.98A	4000K	65	Elliptical	E27	141	Universal	4700	8000	1/20
65114E	ARC100/E/U/740/E27	100	1.1A	4000K	65	Elliptical	E28	141	Universal	8100	5000	1/20
65118E	ARC150/E/U/740/E27	150	1.8A	4000K	65	Elliptical	E29	141	Universal	11500	8000	1/20
65115E	ARC150/T/U/740/E40	150	1.8A	4000K	65	Tubular	E40	210	Universal	11500	5000	1/20
65116E	ARC250/T/U/740/E40	250	3.0A	4000K	65	Tubular	E40	255	Universal	18000	8000	1/20
65119E	ARC400/T/U/740/E40	400	4.2A	4000K	63	Tubular	E40	271	Universal	34000	8000	1/20
65120E	KRC250/T/U/740/E40	250	2.1A	4000K	65	Tubular	E40	271	Universal	22000	8000	1/20
65121E	KRC250/D/U/740/E40	250	2.1A	4000K	64	Diffuse	E40	211	Universal	19000	8000	1/12
65122E	KRC400/T/U/740/E40	400	3.25A	4000K	63	Tubular	E40	271	Universal	39000	8000	1/20
65123E	KRC400/D/U/740/E40	400	3.25A	4000K	63	Diffuse	E40	283	Universal	36000	8000	1/6

# High Intensity Discharge Lamps

Product Code	Description	Watts	ANSI Code	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	CBCP	Avg.Life (Hr)	Pack Qty.
<b>ANSI Standard Multi-Vapor</b>													
25218	MVR175/PAR38/FL1	175	M57	3800K	65	PAR38	E26	142.7	Universal	12000	6500	7500	1/6
18902	MVR175/U/MED	175	M57	4000K	65	Elliptical	E26	146	Universal	11700H/13600V*	-	6000H/10000V	1/6
19976	MVR175/C/U/MED	175	M57	3900K	65	Diffuse	E26	146	Universal	11900H/12900V	-	6000H/10000V	1/6
47760	MVR175/U	175	M57	4000K	65	Elliptical	E39	209.5	Universal	11700H/13600V	-	6000H/10000V	1/12
47761	MVR175/C/U	175	M57	3900K	70	Diffuse	E39	209.5	Universal	11900H/12900V	-	6000H/10000V	1/12
17634	MVR175/SP30/U	175	M57	3000K	70	Diffuse	E39	209.5	Universal	10300H/12000V	-	6000H/10000V	1/12
47762	MVR175/U/40	175	M57	4000K	65	Elliptical	E40	209.5	Universal	11700H/13600V	-	10000	1/12
47763	MVR175/C/U/40	175	M57	3900K	70	Diffuse	E40	209.5	Universal	11900H/12900V	-	10000	1/12
42729	MVR250/U	250	M58	4200K	65	Elliptical	E39	209.5	Universal	19100H/20800V	-	6000H/10000V	1/12
42731	MVR250/C/U	250	M58	3900K	70	Diffuse	E39	209.5	Universal	18200H/19800V	-	6000H/10000V	1/12
17633	MVR250/SP30/U	250	M58	3000K	70	Diffuse	E39	209.5	Universal	16600H/18000V	-	6000H/10000V	1/12
44542	MVR250/U/40	250	M58	4200K	65	Elliptical	E40	209.5	Universal	19100H/20800V	-	10000	1/12
44543	MVR250/C/U/40	250	M58	3900K	70	Diffuse	E40	209.5	Universal	18200H/19800V	-	10000	1/12
43828	MVR400/U	400	M59	4000K	65	Elliptical	E39	292.1	Universal	33100H/36000V	-	15000H/20000V	1/6
43829	MVR400/C/U	400	M59	3700K	70	Diffuse	E39	292.1	Universal	32200H/35000V	-	15000H/20000V	1/6
17632	MVR400/SP30/U	400	M59	3000K	70	Diffuse	E39	292.1	Universal	28500H/31000V	-	15000H/20000V	1/6
18904	MVR400/U/ED28	400	M59	4000K	65	Elliptical	E39	209.5	Universal	33100H/36000V	-	15000H/20000V	1/12
19979	MVR400/C/U/ED28	400	M59	4000K	65	Diffuse	E39	209.5	Universal	32200H/35000V	-	15000H/20000V	1/12
43907	MVR400/U/40	400	M59	4000K	65	Elliptical	E40	292.1	Universal	33100H/36000V	-	20000	1/6
43908	MVR400/C/U/40	400	M59	3700K	70	Diffuse	E40	292.1	Universal	32200H/35000V	-	20000	1/6
49860	MVR400/VBU/40	400	M59	4000K	65	Elliptical	E40	292.1	Vertical±15°	41000	-	20000	1/6
49857	MVR400/C/VBU/40	400	M59	3700K	70	Diffuse	E40	292.1	Vertical±15°	40000	-	20000	1/6
41826	MVR1000/U	1000	M47	4000K	65	Elliptical	E39	390.4	Universal	100280H/108000V	-	11000H/15000V	1/6
41827	MVR1000/C/U	1000	M47	3700K	65	Diffuse	E39	390.4	Universal	96600H/105000V	-	11000H/15000V	1/6
18205	MVR1000/U/BT37	1000	M47	3700K	65	Elliptical	E39	292.1	Universal	105000H/115000V	-	9000H/12000V	1/6
41828	MVR1000/U/40	1000	M47	4000K	65	Elliptical	E40	390.4	Universal	100280H/108000V	-	11000H/15000V	1/6
41829	MVR1000/C/U/40	1000	M47	3700K	65	Diffuse	E40	390.4	Universal	96600H/105000V	-	11000H/15000V	1/6
47326	MVR1500/U	1500	M48	4000K	65	Elliptical	E39	390.4	Universal	162000H/170000V	-	3000	1/6
37405	MVR1500/HBU	1500	M48	3900K	65	Elliptical	E39	390.4	Universal	155000H/165000V	-	3000	1/6

\* H - Horizontal burning position, V - vertical burning position

Product Code	Description	Watts	ANSI Code	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>ANSI Standard High Output</b>												
18104	MVR175/HOR	175	M57	4000K	65	Elliptical	PosMpg	209.5	horizontal±15°	15000	10000	1/12
18105	MVR175/C/HOR	175	M57	3500K	70	Diffuse	PosMpg	209.5	horizontal±15°	14100	10000	1/12
18101	MVR250/HOR	250	M58	4200K	65	Elliptical	PosMog	209.5	horizontal±15°	21000	15000	1/12
18103	MVR250/C/HOR	250	M58	3600K	70	Diffuse	PosMog	209.5	horizontal±15°	19700	15000	1/12
49657	MVR400/VBU/HO	400	M59	4000K	65	Elliptical	E39	292.1	Vertical±15°	41000	20000	1/6
13923	MVR400/VBU/XHO	400	M59	4000K	65	Elliptical	E39	292.1	Vertical±15°	43000	20000	1/6
13924	MVR400/C/VBU/XHO	400	M59	3700K	70	Diffuse	E39	292.1	Vertical±15°	42000	20000	1/6
49655	MVR400/VBD	400	M59	4000K	65	Elliptical	E39	292.1	Vertical±15°	41000	20000	1/6
20931	MVR400/SP30/VBU/HO	400	M59	3200K	70	Diffuse	E39	292.1	Vertical±15°	34000	20000	1/6
40335	MVR400/VBU/ED28/HO	400	M59	4000K	65	Elliptical	E39	211	Vertical±15°	41000	20000	1/6
40201	MVR400/HOR/BT28	400	M59	4200K	65	Elliptical	E39	209.5	horizontal±15°	37000	20000	1/6
26218	MVR400/HOR/MOG	400	M59	4200K	65	Elliptical	E39	292.1	horizontal±15°	38000	20000	1/6
26219	MVR400/C/HOR/MOG	400	M59	3900K	70	Diffuse	E39	292.1	horizontal±15°	36800	20000	1/6
44835	MVR1000/VBU/HO	1000	M47	3800K	65	Elliptical	E39	390.4	Vertical±15°	111000	15000	1/6
13137	MVR1000/C/VBU/HO	1000	M47	3700K	70	Diffuse	E39	390.4	Vertical±15°	107000	15000	1/6



# Quartz Metal Halide

Product Code	Description	Watts	ANSI Code	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>ANSI Standard Watt-Miser</b>												
13481	MVR150/U/WM	150	M107	4000K	65	Elliptical	E39	209.5	Universal	11500H/13500V	10000	1/12
13490	MVR150/C/U/WM	150	M107	3700K	70	Diffuse	E39	209.5	Universal	10900H/12800V	10000	1/12
13495	MVR360/U/WM/HO	360	M59	4300K	65	Elliptical	E39	292.1	Universal	36000	20000	1/6
40053	MVR360/VBU/WM/XHO	360	M59	4200K	65	Elliptical	E39	292.1	Vertical±15°	37000	20000	1/6
40055	MVR360/C/VBU/WM/XHO	360	M59	4000K	70	Diffuse	E39	292.1	Vertical±15°	35000	20000	1/6

Product Code	Description	Watts	ANSI Code	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>ANSI Standard Protected</b>												
40056	MPR360/VBU/WM/HO/O	360	M59	4000K	65	Elliptical	EX39	292.1	Vertical±15°	36000	20000	1/6
11685	MPR360/C/VBU/WM/HO/O	360	M59	3700K	70	Diffuse	EX39	292.1	Vertical±15°	35000	20000	1/6
18709	MPR400/VBU/O/40	400	M59	3400K	65	Elliptical	E40	292.1	Vertical±15°	40000	20000	1/6
27738	MPR400/C/VBU/O/40	400	M59	3200K	70	Diffuse	E40	292.1	Vertical±15°	38000	20000	1/6
18708	MPR400/VBU/HO/O	400	M59	3400K	65	Elliptical	EX39	292.1	Vertical±15°	40000	20000	1/6
13582	MPR400/C/VBU/HO/O	400	M59	3200K	70	Diffuse	EX39	292.1	Vertical±15°	38000	20000	1/6
41433	MPR1000/VBU/HO/O	1000	M47	3500K	65	Elliptical	EX39	390.4	Vertical±15°	110000	12000	1/6

Product Code	Description	Watts	ANSI Code	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>ANSI Standard HPM-Retrofit</b>												
10687	MVR325/I/U/WM	325	H33	4000K	65	Elliptical	E39	292.1	Universal	25800H/28000V	10000H/20000V	1/6
10688	MVR325/C/I/U/WM	325	H33	3700K	70	Diffuse	E39	292.1	Universal	24200H/26300V	10000H/20000V	1/6
43817	MVR400/I/U	400	H33/M59	4000K	65	Elliptical	E39	292.1	Universal	33100H/36000V	10000H/15000V	1/6
43818	MVR400/C/I/U	400	H33/M59	3700K	70	Diffuse	E39	292.1	Universal	32200H/35000V	10000H/15000V	1/6
39097	MVR950/I/VBU/WM	950	H36/M47	3800K	65	Elliptical	E39	382.5	Vertical±15°	100000	12000	1/6

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Low-watt Double-Ended</b>												
34530	ARC70/TD/UVC/730/Rx7s	70	0.98A	3000K	75	T6	Rx7s	114	horizontal±45°	5500	6000	1/12
34536	ARC70/TD/UVC/742/Rx7s	70	0.98A	4200K	75	T6	Rx7s	114	horizontal±45°	5500	6000	1/12
34527	ARC150/TD/UVC/732/Rx7s-24	150	1.8A	3200K	75	T7	Rx7s-24	132	horizontal±45°	12000	6000	1/12
34535	ARC150/TD/UVC/742/Rx7s-24	150	1.8A	4200K	75	T7	Rx7s-24	132	horizontal±45°	12000	6000	1/12
93772	ARC150/TD/952/Rx7s-24	150	1.8A	5200K	90	-	Rx7s-24	132	horizontal±45°	11000	6000	1/12
35284	ARC150/UVC/AQUA/TD/865/Rx7s-24	150	1.8A	6500K	85	-	Rx7s-24	132	horizontal±45°	11000	6000	1/12
30099	ARC250/TD/832/Fc2	250	3.0A	3200K	75	T8	Fc2	163	horizontal±45°	20000	6000	1/12
73032	ARC250/TD/842/Fc2	250	3.0A	4200K	80	T8	Fc2	163	horizontal±45°	20000	6000	1/12

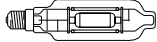
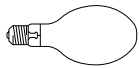
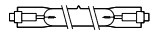
Product Code	Description	Watts	Lamp Current	Colour	Base	Length (mm)	Burn Position	Avg.Life (Hr)	Pack Qty.
<b>Colored Double Ended</b>									
12181	ARC150/UVC/TD/GREEN/Rx7s-24	150	1.8A	GREEN	Rx7s-24	132	horizontal±45°	6000	1/12
12182	ARC150/UVC/TD/BLUE/Rx7s-24	150	1.8A	BLUE	Rx7s-24	132	horizontal±45°	6000	1/12
12183	ARC150/UVC/TD/ORANGE/Rx7s-24	150	1.8A	ORANGE	Rx7s-24	132	horizontal±45°	6000	1/12
12184	ARC150/UVC/TD/MAGENTA/Rx7s-24	150	1.8A	MAGENTA	Rx7s-24	132	horizontal±45°	6000	1/12

# High Intensity Discharge Lamps

Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Double Ended China Made</b>											
89133E	ARC70/UVC/TD/730/Rx7s	70	0.98A	3000K	73	Rx7s	117.6	horizontal	6000	9000	1/20
89136E	ARC70/UVC/TD/742/Rx7s	70	0.98A	4200K	75	Rx7s	117.6	horizontal	6100	9000	1/20
71170E	ARC70/UVC/TD/760/Rx7s	70	0.98A	6000K	67	Rx7s	117.6	horizontal	5000	9000	1/20
89137E	ARC150/UVC/TD/730/Rx7s-24	150	1.8A	3000K	70	Rx7s-24	135.4	horizontal	13000	9000	1/20
89138E	ARC150/UVC/TD/742/Rx7s-24	150	1.8A	4200K	70	Rx7s-24	135.4	horizontal	13000	9000	1/20
71175E	ARC150/UVC/TD/960/Rx7s-24	150	1.8A	6000K	88	Rx7s-24	135.4	horizontal	10500	9000	1/20



Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Blub	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Sportlight</b>												
16920	SPL1500/L/H/652/Rx7SM	1500	4.2A	5200K	65	Double Ended	Rx7SM	256	horizontal±15°	120000	6000	1/1
88882	SPL1000/T/H/960/E40	1000	9.5A	6000K	90	Tubular	E40	340	horizontal±60°	80000	8000	1/4
16922	SPL2000/L/H/654/spec	2000	10.3A	5200K	65	Double Ended	spec.	311	horizontal±15°	200000	6000	1/1
30102	SPL2000/T/H/960/E40	2000	10.3A	6000K	93	Tubular	E40	430	horizontal±60°	170000	5000	1/4
33148	SPL2000/I/T/H/640/E40	2000	8.8A	4000K	65	Tubular	E40	430	horizontal±75°	190000	2000	1/4
30103	SPL2000/I/T/H/960/E40	2000	10.3A	6000K	93	Tubular	E40	430	horizontal±60°	170000	5000	1/4
36078	SPL2000/220V/T/H/640/E40	2000	16.5A	4000K	65	Tubular	E40	430	horizontal±75°	180000	2000	1/4



# High Pressure Sodium

Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Standard - EU Standard Tubular Clear</b>											
88553*	LU50/85/MO/T/E27 1/25	50	0.76A	2000K	25	E27	156	Universal	3400	28500	1/25
46221	LU70/90/MO/T/E27 1/25	70	0.98A	2000K	25	E27	156	Universal	6000	28500	1/25
93767	LU100/100/MO/T/40	100	1.2A	2000K	25	E40	211	Universal	9600	28500	1/12
44244	LU150/100/T/40	150	1.8A	2000K	25	E40	211	Universal	15000	28500	1/12
22453	LU250/T/40	250	3.0A	2000K	25	E40	260	Universal	27500	28500	1/12
11678	LU400/T/40	400	4.6A	2000K	25	E40	283	Universal	48000	28500	1/12
45751	LU1000/110/T/40	1000	10.6A	2000K	25	E40	372	Universal	130000	24000	1/4



Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Standard - EU Standard Elliptical Diffuse</b>											
88554*	LU50/85/MO/D/E27 1/12	50	0.76A	2000K	25	E27	156	Universal	3300	28500	1/12
46217	LU70/90/MO/D/E27 1/12	70	0.98A	2000K	25	E27	156	Universal	5800	28500	1/12
93766	LU100/100/MO/40	100	1.2A	2000K	25	E40	211	Universal	9200	28500	1/12
44245	LU150/100/D/40	150	1.8A	2000K	25	E40	227	Universal	14500	28500	1/12
44052	LU250/D/40	250	3.0A	2000K	25	E40	227	Universal	26000	28500	1/12
44057	LU400/D/40	400	4.45A	2000K	25	E40	282	Universal	48000	28500	1/6

Product Code	Description	Watts	Lamp Current	CCT	CRI	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Standard - ANSI Standard</b>											
13252	LU150/MED/ECO	150		2000K	22	E26	146	Universal	16000	24000	1/6
13253	LU150/D/MED/ECO	150		2000K	22	E26	146	Universal	15000	24000	1/6
85371	LU150/55/H/ECO	150		2000K	22	E39	196.8	Universal	16000	24000	1/12
85380	LU150/55/D/H/ECO	150		2000K	22	E39	196.8	Universal	15000	24000	1/12
72607	LU150/55/40/ECO	150	3.3A	2000K	22	E40	196.8	Universal	16000	24000	1/12
85377	LU250/H/ECO	250		2100K	22	E39	247.6	Universal	28000	24000	1/12
85381	LU250/D/H/ECO	250		2100K	22	E39	228.6	Universal	26000	24000	1/12
76204	LU250/40/H/ECO	250		2100K	22	E40	247.6	Universal	28000	24000	1/12
85379	LU400/H/ECO	400		2100K	22	E39	247.6	Universal	51000	24000	1/12
76205	LU400/40/ECO	400	4.6A	2100K	22	E40	228.6	Universal	51000	24000	1/12
76998	LU400/D/H/ECO	400		2100K	22	E39	287.2	Universal	47500	24000	1/6
14682	LU750	750		2100K	22	E39	292.1	Universal	110000	24000	1/6
44058	LU1000/ECO	1000		2100K	22	E39	382.5	Universal	130000	24000	1/6
44059	LU1000/40	1000	4.7A	2100K	22	E40	382.5	Universal	130000	24000	1/6

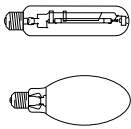
\* Products will be phased out from April 2012

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Standard China Made</b>												
10979E	LU70T/E27	70	0.98A	2000K	21	Tubular	E27	156	Universal	6100	24000	1/20
10980E	LU100T/E27	100	1.2A	2000K	21	Tubular	E27	190	Universal	9100	24000	1/20
10982E	LU100T/E40	100	1.2A	2000K	21	Tubular	E40	190	Universal	9100	24000	1/20
74041E	LU150/100/T/E40	150	1.8A	2000K	21	Tubular	E40	211	Universal	15000	24000	1/12
74042E	LU150/100/D/E40	150	1.8A	2000K	21	Diffuse	E40	227	Universal	14500	24000	1/12
74043E	LU250/T/E40	250	3.0A	2000K	21	Tubular	E40	260	Universal	28000	24000	1/9
74044E	LU250/D/E40	250	3.0A	2000K	21	Diffuse	E40	227	Universal	26000	24000	1/9
74045E	LU400/T/E40	400	4.6A	2000K	21	Tubular	E40	292	Universal	48000	24000	1/6
74046E	LU400/D/E40	400	4.6A	2000K	21	Diffuse	E40	292	Universal	48000	24000	1/6

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>High Output China Made</b>												
78659E	LU150/100/HO/T/E40	150	1.8A	2000K	19	Tubular	E40	211	Universal	17400	24000	1/12
78660E	LU250/HO/T/E40	250	2.95A	2000K	19	Tubular	E40	260	Universal	32500	24000	1/12
78661E	LU400/HO/T/E40	400	4.5A	2000K	19	Tubular	E40	283	Universal	56200	24000	1/12
78663E	LU600/HO/T/E40	600	6.0A	2000K	19	Tubular	E40	283	Universal	83000	24000	1/12

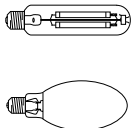
# High Intensity Discharge Lamps

Product Code	Description	Watts	Lamp Current	CCT	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>Xtra Output</b>												
93373	LU50/85/XO/T/27	50	0.76A	2100K	25	Tubular	E27	156	Universal	4400	28500	1/25
45696	LU50/85/XO/D/27	50	0.76A	2100K	25	Diffuse	E27	156	Universal	3600	28500	1/12
93375	LU70/90/XO/T/27	70	0.98A	2100K	25	Tubular	E27	156	Universal	6600	33000	1/25
45697	LU70/90/XO/D/27	70	0.98A	2100K	25	Diffuse	E27	156	Universal	6000	33000	1/12
93376	LU100/100/XO/T/40	100	1.2A	2100K	25	Tubular	E40	211	Universal	10700	35000	1/12
93379	LU100/100/XO/D/40	100	1.2A	2100K	25	Diffuse	E40	186	Universal	10200	35000	1/12
93377	LU150/100/XO/T/40	150	1.8A	2100K	25	Tubular	E40	211	Universal	17500	35000	1/12
93380	LU150/100/XO/D/40	150	1.8A	2100K	25	Diffuse	E40	227	Universal	16900	35000	1/12
93378	LU250/XO/T/40	250	2.95A	2100K	25	Tubular	E40	260	Universal	33000	32000	1/12
93381	LU250/XO/D/40	250	2.95A	2100K	25	Diffuse	E40	227	Universal	31200	32000	1/12
93269	LU400/XO/T/40	400	4.5A	2100K	25	Tubular	E40	283	Universal	56500	32000	1/12
93296	LU400/XO/D/40	400	4.4A	2100K	25	Diffuse	E40	282	Universal	54000	32000	1/6
93270	LU600/XO/T/40	600	6.0A	2100K	25	Tubular	E40	283	Universal	90000	32000	1/12



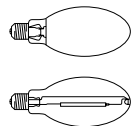
Product Code	Description	Watts	Lamp Current	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>Standby</b>											
88558*	LU50/85/MO/SBY/T/E27 1/25	50	0.76A	25	Tubular	E27	156	Universal	3400	40000	1/25
88557*	LU50/85/MO/SBY/D/E27 1/12	50	0.76A	25	Diffuse	E27	156	Universal	3300	40000	1/12
88268*	LU70/90/MO/SBY/T/E27 GE 1/25	70	0.98A	25	Tubular	E27	156	Universal	6000	40000	1/25
88269*	LU70/90/MO/SBY/D/E27 GE 1/12	70	0.98A	25	Diffuse	E27	156	Universal	5800	40000	1/12
88257	LU70/XO/SBY/D/E27	70	0.98A	25	Diffuse	E27	156	Universal	6000	50000	1/25
88258	LU70/XO/SBY/T/E27	70	0.98A	25	Tubular	E27	156	Universal	6600	50000	1/25
17899*	LU100/100/MO/SBY/T/40	100	1.2A	25	Tubular	E40	211	Universal	9600	50000	1/12
88255	LU100/XO/SBY/D/E40	100	1.2A	25	Diffuse	E40	186	Universal	10000	60000	1/12
88256	LU100/XO/SBY/T/E40	100	1.2A	25	Tubular	E40	211	Universal	10700	60000	1/12
35594*	LU150/100/SBY/T/40	150	1.8A	25	Tubular	E40	211	Universal	15000	50000	1/12
35589*	LU150/100/SBY/D/40	150	1.8A	25	Diffuse	E40	227	Universal	14500	50000	1/12
78737	LU150/XO/SBY/T/E40	150	1.8A	25	Tubular	E40	211	Universal	17500	60000	1/12
35586*	LU250/SBY/T40	250	3.0A	25	Tubular	E40	260	Universal	27500	55000	1/12
35590	LU250/SBY/D/40	250	3A	25	Diffuse	E40	227	Universal	26000	55000	1/12
78738	LU250/XO/SBY/T/E40	250	2.9A	25	Tubular	E40	260	Universal	33000	55000	1/12
35582*	LU400/SBY/T40	400	4.6A	25	Tubular	E40	283	Universal	50000	55000	1/12
35591	LU400/SBY/D/40	400	4.45A	25	Diffuse	E40	282	Universal	47500	55000	1/6
78739	LU400/XO/SBY/T/E40	400	4.5A	25	Tubular	E40	283	Universal	55800	55000	1/12

\* Products will be phased out from April 2012

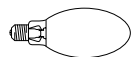


Product Code	Description	Watts	Lamp Current	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>Internal Ignitor</b>											
88556*	LU50/85/MO/D/I/E27 1/12	50	0.76A	25	Diffuse	E27	156	Universal	3300	12000	1/12
46186	LU70/90/MO/D/I/E27 1/12	70	0.98A	25	Diffuse	E27	156	Universal	5800	12000	1/12
46209	LU70/90/MO/I/E27 1/12	70	0.98A	25	Tubular	E27	156	Universal	6000	12000	1/12
71053	LU70/90/D/I/E27	70	0.98A	21	Diffuse	E27	165	Universal	4930	12000	1/12

\* Products will be phased out from April 2012

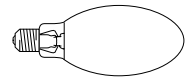


Product Code	Description	Watts	Lamp Current	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg. Life (Hr)	Pack Qty.
<b>Lucalox E-Z Lux</b>											
39512	LUH110/D/27-SHx	110	-	25	Diffuse	E27	175	Universal	8000	24000	1/40



# Mercury

Product Code	Description	Watts	Lamp Current	CRI	Finish Bulb	Base	Length (mm)	Burn Position	Initial Lumens (lm)	Avg.Life (Hr)	Pack Qty.
<b>Mercury - EU Standard Std</b>											
76987E	H50/27	50	-	45	E55	E27	130	Universal	1800	16000	1/24
76985E	H80/27	80	-	45	E70	E27	166	Universal	3800	20000	1/24
74781E	H125/27	125	-	45	E75	E27	178	Universal	6300	20000	1/24
74782E	H250/40	250	-	45	ED90	E40	228	Universal	13000	20000	1/12
76986E	H400/40	400	-	40	ED120	E40	292	Universal	22500	20000	1/12
<b>Mercury - EU Standard Deluxe</b>											
77042E	H50NDX/27	50	-	53	E55	E27	130	Universal	1800	16000	1/24
77043E	H80NDX/27	80	-	53	E70	E27	166	Universal	3800	20000	1/24
77044E	H125NDX/27	125	-	53	E75	E27	178	Universal	6600	20000	1/24
77045E	H250NDX/40	250	-	50	ED90	E40	228	Universal	13800	20000	1/12
77046E	H400NDX/40	400	-	47	ED120	E40	292	Universal	24400	20000	1/12
<b>Mercury - ANSI Standard Std</b>											
78021E	HR100A38	100	-	17	ED23.5	E39	191	Universal	3850	20000	1/5
78022E	HR175A39	175	-	17	ED28	E39	211	Universal	7850	20000	1/12
78025E	HR250A37	250	-	17	ED28	E39	211	Universal	11000	20000	1/12
78030E	HR400A33	400	-	17	ED37	E39	292	Universal	21000	20000	1/6
<b>Mercury - ANSI Standard Deluxe</b>											
78035E	HR100DX38	100	-	46	ED23.5	E39	191	Universal	4000	20000	1/12
78039E	HR100DX38MED	100	-	46	ED17	E26	139	Universal	4000	20000	1/5
78040E	HR175DX39	175	-	46	ED28	E39	211	Universal	7800	20000	1/12
78061E	HR250DX37	250	-	46	ED28	E39	211	Universal	11200	20000	1/12
78062E	HR400DX33	400	-	41	ED37	E39	292	Universal	22600	20000	1/6
<b>Mercury - Mixlight Lamps</b>											
76468E	ML160W/220-230V/E27	160	-	52	Diffuse	E27	170	Vertical±30°	3100	8000	1/20
76470E	ML250W/220-230V/E27	250	-	52	Diffuse	E27	227	Universal	5600	8000	1/20
76471E	ML250W/220-230V/E40	250	-	52	Diffuse	E40	227	Universal	5600	8000	1/20
76472E	ML500W/220-230V/E40	500	-	40	Diffuse	E40	292	Universal	14000	8000	1/10



# High Intensity Discharge Lamps

The following pages show GE and alternative brand Order Codes. These cross references are provided as a quick guide and may only represent a near equivalent to other brands. The table contains data from alternative brands' catalogues and website.

GE	OSRAM	PHILIPS
<b>ConstantColor CMH</b>		
CMH20/TC/UVC/830/GU6.5	HCI-TF 20W/830 WDL PB GU6.5	CDM-Tm Mini PGJ5 20W/830*
CMH20/TC/UVC/U/830/G8.5 Plus	HCI-TC 20W/830 WDL PB G8.5	CDM-TC 20W/830 G8.5 1CT*
CMH35/T/UVC/930/GU6.5	-	CDM-Tm Mini PGJ5 35W/830
CMH35/T/UVC/942/GU6.5	-	-
CMH35/TC/UVC/U/830/G8.5 Plus	HCI-TC 35W/830 WDL PB G8.5	CDM-TC 35W/830 G8.5
CMH35/TC/UVC/U/942/G8.5	HCI-TC 35W/942 NDL PB UVS G8.5	CDM-TC 35W/942 G8.5
CMH35/TC/UVC/U/930/G8.5 ULTRA	-	CDM-T Elite 35W/930 G8.5 1CT*
CMH70/TC/UVC/U/830/G8.5 Plus	HCI-TC 70W/830 WDL PB G8.5	CDM-TC 70W/830 G8.5
CMH70/TC/UVC/U/942/G8.5	HCI-TC 70W/942 NDL PB G8.5	CDM-TC 70W/942 G8.5
CMH70/TC/UVC/U/930/G8.5 ULTRA	HCI-TC 70/930 WDL PB Shop G8.5*	CDM-TC Elite 70W/930 G8.5*
CMH20/T/UVC/U/830/G12 Plus	-	CDM-T 20W/830 G12 1CT*
CMH35/T/UVC/U/830/G12 Plus	HCI-T 35W/830 WDL PB G12	CDM-T 35W/830 G12
CMH35/T/UVC/U/942/G12	HCI-T 35W/942 NDL PB UVS G12	CDM-T 35W/942 G12
CMH35/T/UVC/U/930/G12 ULTRA	-	CDM-T Elite 35W/930 G12 1CT*
CMH70/T/UVC/U/830/G12	HCI-T 70W/830 WDL PB G12	CDM-T 70W/830 G12
CMH70/T/UVC/U/942/G12	HCI-T 70W/942 NDL PB UVS G12	CDM-T 70W/942 G12
CMH70/T/UVC/U/930/G12 ULTRA	HCI-TC 70/930 WDL PB Shop G12	CDM-T Elite 70W/930 G12*
CMH150/T/UVC/U/830/G12	HCI-T 150W/830 WDL PB G12	CDM-T 150W/830 G12
CMH150/T/UVC/U/942/G12	HCI-T 150/NDL PB UVS G12	CDM-T 150W/942 G12
CMH35/TD/UVC/830/Rx7s	-	-
CMH70/TD/UVC/830/Rx7s	HCI-TS 70W/830 WDL PB UVS RX7S	CDM-TD 70W/830 RX7s
CMH70/TD/UVC/942/Rx7s	HCI-TS 70W/942 NDL PB UVS RX7S	CDM-TD 70W/942 RX7s
CMH150/TD/UVC/830/Rx7s-24	HCI-TS 150W/830 WDL PB RX7S-24	CDM-TD 150W/830 RX7s-24
CMH150/TD/UVC/942/Rx7s-24	HCI-TS 150W/942 NDL PB RX7S-24	CDM-TD 150W/942 RX7s-24
CMH20/MR16/UVC/830/GX10/SP12	HCI-R16 20/830 WDL PB 12D	MASTERColour CDM-R Mini 20W/830 GX10 MR16 10D 1CT
CMH20/MR16/UVC/830/GX10/FL25	HCI-R16 20/830 WDL PB 24D	MASTERColour CDM-R Mini 20W/830 GX10 MR16 25D 1CT
CMH20/MR16/UVC/830/GX10/WFL40	HCI-R16 20/830 WDL PB 40D	MASTERColour CDM-R Mini 20W/830 GX10 MR16 40D 1CT
CMH35/MR16/UVC/930/GX10/SP12	-	-
CMH35/MR16/UVC/930/GX10/FL25	-	-
CMH35/MR16/UVC/930/GX10/WFL40	-	-
CMH35/MR16/UVC/942/GX10/SP12	-	-
CMH35/MR16/UVC/942/GX10/FL25	-	-
CMH35/MR16/UVC/942/GX10/WFL40	-	-
CMH20/PAR20/UVC/830/E27/SP10	-	-
CMH20/PAR20/UVC/830/E27/FL25	-	-
CMH35/PAR20/830/E27/SP10	HCI-PAR20 35W/830 WDL SP E27	CDM-R 35W/830 E27 PAR20L10D
CMH35/PAR20/830/E27/FL25	HCI-PAR20 35W/830 WDL FL E27	CDM-R 35W/830 E27 PAR20L30D
CMH35/PAR20/UVC/942/E27/SP10	HCI-PAR20 35W/942 NDL PB SP 10D	CDM-R 35W/9420 E27 PAR20L30D
CMH35/PAR20/UVC/942/E27/FL25	HCI-PAR20 35W/942 NDL PB SP 30D	CDM-R 35W/942 E27 PAR20L30D
CMH20/PAR30/UVC/830/E27/SP10	HCI-PAR30 20W/830 WDL SP E27	-
CMH20/PAR30/UVC/830/E27/FL25	HCI-PAR30 20W/830 WDL FL E27	-
CMH35/PAR30/UVC/830/E27/SP10	HCI-PAR30 35W/830 WDL SP E27	CDM-R 35W/830 E27 PAR20L10D
CMH35/PAR30/UVC/830/E27/FL25	HCI-PAR30 35W/830 WDL FL E27	CDM-R 35W/830 E27 PAR20L30D
CMH35/PAR30/UVC/942/E27/SP10	HCI-PAR30 35W/942 NDL PB SP 10D	-
CMH35/PAR30/UVC/942/E27/FL25	HCI-PAR30 35W/942 NDL PB SP 30D	-
CMH70/PAR30/UVC/830/E27/SP15	HCI-PAR30 70W/830 WDL SP E27	CDM-R 70W/830 E27 PAR30L10D
CMH70/PAR30/UVC/830/E27/FL40	HCI-PAR30 70W/830 WDL FL E27	CDM-R 70W/830 E27 PAR30L40D
CMH70/PAR30/UVC/942/E27/FL15	HCI-PAR30 70W/942 NDL PB SP 10D	CDM-R 70W/942 E27 PAR30L10D
CMH70/PAR30/UVC/942/E27/SP40	HCI-PAR30 70W/942 NDL PB FL 30D	CDM-R 70W/942 E27 PAR30L40D
CMH70/E/UVC/U/830/E27/C	HCI-E/P 70/830 WDL PB E27 clear	CDM-ET 70W /830 E27
CMH100/E/UVC/U/830/E27/C	HCI-E/P 100/830 WDL PB clear	CDM-ET 100W /830 E40
CMH150/UVC/O/U/942/E27/C	HCI-E/P 150W/942 NDL PBMO CL E27	-
CMH70/E/UVC/U/830/E27/D	HCI-E/P 70W/830 NDL PB COE27	CDO-ET Coated 70W/828 E27
CMH70/UVC/O/U/940/E27/D	HCI-E/P 70W/942 NDL Coated E27	-
CMH100/E/UVC/U/830/E27/D	HCI-E/P 100W/830 WDL PB Coated E27	CDO-ET Coated 100W/828 E40
CMH150/UVC/O/U/940/E27/D	HCI-E/P 150W/942 NDL PB MO E27	CDO-ET Coated 150W/828 E40
CMH250/E/UVC/U/830/E40/D	HCI-E 250W/830 WDL PB E40	-
CMH400/E/UVC/U/830/E40/D	-	-

# Brand cross reference

GE	OSRAM	PHILIPS	Havells Sylvania
<b>ConstantColor CMH</b>			
CMH70/TT/UVC/830/E27	HCI-T/P 70W/830 WDL PB E27	CDO-TT 70W /828 E27*	-
CMH100/TT/UVC/830/E40	-	CDO-TT 100W /828 E27*	-
CMH150/TT/UVC/830/E40	HCI-T/P 150W/830 WDL PB E40	CDO-TT 150W/828 E40*	-
CMH150/UVC/T/U/842/E40	-	CDO-TT 150W/828 E40*	-
CMH150/UVC/O/T/U/830/E40	HCI-T/P 150W/830 NDL PB E40	-	-
CMH150/T/UVC/O/U/942/E40	HCI-T/P 150W/942 NDL PB E40	-	-
CMH250/TT/UVC/U/830/E40	HCI-T 250W/830 WDL PB E40	CDO-TT 250W /828 E27	-
KRC250/CMH/830/T/H/E40	-	-	-
CMH400/TT/UVC/U/830/E40	-	-	-
<b>Arcstream</b>			
ARC70/T/U/730/G12	HQI T 70/WDL	MHN-T70W/830	HSI-T 70W/WDL
ARC70/T/U/842/G12	HQI T 70/NDL	MHN-T70W/942	HSI-T 70W/NDL
ARC150/G12/830	-	-	-
ARC150/G12/842	-	-	-
ARC70/UVC/TD/730/Rx7s	HQI TS 70/WDL UVS	MHW-TD70W	HSI-TD 75W/WDL 3K UVS
ARC70/UVC/TD/742/Rx7s	HQI TS 70/NDL UVS	MHN-TD70W	HSI-TD 75W/NDL 4K UVS
ARC150/UVC/TD/732/Rx7s-24	HQI TS 150/WDL UVS	MHW-TD150W	HSI-TD 150W/WDL 3K UVS
ARC150/UVC/TD/742/Rx7s-24	HQI TS 150/NDL UVS	MHN-TD150W	HSI-TD 150W/NDL 4K UVS
ARC150/TD/952/Rx7s-24	-	-	-
ARC150/UVC/AQUA/TD/865/Rx7s-24	-	-	-
ARC250/TD/832/Fc2	HQI TS 250/WDL UVS	MHW-TD250W	HSI-TD 250W/NDL 3K UVS
ARC250/TD/842/Fc2	HQI TS 250/NDL UVS	MHN-TD250W	HSI-TD 250W/NDL 4K UVS
ARC150/UVC/TD/GREEN/RX7S-24	-	-	-
ARC150/UVC/TD/BLUE/RX7S-24	-	-	-
ARC150/UVC/TD/ORANGE/RX7S-24	-	-	-
ARC150/UVC/TD/MAGENTA/RX7S-24	-	-	-
ARC250/T/VBU/960/E40	HQI-T 250/D	-	-
ARC250/T/H/960/E40	-	-	-
ARC400/T/H/742/E40	-	-	-
ARC250/D/H/740/E40	-	-	-
ARC250/D/H/960/E40	HQI-E 250/D	-	-
ARC250/D/VBU/960/E40	HQI-E 250/D	CDO-TT 100W /828 E27*	-
<b>Kolorarc</b>			
KRC400/T/H/960/E40	-	-	-
KRC400/T/VBU/960/E40	-	-	-
KRC400/E/VBU/645/E40	-	-	HSI-T 400W/4K
KRC400/D/VBU/740/E40	-	-	-
KRC400/D/H/740/E40	-	-	-
KRC400/D/VBU/960/E40	-	-	-
KRC400/D/H/960/E40	-	-	-
<b>Multi-vapor</b>			
MVR250/U/40	-	-	-
MVR400/U/40	-	-	-
MVR1000/U/40	-	-	-
MVR250/C/U/40	-	-	-
MVR400/C/U/40	-	-	-
MVR400/VBU/40	-	-	-
MVR400/C/VBU/40	-	-	HSI-MP 400W/C/BU
MVR400/C/VBU/0/40	-	-	-
<b>Sportlight</b>			
SPL1500/L/H/652/Rx7SM	-	-	-
SPL2000/L/H/654	-	-	-
SPL2000/T/H/960/E40	HQI-T 2000/D	MASTER HPI-T PRO /646	-
SPL2000/I/T/H/640/E40	HQI-T 2000 /N	MASTER HPI-T PRO /646	-
SPL2000/I/T/H/960/E40	HQI-T 2000 /D/I	-	-
SPL1000/T/H/960/E40 1/4	-	-	-
<b>Blended Light</b>			
ML 160/230-240V E27	HWL 160 235V	ML 160W ES 235-245	HSB-BW 160W 240V E27
ML 160/230-240V B22	-	ML 160W B22 235-245	-
ML 160/240-250V	-	-	-
ML 250/230-240V E40	HWL 250 235V	ML 250W ES 235-245 E40	HSB-BW 250W 240V E40
ML 250/230-240V E27	-	ML 250W ES 235-245 E27	-
ML 250/ 240-250V E40	-	-	-
ML 500/230-240V E40	HWL 500 235V	ML 500W ES 235-245 E40	HSB-BW 500W 240V E40

\*Similar type. Information is gathered from relevant official web sites as of October, 2009

# High Intensity Discharge Lamps

GE	OSRAM	PHILIPS	Havells Sylvania
<b>Lucalox Standard</b>			
LU50/85/D/27	NAV-E 50/E	SON Pro 50W E	SHP 50W/CO-E
LU70/90/D/27	NAV-E 70/E	SON Pro 70W E	SHP 70W/CO-E
LU100/100/MO/D/40	NAV-E 100	SON Pro 100W E	SHP 100W
LU150/100/D/40	NAV-E 150	SON Pro 150W E	SHP 150W
LU250/D/40	NAV-E 250	SON Pro 250W E	SHP 250W
LU400/D/40	NAV-E 400	SON Pro 400W E	SHP 400W
LU1000/110/D/40	NAV-E 1000	SON Pro 1000W E	-
LU50/85/T/27	-	-	-
LU70/90/T12/27	NAV-T 70	SON- T Pro 70W	SHP-T 70W
LU100/100/MO/T/40	NAV-T 1000	SON- T Pro 100W	-
LU150/100/T /40	NAV-T 150	SON-T Pro 150W	SHP-T 150W
LU250/T/40	NAV-T 250	SON-T Pro 250W	SHP-T 150W
LU400/T/40	NAV-T 400	SON-T Pro 400W	SHP-T 400W
LU1000/110/T/40	NAV-T 1000	SON-T Pro 1000W	SHP-T 1000W
<b>Lucalox XO</b>			
LU50/85/XO/D/27	-	-	-
LU70/90/XO/D/27	-	MASTER SON PIA PLUS 70W	-
LU100/100/XO/D/40	NAV-E 100 SUPER 4Y	-	-
LU250/XO/D/40	NAV-E 250 SUPER 4Y	MASTER SON PIA PLUS 250W	-
LU400/XO/D/40	NAV-E 400 SUPER 4Y	MASTER SON PIA PLUS 400W	-
LU50/85/XO/T/27	NAV-T 50 SUPER 4Y	MASTER SON-T PIA PLUS 50W	-
LU70/90/XO/T/27	NAV-T 70 SUPER 4Y	MASTER SON-T PIA PLUS 70W	-
LU100/100/XO/T/40	NAV-T 100 SUPER 4Y	MASTER SON-T PIA PLUS 100W	-
LU150/150/XO/T/40	NAV-T 150 SUPER 4Y	MASTER SON-T PIA PLUS 150W	-
LU250/XO/T/40	NAV-T 250 SUPER 4Y	MASTER SON-T PIA PLUS 250W	-
LU400/XO/T/40	NAV-T 400 SUPER 4Y	MASTER SON-T PIA PLUS 400W	-
LU600/XO/T/40	NAV-T 600 SUPER 4Y	MASTER SON-T PIA PLUS 600W	-
<b>Lucalox I</b>			
LU50/85/D/I/27	NAV-E 50/I	SON Pro 50W I	SHP 50W/CO-I
LU70/90/D/I/27	NAV-E 70/I	SON Pro 70W I	SHP 70W/CO-I
LU70/90/I/27	-	SON Pro70W I CLEAR	SHP 70W/CL-I
<b>Lucalox E-Z lux</b>			
LUH110/D/27 - SHx	NAV-E 110	SON-H Pro 110W	SHx 110W E27
<b>Lucalox TD</b>			
LU250/TD	NAV-TS 250	-	-
LU400/TD	NAV-TS 400	-	-
LU1000/TD	-	-	-
<b>Lucalox SUPERLIFE</b>			
LU50/85/SBY/T/27	-	-	-
LU70/90/SBY/T/27	-	-	-
LU70/90/XO/SBY/T12/E27	-	-	SHP-TS 70w Twinarc
LU100/100/SBY/T/40	-	-	-
LU100/100/XO/SBY/T/E40	-	-	SHP-TS 100w Twinarc
LU150/100/SBY/T/40	-	-	SHP-T 150W SBY
LU250/SBY/T/40	-	-	SHP-T 250W SBY
LU400/SBY/T/40	-	-	SHP-T 400W SBY
LU50/85/SBY/D/27	-	-	-
LU70/90/SBY/D/27	-	-	SHP 70W SBY
LU70/90/XO/SBY/D/E27	-	-	SHP-S 70w Twinarc
LU100/100/XO/SBY/D/E40	-	-	SHP-S 100w Twinarc
LU150/100/SBY/D/40	-	-	SHP 150W SBY
LU250/SBY/D/40	-	-	SHP 250W SBY
LU400/SBY/D/40	-	-	SHP 400W SBY
<b>Kolorlux Standard</b>			
H125/27	HQL 125	HPL-N 125W	HSL-BW 125W E27
H250/40	HQL 250	HPL-N 250W	HSL-BW 250W E40





CSR & CSD	89
Cinema Fluorescent	90
Blacklight Blue	91
PAR Halogen	91
Single Ended Halogen	93
Double Ended Halogen	96
Projection	96

## GE SHOWBIZ lamps – performance tested, performance proven.

GE is a full line supplier to the entertainment industry offering a range of lamp technologies for use in applications including stage, studio, film and event lighting.

This section details the current range available, however as GE continues its pioneering work in the development of new and innovative light sources some new lamps may not appear.

### Discharge Lamps

- Full range of single and double ended lamps
- Wattages from 125 to 24,000 Watts
- UV control lamps with easy identifiable blue base
- Reliable compact double ended range for both film and event lighting
- Cold start lamps for event lighting
- Cinema fluorescent for studio and film

### PAR Lamps

- GE PAR lamps for all events
- Robust, flexible lighting solution
- Extensive range from PAR36 to PAR64
- European made 1000W PAR64 (CP60, CP61 & CP62)

### Single Ended Studio Halogen Lamps

- Extensive range of Quartzline lamps
- Full range up to 24,000 Watts
- Range of bases to meet the needs of OEM's
- Chromised seal protection to 500° C

### Linear Halogen Lamps

- A range from 650 to 2,000W



# CSR TAL Lamps

## New 'Turn And Lock' Technology for Easier Lamp Installation

These single-ended metal halide lamps are especially useful for moving-light applications that call for high colour temperatures and brighter light sources.

The 'Turn And Lock' technology provides easy installation.

These products offer a very short arc gap which allow for higher beam intensity. This enables good system performance, colour stability and superior lumen maintenance over life. A range of power options are available to meet the needs of fixture designers.



### Key benefits

- Easy release base (Turn And Lock) enabling quick lamp change at events
- High lumen output
- Range
  - CSR 1500/TAL PGJX50
  - CSR 700/TAL PGJX50
  - CSR700/TAL PGJX28
  - CSR 300/TAL PGJX28
- Outstanding beam performance



**SHOWBIZ**  
for stage, studio, film and event lighting

# SHOWBIZ Lamps

## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage.

### Additional parameters:

**LIF Code:** common lamp ID within Europe  
**ANSI Code:** common lamp ID within North America

**Product description:**  
The lamp's identification code

**Watts:**  
Energy Used –  
To estimate energy consumption (kWh), multiply watts x hours of use and divide by 1000

**Cap:**  
The type of cap fitted. See page 134-135 for cap drawings

**Lumens:**  
Initial amount of light output

**Operating position:**  
U - Universal  
HOR - Horizontal  
VBD - Vertical Base Down  
BDTH - Base Down to Horizontal  
BDTHCH - Base Down to Horizontal with filament coil axis horizontal  
BD45 - within 45° of vertical base down

**Length:**  
Lamp length in mm

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
48461	CSR125/SE/HR	125	80	GZX9.5	9,400	5600	U	200	75	10
48462	CSR200/SE/HR	200	80	GZY9.5	15,000	5600	U	200	80	10
21853	CSR400/SE/HR	400	70	GZZ9.5	32,000	5900	U	750	110	10

### Discharge - Single Ended Hot Restrike

**CSR125 / SE / HR**

(CSR) High Intensity Discharge lamp brand name code

Identifies the lamp as single ended

Hot Restrike

**CCT [K]:**  
Colour Temperature - Kelvins  
A measure of the visual "warmth" or "coolness" of the light from the lamp. The higher the value the whiter or "cooler" the light appears

**Life:**  
Rated average life

**Pack quantity:**  
Number of product units packed in a case

**Product code:**  
It is important to use this code when ordering to ensure that you receive the exact product you require

(125) Identifies the lamp's wattage

**Volts:**  
Lamp data is based on operating voltage

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Discharge - Single Ended Hot Restrike</b>										
48461	CSR125/SE/HR	125	80	GZX9.5	9,800	5400	U	200	75	10
48462	CSR200/SE/HR/UV-C	200	70	GZY9.5	17,500	5600	U	200	80	10
21853	CSR400/SE/HR/UV-C	400	70	GZZ9.5	32,000	6000	U	750	110	10
45238	CSR400/SE/HR/75	400	70	GZZ9.5	28,000	7500	U	750	110	10
48463	CSR575/SE/HR	575	95	G22	50,000	5600	U	750	145	10
40460	CSR575/SE/HR/UV-C	575	95	G22	48,000	5600	U	750	145	10
22495	CSR800/SE/HR/UV-C	800	95	G22	64,000	5600	U	750	145	6
48464	CSR1200/SE/HR	1200	100	G38	105,000	5600	U	750	200	6
27764	CSR1200/SE/HR/UV-C	1200	100	G38	110,000	5600	U	750	200	6
77390	CSR1800/SE/HR/UV-C	1800	140	G38	165,000	6000	U	750	200	4
48465	CSR2500/SE/HR	2500	115	G38	220,000	6000	U	500	240	6
40482	CSR2500/SE/HR/UV-C	2500	115	G38	220,000	5600	U	500	240	6
48466	CSR4000/SE/HR	4000	200	G38	370,000	6000	U	500	260	6
27765	CSR4000/SE/HR/UV-C	4000	200	G38	380,000	5600	U	500	260	6
48467	CSR6000/SE/HR	6000	130	G38	540,000	5900	U	300	360	6
40492	CSR6000/SE/HR/UV-C	6000	130	G38	540,000	5600	U	300	360	6
48468	CSR12000/SE/HR	12000	160	G38	1,100,000	6000	U	250	450	4
22496	CSR18000/SE/HR	18000	225	G51	1,650,000	6000	U	250	470	1



<b>Discharge - Single Ended Cold Start</b>										
27817	CSD250/2/SE	250	94	GY9.5	17,700	9000	U	3,000	108	10
21328	CSD250/2/SE BULK	250	94	GY9.5	17,700	9000	U	3,000	108	100
49492	CSR575/2/T/SE	575	97	GX9.5	42,000	7500	U	1,000	125	10
15378	CSR575/2/SE	575	97	GX9.5	46,000	7200	U	1,000	125	10
49491	CSR700/2/SE	700	70	G22	55,000	6500	U	1,000	155	10
49490	CSR1200/2/SE	1200	100	G22	110,000	7000	U	800	175	6



<b>Discharge - CSR Turn and Lock (TAL)</b>										
76160	CSR300/2/TAL	300	95	PGJX28	23,000	7800	U	750	126	4
76161	CSR700/TAL/60/PGJX50	700	70	PGJX50	59,000	6000	U	750	130	4
78718	CSR700/TAL/60/PGJX28	700	70	PGJX28	59,000	6000	U	750	130	4
74873	CSR1500/TAL/60/S	1500	100	PGJX50	TBA	6000	U	750	130	4

<b>Discharge - Double Ended Hot Restrike</b>										
48450	CSR200/DE	200	80	X515	15,000	5600	HOR±15°	300	75	10
45232	CSR400/S/DE/90	400	49	SFc 10-4 SI/M4	24,000	9000	U	750	138	10
22478	CSR400/S/DE/70	400	49	SFc 10-4 SI/M4	26,000	7000	U	1000	138	10
70979	CSR575/DE	575	95	SFc 10-4 SI/M4	40,000	7000	U	750	138	10
70978	CSR575/DE/70 BULK	575	95	SFc 10-4 SI/M4	40,000	7000	U	750	138	100
45231	CSR575/SS/DE/75	575	100	SFc 10-4 SI/M4	44,000	7500	HOR±15°	500	92	10
22493	CSR700/S/DE/60	700	70	SFc 10-4 SI/M4	59,000	6000	U	750	138	10
41357	CSR700/S/DE/72	700	70	SFc 10-4 SI/M4	51,000	7200	U	750	138	10
22494	CSR1200S/DE/60	1200	100	SFc 10-4 SI/M4	110,000	6000	U	750	138	10
96802	CSR1200S/DE/60/STB	1200	100	SFc 10-4 SI/M4	105,000	6000	U	750	135	10
96800	CSR1500/S/DE/STB	1500	115	SFc 10-4 SI/M4	132,000	6000	HOR±15°	500	138	10
48453	CSR1200/DE	1200	100	SFc 10-5-6 SI/M6	110,000	6000	HOR±15°	750	220	10
48454	CSR2500/DE	2500	115	SFa21-12	240,000	6000	HOR±15°	500	355	6
48455	CSR4000/DE	4000	200	SFa21-12	400,000	6000	HOR±15°	500	405	6
48456	CSR6000/DE	6000	125	25X51 Cyl 165mm	570,000	6000	HOR±15°	300	450	10
48457	CSR12000/DE	12000	160	30x70 Cyl 165mm	1,100,000	6000	HOR±15°	300	470	10
48459	CSR18000/DE	18000	225	30x70 Cyl 165mm	1,650,000	5600	HOR±15°	500	500	4
78710	CSR24000/DE	24000	270	30x70 Cyl 165mm	2,300,000	6000	HOR±15°	500	500	1



# SHOWBIZ Lamps

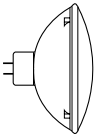
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Discharge - Short Arc</b>										
15380	CSR700SA	700	70	GY9.5	58,000	6200	U	500	85	10
45234	CSR700SA/72	700	70	GY9.5	58,000	7200	U	500	85	10
21849	CSR1200SA	1200	100	GY22	100,000	5800	U	750	135	6
21801	CSR2000SA	1800	100	GY22	155,000	6000	U	750	135	6



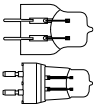
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>ConstantColor - CMH Single Ended GX9.5</b>										
73579	CMH400/932/GX9.5	400	135	GX9.5	40,000	3200	U	5,000	135	4
73580	CMH400/941/GX9.5	400	135	GX9.5	40,000	4100	U	5,000	135	4



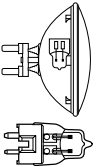
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Type	Beam 10%	Beam 50%	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>ConstantColor CMH - PAR64</b>													
88545	CMH150/PAR64/830/GX16d/SP	150	95	GX16d	154,000	Narrow	9x9	4x4	3000	U	8,000	152	6
88537	CMH150/PAR64/830/GX16d/MFL	150	95	GX16d	47,000	Medium	18x15	13x11	3000	U	8,000	152	6
16960	CMH150/PAR64/830/GX16d/WFL	150	95	GX16d	16,000	WFL	62x36	46x23	3000	U	3,000	152	6
88543	CMH150/PAR64/942/GX16d/SP	150	100	GX16d	154,000	Narrow	9x9	4x4	4200	U	8,000	152	6
88542	CMH150/PAR64/942/GX16d/MFL	150	100	GX16d	47,000	Medium	18x15	13x11	4200	U	8,000	152	6
88541	CMH150/PAR64/942/GX16d/WFL	150	100	GX16d	16,000	Wide	25x20	18x15	4200	U	8,000	152	6



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>CSS</b>										
88485	CSS150/850/GY9.5	140	85	GY9.5	10,000	5000	VBD±90	1,000	48	10



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	Beam 10%	Beam 50%	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>CSI/CID</b>												
88495	99-0201 CSI	400	100	Special	32,000	-	-	4000±400	VBD±90	500	55	1
88494	99-0221 CSI	1000	77	G22	90,000	-	-	4000±400	VBD±90	500	115	1
88514	99-1222 CSI CS	1000	77	G38	1,350,000	18	6	3800±500	U	3,500	80	1
88513	99-1422 CSI HR	1000	77	G38	1,350,000	18	6	3800±500	U	3,500	80	1
88493	99-0222 CID	1000	77	G22	70,000	-	-	5500±400	BDTH	500	115	1



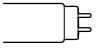
Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Cinema Studio Biax</b>									
41869	F55BX/StudioBiax32	55	2G11-4 Pin	4,100	3200	U	8,000	55	10
41873	F55BX/StudioBiax56	55	2G11-4 Pin	4,100	5600	U	8,000	55	10



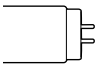
Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Cinema Plus Biax</b>									
41903	F55BX/CINPLUS/32	55	2G11-4 Pin	2,400	3200	U	2,000	55	10
41911	F55BX/CINPLUS/55	55	2G11-4 Pin	2,400	5600	U	2,000	55	10



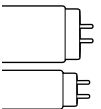
Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>Cinema T8</b>										
72658	F24T8CINEMA32/CVG	28	G-13 Med BiPin	1,250	3200	U	2,000	600	26	24
72659	F24T8CINEMA55/CVG	28	G-13 Med BiPin	1,200	5500	U	2,000	600	26	24
81207	F48T8/Cinema32/CVG	55	G-13 Med BiPin	2,750	3200	U	2,000	1200	26	24
81208	F48T8/Cinema55/CVG	55	G-13 Med BiPin	2,750	5500	U	2,000	1200	26	24



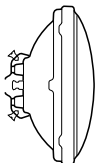
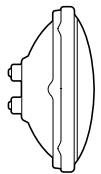
Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>Cinema T12</b>										
15775	F20T12/CINEMA32/HO/CVG	35	G-13 Med BiPin	1,130	3200	U	2,000	600	38	24
15776	F20T12/CINEMA55/HO/CVG	35	G-13 Med BiPin	1,100	5500	U	2,000	600	38	24
15782	F40T12/CINEMA32/HO/CVG	75	G-13 Med BiPin	2,900	3200	U	2,000	1200	38	30
15783	F40T12/CINEMA55/HO/CVG	75	G-13 Med BiPin	2,820	5500	U	2,000	1200	38	30



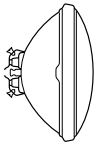
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>Blacklight Blue</b>									
34747	F20T12/BLB	20	57	G-13 Med BiPin	U	9000	600	38	6
25618	F40T12/BLB	40	101	G-13 Med BiPin	U	20000	1,200	38	6
88832	F18T8/BLB	18	57	G-13 Med BiPin	U	12,000	600	26	25
88833	F36T8/BLB	36	103	G-13 Med BiPin	U	12,000	1200	26	25



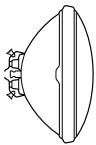
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	ANSI Code	Candela [cd]	Beam Type	Beam 10%	Beam 50%	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>PAR 36</b>															
41673	FCX	650	120	Ferrule	FCX	24,000	MFL	-	40 X 30	3200	HOR±15°	100	69.8	114.3	12
14553	25PAR36	25	5.5	Scr. Term.	-	30,000	VNSP	-	5 x 5	3000	U	1,000	69.8	114.3	12
14555	25PAR36/WFL	25	12	Scr. Term.	-	500	WFL	49 x 41	37 x 26	-	U	2,000	69.8	114.3	12
24425	4405	30	12.8	Scr. Term.	-	50,000	VNSP	6 x 5	-	-	U	100	69.8	114.3	12
24663	4511	30	6.2	Scr. Term.	-	2,300	-	-	-	-	U	300	69.8	114.3	12
15133	H4515	30	6.4	Scr. Term.	-	67,000	VNSP	5.5 x 4	-	-	U	100	69.8	114.3	12
24673	4515	30	6.4	Scr. Term.	-	55,000	VNSP	5 x 5	-	-	U	100	69.8	114.3	12
43576	H7604	50	12.8	Scr. Term.	-	100,000	NSP	7 x 5	-	-	U	100	69.8	114.3	12
12892	50PAR36/VNSP	50	12	Scr. Term.	-	25,000	VNSP	-	6 x 6	-	U	2,000	69.8	114.3	12
16540	50PAR36/NSP	50	12	Scr. Term.	-	9,200	NSP	-	10 x 10	-	U	2,000	69.8	114.3	12
16541	50PAR36/WFL	50	12	Scr. Term.	-	1,300	WFL	48 x 41	36 x 28	-	U	2,000	69.8	114.3	12
19880	50PAR36/WFL/H	50	12	Scr. Term.	-	1,300	WFL	-	30 x 30	3050	U	4,000	69.8	114.3	12
16542	50PAR36/VWFL	50	12	Scr. Term.	-	600	VWFL	-	55 x 55	-	U	2,000	69.8	114.3	12
24627	4502	50	28	Scr. Term.	-	10,000	WFL	40 x 7	-	-	U	400	69.8	114.3	12
24640	4505	50	28	Scr. Term.	-	45,000	NSP	11 x 5	-	-	U	400	69.8	114.3	12
24650	4509	100	13	Scr. Term.	-	110,000	NSP	12 x 6	-	-	U	25	69.8	114.3	12
41503	4509X	100	13	Scr. Term.	-	110,000	NSP	12 x 6	-	-	U	25	69.8	114.3	12
24887	4593	50	28	Scr. Term.	-	1,500	VWFL	80 x 30	-	-	U	400	69.8	114.3	12
24891	4594	100	28	Scr. Term.	-	70,000	NSP	13 x 7	-	-	U	300	69.8	114.3	12
24964	4626	150	28	Scr. Term.	-	25,000	WFL	40 x 9	-	-	U	300	69.8	114.3	12
24966	4627	100	28	Scr. Term.	-	3,000	VWFL	80 x 30	-	-	U	300	69.8	114.3	12
24867	4587	250	28	Scr. Term.	-	4,000	WFL	40 x 13	-	-	U	25	69.8	114.3	12
24898	4596	250	28	Scr. Term.	-	150,000	NSP	11 x 12	-	3000	U	25	69.8	114.3	12
41667	DWE	650	120	Scr. Term.	DWE	24,000	MFL	-	40 X 30	3200	HOR±15°	100	69.8	114.3	12
41671	FBO	650	120	Scr. Term.	FBO	75,000	SP	-	25 X 15	3400	HOR±15°	30	69.8	114.3	12



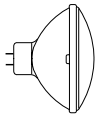
# SHOWBIZ Lamps



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Type	Beam 50%	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>PAR 46</b>												
43591	H7635	50	12.8	Scr. Term	160,000	VNSP	6.5 x 4	U	100	95.2	146	12
40822	4537-2	100	13	Scr. Term	200,000	SP	11 x 6	U	25	95.2	146	12
24799	4553	250	28	Scr. Term	300,000	SP	11 x 12	U	25	95.2	146	12
24859	4580	450	28	Scr. Term	400,000	SP	13 x 14	U	10	95.2	146	12
24862	4581	450	28	Scr. Term	400,000	SP	13 x 14	U	10	95.2	146	12
37706	Q4554	450	28	Scr. Term	65,000	WFL	50 x 11	U	100	95.2	146	12
36271	Q4681	450	28	Scr. Term	310,000	SP	15 x 9	U	50	95.2	146	12

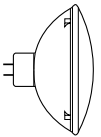
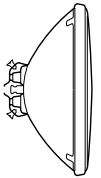


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Candela [cd]	Beam Type	Beam 10%	Beam 50%	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>PAR 56</b>														
24768	4545	100	12	Scr. Term	225,000	NSP	-	9 x 5	-	U	100	127	177.8	12
19024	120PAR56/MFL	120	12	Scr. Term	19,000	MFL	18 x 9	29 x 15	-	U	2,000	127	177.8	12
19025	120PAR56/WFL	120	12	Scr. Term	5,625	WFL	35 x 18	50 x 25	-	U	2,000	127	177.8	12
20122	200PAR	200	30	Scr. Term	270,000	SP	-	9 x 9	-	U	350	127	177.8	12
20575	240PAR56/VNSP	240	12	Scr. Term	140,000	VNSP	9 x 6	7 x 10	-	U	2,000	127	177.8	12
20577	240PAR56/WFL	240	12	Scr. Term	13,000	WFL	35 x 18	50 x 27	-	U	2,000	127	177.8	12
23427	300PAR56/WFL	300	12	Scr. Term	NA	WFL	-	-	-	U	1,000	127	177.8	12
20803	300PAR56/NSP	300	120	Mog End Pr GX16d	68,000	NSP	10 x 8	20 x 14	2750	U	2,000	127	177.8	12
20836	300PAR56/MFL	300	120	Mog End Pr GX16d	24,000	MFL	23 x 11	34 x 19	2750	U	2,000	127	177.8	12
20849	300PAR56/WFL	300	120	Mog End Pr GX16d	11,000	WFL	37 x 18	57 x 27	2750	U	2,000	127	177.8	12
20853	300PAR56/NSP	300	230	ExMogEndPr GX16d	40,000	NSP	-	-	-	U	2,000	127	177.8	12
20852	300PAR56/MFL	300	230	ExMogEndPr GX16d	30,000	MFL	-	-	-	U	2,000	127	177.8	12
20854	300PAR56/WFL	300	230	ExMogEndPr GX16d	10,000	WFL	-	-	-	U	2,000	127	177.8	12
18676	300PAR56/NSP	300	240	ExMogEndPr GX16d	40,000	NSP	-	-	-	U	2,000	127	177.8	12
18677	300PAR56/MFL	300	240	ExMogEndPr GX16d	30,000	MFL	-	-	-	U	2,000	127	177.8	12
18678	300PAR56/WFL	300	240	ExMogEndPr GX16d	10,000	WFL	-	-	-	U	2,000	127	177.8	12
43494	Q500PAR56/NSP	500	120	Mog End Pr GX16d	96,000	NSP	13 x 8	32 x 15	2950	U	4,000	127	177.8	6
43495	Q500PAR56/MFL	500	120	Mog End Pr GX16d	43,000	MFL	26 x 10	42 x 20	2950	U	4,000	127	177.8	6
43496	Q500PAR56/WFL	500	120	Mog End Pr GX16d	19,000	WFL	44 x 20	66 x 34	2950	U	4,000	127	177.8	6

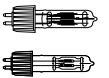








Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	ANSI Code	Candela [cd]	Beam Type	Beam 10%	Beam 50%	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>PAR 64</b>																
40576	4552	250	28	Scr. Term	-	-	500,000	SP	-	7 X 8	-	U	25	152.4	203.2	12
40578	4559	600	28	Scr. Term	-	-	600,000	SP	-	11 X 12	-	U	25	152.4	203.2	12
40579	Q4559	600	28	Scr. Term	-	-	600,000	SP	-	12 X 8	-	U	100	152.4	203.2	12
42552	Q4559X	600	28	Scr. Term	-	-	765,000	SP	11x7.5	-	-	U	100	152.4	203.2	12
73581	CP86 PAR64/VNSP	500	230	GX16d	CP86	-	240,000	VNSP	16x13	10x7	3200	U	300	152.4	203.2	6
99944	CP86 PAR64/VNSP	500	240	GX16d	CP86	-	240,000	VNSP	16x13	10x7	3200	U	300	152.4	203.2	6
25504/99945	CP87 PAR64/NSP	500	230	GX16d	CP87	-	140,000	NSP	19x16	11x9	3200	U	300	152.4	203.2	6
99946	CP87 PAR64/NSP	500	240	GX16d	CP87	-	140,000	NSP	19x16	11x9	3200	U	300	152.4	203.2	6
99947	CP88 PAR64/MFL	500	230	GX16d	CP88	-	65,000	MFL	32x19	21x10	3200	U	300	152.4	203.2	6
99948	CP88 PAR64/MFL	500	240	GX16d	CP88	-	65,000	MFL	32x19	21x10	3200	U	300	152.4	203.2	6
39411	500/PAR64/MFL	500	230	ExMogEndPr GX16d	-	-	-	MFL	21 X 10	32 x 19	2700	U	2,000	152.4	203.2	12
39414	500/PAR64/W FL	500	230	ExMogEndPr GX16d	-	-	-	WFL	42 X 20	55 x 32	2700	U	2,000	152.4	203.2	12
88425	CP60 EXC SUPER	1000	230	GX16d	CP60	-	352,000	VNSP	12x9	20x17	3200	U	300	152.4	203.2	6
88551	CP60 EXC SUPER	1000	240	GX16d	CP60	-	352,000	VNSP	12x9	20x17	3200	U	300	152.4	203.2	6
88535	CP61 EXD SUPER	1000	230	GX16d	CP61	-	297,000	NSP	14x10	22x20	3200	U	300	152.4	203.2	6
88550	CP61 EXD SUPER	1000	240	GX16d	CP61	-	297,000	NSP	14x10	22x20	3200	U	300	152.4	203.2	6
88549	CP62 EXE SUPER	1000	230	GX16d	CP62	-	138,000	MFL	24x11	38x20	3200	U	300	152.4	203.2	6
88536	CP62 EXE SUPER	1000	240	GX16d	CP62	-	138,000	MFL	24x11	38x20	3200	U	300	152.4	203.2	6
88511	CP95	1000	230	ExMogEndPr GX16d	CP95	-	15,000	VWFL	70 X 70	125 x 95	3200	U	300	152.4	203.2	6
88510	CP95	1000	240	ExMogEndPr GX16d	CP95	-	15,000	VWFL	70 X 70	125 x 95	3200	U	300	152.4	203.2	6
88480	EXG/PAR64/WFL	1000	230	ExMogEndPr GX16d	-	EXG	38,000	WFL	57 X 21	73 x 36	3200	U	300	152.4	203.2	6
88479	EXG/PAR64/WFL	1000	240	ExMogEndPr GX16d	-	EXG	38,000	WFL	57 X 21	73 x 36	3200	U	300	152.4	203.2	6
39409	500PAR64/MFL	500	120	ExMogEndPr GX16d	-	-	37,000	MFL	23 X 11	35 x 19	2800	U	2,000	152.4	203.2	12
13233	FFN	1000	120	ExMogEndPr GX16d	-	FFN	400,000	VNSP	12 X 6	24 x 10	3200	U	800	152.4	203.2	6
13229	FFP	1000	120	ExMogEndPr GX16d	-	FFP	330,000	NSP	14 X 7	26 x 14	3200	U	800	152.4	203.2	6
13228	FFR	1000	120	ExMogEndPr GX16d	-	FFR	125,000	MFL	28 X 12	44 x 21	3200	U	800	152.4	203.2	6
13227	FFS	1000	120	ExMogEndPr GX16d	-	FFS	40,000	WFL	48 X 24	71 x 45	3200	U	800	152.4	203.2	6
43497	Q1000PAR64/NSP	1000	120	ExMogEndPr GX16d	NA	NA	200,000	NSP	15 X 8	31 X 14	3000	U	4,000	152.4	203.2	6
43498	Q1000PAR64/MFL	1000	120	ExMogEndPr GX16d	-	-	80,000	MFL	28 X 12	45 x 22	3000	U	4,000	152.4	203.2	6
43499	Q1000PAR64/WFL	1000	120	ExMogEndPr GX16d	-	-	33,000	WFL	48 X 24	72 x 45	3000	U	4,000	152.4	203.2	6



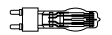
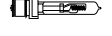
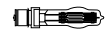
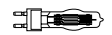
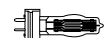
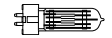
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Diameter [mm]	Pack Qty
<b>Single Ended Halogen - HPL</b>											
88478	HPL 575	575	230	G9.5/Heat Sink	14,900	3200	U	300	106	19	12
88477	HPL 575	575	240	G9.5/Heat Sink	14,900	3200	U	300	106	19	12
88436	HPL 575-C	575	120	G9.5/Heat Sink	16,520	3250	U	300	106	19	12
88438	HPL 575-C	575	115	G9.5/Heat Sink	16,520	3250	U	300	106	19	12
88476	HPL 575-X LL	575	230	G9.5/Heat Sink	11,780	3050	U	1,500	106	19	12
88475	HPL 575-X LL	575	240	G9.5/Heat Sink	11,780	3050	U	1,500	106	19	12
88434	HPL 575-C LL-X	575	120	G9.5/Heat Sink	12,360	3050	U	2,000	106	19	12
88435	HPL 575-C LL-X	575	115	G9.5/Heat Sink	12,360	3050	U	2,000	106	19	12
88474	HPL 750	750	230	G9.5/Heat Sink	19,750	3200	U	300	106	19	12
88473	HPL 750	750	240	G9.5/Heat Sink	19,750	3200	U	300	106	19	12
88437	HPL 750-C	750	115	G9.5/Heat Sink	22,000	3250	U	300	106	19	12
88428	HPL 750-C-XLL	750	115	G9.5/Heat Sink	16,400	3050	U	2,000	106	19	12
88430	HPL 750-X-LL	750	230	G9.5/Heat Sink	15,600	3050	U	1,500	106	19	12
88429	HPL 750-X-LL	750	240	G9.5/Heat Sink	15,600	3050	U	1,500	106	19	12










# SHOWBIZ Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	ANSI Code	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Single Ended Halogen</b>												
88624	EHD	500	120	G9.5	-	EHD	10,000	2900	U	2,000	105	24
88548	FLK	575	115	G9.5	-	FLK	16,500	3200	U	300	105	24
88452	FLK-LL	575	115	G9.5	-	EHD	10,000	3100	U	2000	105	50
88448	GKV	600	230	G9.5	-	GKV	14,000	3200	U	250	105	24
88447	GKV	600	240	G9.5	-	GKV	14,000	3200	U	250	105	24
88446	GKV/LL	600	230	G9.5	-	GKV	11,000	3000	U	1,500	105	24
88445	GKV/LL	600	240	G9.5	-	GKV	11,000	3000	U	1,500	105	24
 88450	FKR	650	230-240	G9.5	-	FKR	15,000	3100	U	300	105	24
 88627	EHF	750	120	G9.5	-	EHF	20,000	3200	U	300	105	24
88626	EHG	750	120	G9.5	-	FLK	16,500	3000	U	300	105	24
88432	HX800	800	230-240	G9.5	HX800	-	20,000	3200	U	250	105	24
88625	FEL	1000	120	G9.5	CP77	FEL	27,500	3200	U	300	105	24
88449	CP77 FEP	1000	230-240	G9.5	CP77	FEP	25,000	3200	U	300	105	24
88443	CP81 FKW	300	120	GY9.5	CP81	FKW	6,900	3200	BDTH	50	90	24
88433	CP81 FSL	300	230	GY9.5	CP81	FSL	6,900	3200	BDTH	150	90	24
88444	CP81 FSK	300	240	GY9.5	CP81	FSK	6,900	3200	BDTH	150	90	24
88467	CP82 FRG	500	120	GY9.5	CP82	FRG	13,000	3200	BDTH	150	90	24
88466	CP82 FRH	500	230	GY9.5	CP82	FRH	12,500	3200	BDTH	150	90	24
88464	CP82 FRJ	500	240	GY9.5	CP82	FRJ	12,500	3200	BDTH	150	90	24
88465	T18 GCW	500	230-240	GY9.5	T18	GCW	11,000	3050	BDTH	400	90	24
 88470	T25 GCW	500	230-240	GY9.5	T25	GCW	11,000	3000	BDTH	360	90	24
 88469	T27 GCS	650	230-240	GY9.5	T27	GCS	14,500	3050	BDTH	400	90	24
88463	T26 GCS	650	230-240	GY9.5	T26	GCS	15,500	3100	BDTH	400	90	24
88462	CP89 FRK	650	120	GY9.5	CP89	-	16,900	3200	BDTH	200	90	24
88461	CP89 FRM	650	230-240	GY9.5	CP89	FRM	16,250	3200	BDTH	150	90	24
88504	FMR	600	120	GY9.5	FMR	-	12,600	3050	BDTHCH	2,000	85	24







Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	ANSI Code	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Single Ended Halogen</b>												
88431	T12	650	230-240	GX9.5	T12	-	13,500	3000	BDTH	750	110	12
72680	CP23	650	230	GX9.5	CP23	-	16,900	3200	BDTH	100	110	12
88455	CP23	650	230-240	GX9.5	CP23	-	16,900	3200	BDTH	100	110	12
88459	CP24	1000	230-240	GX9.5	CP24	-	26,000	3200	BDTH	200	110	12
88515	T11 Q1000T8/CL	1000	115/120	GX9.5	T11	-	23,500	3050	BDTH	750	110	24
88456	T11	1000	240	GX9.5	T11	-	23,000	3050	BDTH	750	110	12
88457	T19 FWR	1000	230-240	GX9.5	T19	FWR	21,000	3050	BDTH	750	110	12
88472	CP70 FVA	1000	230	GX9.5	CP70	FVA	25,000	3200	BDTH	200	110	12
88471	CP70 FVA	1000	240	GX9.5	CP70	FVB	25,000	3200	BDTH	200	110	12
88454	T29 FWT	1200	230-240	GX9.5	T29	FWT	29,000	3050	BDTH	400	110	12
88453	CP90	1200	230-240	GX9.5	CP90	-	33,000	3200	BDTH	200	110	12
96735	CP43 FTL	2000	230	GY16	CP43	FTM	54,000	3200	BDTH	400	145	12
88533	CP43 FTL	2000	230-240	GY16	CP43	FTL	54,000	3200	BDTH	400	145	12
88503	CP79	2000	230-240	GY16	CP79	-	54,000	3200	BDTH	350	145	12
88439	CP110 OC1200	1200	80	G22	-	-	37,500	3300	BDTH	300	140	12
88509	EGN	500	120	G22	-	EGN	13,000	3200	BDTH	150	140	12
88531	CP39 FKH	650	230-240	G22	CP39	FKH	16,900	3200	BDTH	100	140	12
88622	EGT	1000	120	G22	-	EGT	28,500	3200	BDTH	250	127	12
88458	CP40 FKJ	1000	230	G22	CP40	FKJ	26,000	3200	BDTH	200	140	12
88538	CP40 FKJ	1000	240	G22	CP40	FKJ	26,000	3200	BDTH	200	140	12
88508	CP93	1200	230-240	G22	CP93	-	33,000	3200	BDTH	200	140	12
88507	CP92	2000	120	G22	CP92	-	55,000	3200	BDTH	400	175	12
88506	CP92	2000	230-240	G22	CP92	-	52,000	3200	BDTH	400	175	12
88505	CP91	2500	230-240	G22	CP91	-	67,500	3200	BDTH	400	175	12
88617	EGE	500	120	P28s	-	EGE	10450	2950	U	2,000	152	12
88546	BTM	500	120	P28s	-	BTM	13000	3200	BDTH	150	130	12
88498	T17 FKF	500	230-240	P28s	T17	-	9,500	2950	BDTH	750	130	12
88451	T28	500	230-240	P28s	T28	-	11,000	3000	BDTH	300	130	12
88497	T13 FKB	650	230-240	P28s	T13	-	13,500	3000	BDTH	750	130	12
88530	CP51 FKM	650	240	P28s	CP51	-	16900	3200	BDTH	200	130	12
88615	EGJ	1000	120	P28s	-	EGJ	27500	3200	U	500	152	12
88529	T14 FKD	1000	230-240	P28s	T14	-	23,000	3050	BDTH	750	130	12
88499	FKE	1000	230-240	P28s	T15	FKE	23,000	3050	BDTH	750	160	12
88496	CP52 FKN	1000	230-240	P28s	CP52	FKN	26,000	3200	BDTH	200	121	12
88610	CYX	2000	120	G38	HX270	CYX	59000	3200	BDTH	400	216	6
88489	CP41 FKK	2000	230	G38	CP41	FKK	54,000	3200	BDTH	400	216	12
88488	CP41 FKK	2000	240	G38	CP41	FKK	54,000	3200	BDTH	400	216	12
88502	CP94	2500	230-240	G38	CP94	-	67500	3200	BDTH	400	210	12
88874	HX48	3000	230-240	G38	HX48	-	82000	3200	BDTH	400	210	12
88875	CP29	5000	230	G38	CP29	-	135000	3200	BDTH	500	279	12
88876	CP29	5000	240	G38	CP29	-	135,000	3200	BDTH	500	279	12
12036	CP83	10000	220-230	G38	CP83	-	280,000	3200	BDTH	250	405	1
12037	CP83	10000	240	G38	CP83	-	280,000	3200	BDTH	250	405	1
48771	Q12MT26/4CL	12000	230	GX38	-	-	420,000	3400	BD45	130	410	1
48779	Q12MT26/4CL	12000	240	GX38	-	-	420,000	3400	BD45	130	410	1
48773	BCM-020MT324CL	20000	230	GX38	-	BCM	580,000	3200	BD45	400	560	1
48774	BCM-020MT324CL	20000	240	GX38	-	BCM	580,000	3200	BD45	400	560	1
48777	Q24MT32/4CL	24000	240	GX38	-	-	800,000	3400	BD45	150	560	1






# SHOWBIZ Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	ANSI Code	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty	
<b>Single Ended Halogen</b>													
	88880	CP105	1250/650	230-240	GX38q	CP105	-	27000/13000	3050	BD45	250	220	1
	88877	CP30	1250/1250	230-240	GX38q	CP30	-	27M/56M	3200	BD45	300	220	1
	88878	CP58	1250/2500	230-240	GX38q	CP58	-	27M/91M	3200	BD45	300	220	1
	88879	CP32	2500/2500	230-240	GX38q	CP32	-	5900/127000	3200	BD45	300	220	1
	88512	CP59	2000	240	R7s	FAD	-	16,500	3200	U	100	191	1
	19926	DKZ/DSE	1000	120	E39	-	DSE	28,000	3200	U	750	330	10
	88500	T16	1500	120	P40s	T16	DTA	41000	3200	BDTH	750	180	6
	88532	CP53	2000	230-240	P40s	CP53	-	54,000	3200	BDTH	400	200	12

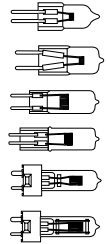
## Double Ended Quartzline

	30325	FAD	650	120	R7s	P2/6	FAD	16,500	3200	U	100	80	24
	36952	DXX	800	230	R7s	P2/13	DXX	21,400	3200	U	75	80	24
	36953	DXX	800	240	R7s	P2/13	DXX	21,400	3200	U	75	80	24
	30157	DXW	1000	120	R7s	-	DXW	28,000	3200	U	150	95	24
	30374	FBY	1000	120	R7s	-	FBY	26,000	3200	U	150	95	24
	23756	EJG	750	120	R7s	-	EJG	20,600	3200	HOR±15°	400	119	12
	23760	P2/11 EME/Clear	800	240	R7s	P2/11	EME	22,000	3200	HOR±15°	150	119	12
	23761	P2/11 EMF/Frosted	800	240	R7s	P2/11	EMF	21,400	3200	HOR±15°	150	119	12
	23797	P2/28 FCM	1000	120	R7s	P2/28	FCM	28,000	3200	HOR±15°	400	119	12
	88482	P2/27 FEX	2000	230	R7s	P2/27	FEX	50,000	3200	HOR±15°	300	143	12
	88481	P2/27 FEX	2000	240	R7s	P2/27	FEX	50,000	3200	HOR±15°	300	143	12
	88629	FEY	2000	120	R7s	P2/27	FEY	57,000	3200	HOR±15°	400	143	12
	19697	P2/10	625	230	R7s	P2/10	-	16,900	3200	HOR±15°	300	189	12
	19698	P2/10	625	240	R7s	P2/10	-	16,900	3200	HOR±15°	300	189	12
	20249	P2/7 EKM	1000	230	R7s	P2/7	EKM	28,000	3200	HOR±15°	300	189	12
	20253	P2/7 EKM	1000	240	R7s	P2/7	EKM	28,000	3200	HOR±15°	300	189	12
	19695	P2/12	1250	230	R7s	P2/12	-	35,000	3200	HOR±15°	300	189	12
	19696	P2/12	1250	240	R7s	P2/12	-	35,000	3200	HOR±15°	300	189	12

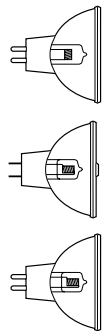
## Specialist Projector

	37346	DZA	30	10.8	G5.3	-	DZA	530	3100	BDTHCH	400	51	24
	18234	BRL A1/220	50	12	G6.35	A1/220	BRL	1,400	3400	BDTH	50	44	100
	14876	FCR A1/215	100	12	GV6.35	A1/215	FCR	3,500	3300	BDTH	50	44	100
	18235	BRJ/EVB A1/234	150	15	G6.35	A1/234	BRJ/EVB	5,000	3400	BDTH	50	44	100
	37695	DZE/FDS A1/262	150	24	G29.5	A1/262	DZE/FDS	5,000	3250	BDTH	100	68	24
	13598	FCS A1/216	150	24	G6.35	A1/216	FCS	4,500	3300	BDTH	50	51	100
	14874	EHJ A1/223	250	24	G6.35	A1/223	EHJ	9,000	3400	BDTH	50	57	100
	18241	FNT	275	24	G6.35	-	FNT	10,000	3400	BDTH	50	57	100
	41164	EVD A1/239	400	36	GV6.35	A1/239	EVD	16,000	3200	BDTH	50	60	25
	26895	DZR A1/233	650	240	G29.5	A1/233	DZR	16,500	3200	U	50	64	24
	88484	HX185	800	230-240	GX9.5	HX185	-	19,000	3050	BDTH	300	100	24
	88492	A1/248	150	230-240	G6.35	A1/248	-	3,000	NA	BDTH	50	62	50
	88491	A1/249	300	230-240	G6.35	A1/249	-	7,200	NA	BDTH	50	62	50
	88460	A1/244	500	230-240	GY9.5	A1/244	-	13,000	NA	BDTH	75	62	24

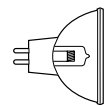
Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	Lumen [lm]	CCT [K]	Operating position	Life [h]	Length [mm]	Pack Qty
<b>Single Ended Tungsten Halogen</b>											
34720	M29/ESA	10	6	G4	M29/ESA	200	3200	BDTH	100	30	20
34718	M30/ESB	20	6	G4	M30/ESB	450	3200	BDTH	100	30	20
34702	M32	50	12	GY6.35	M32	930	3000	BDTH	4,000	44	20
34676	M28/EVA	100	12	GY6.35	M28/EVA	2,400	3000	BDTH	2,000	44	20
34768	M33	250	24	G6.35	M33	8,600	3000	BDTH	300	55	100
88516	M36	250	24	G6.35	M36	5,750	3000	BDTH	2,000	58	100
88442	M38	300	230-240	GY9.5	M38	5,000	2900	BDTH	2,000	80	24
78343	M38	300	120	GY9.5	M38	TBA	2900	BDTH	2,000	80	24
88468	M40	500	230-240	GY9.5	M40	8,500	2900	BDTH	2,000	85	24



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	LIF Code	ANSI Code	CCT [K]	Operating position	Life [h]	Pack Qty	
<b>Multi-Mirror Quartzline Projection - MR16</b>											
36902	EKZ	30	10.8	GX5.3	-	EKZ	3100	BDTH	200	20	
43988	DDS	80	21	GX5.3	-	DDS	3125	BDTH	1000	20	
43950	DED	85	13.8	GX5.3	-	DED	3150	BDTH	1000	20	
43537	DDL	150	20	GX5.3	-	DDL	3150	BDTH	500	20	
38306	ELD/EJN	150	21	GX5.3	-	ELD/EJN	3350	BDTH	40	20	
35200	EKE	150	21	GX5.3	-	EKE	3250	BDTH	200	20	
29150	EJL A1/252	200	24	GX5.3	A1/252	EJL	3400	BDTH	50	20	
37462	ELC A1/259	250	24	GX5.3	A1/259	ELC	3400	BDTH	50	20	
15377	ELC500	250	24	GY5.3	-	ELC500	3250	BDTH	500	20	
38686	ENH	250	120	GY5.3	-	ENH	3250	BDTH	175	20	
38476	ELH	300	120	GY5.3	-	ELH	3350	BDTH	35	10	
32882	EJA	150	21	GX5.3	-	EJA	3350	BDTH	40	20	

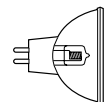


Product Code	Product Description	Wattage [W]	Volts [V]	Cap	ANSI Code	CCT [K]	Operating position	Life [h]	Pack Qty
<b>Multi-Mirror Quartzline Projection - MR16</b>									
41729	EPT	42	10.8	GX5.3	EPT	2900	BDTH	8000	20
25475	ENL	50	12	GX5.3	ENL	3050	BDTH	4000	20
41882	EPV	90	14.5	GX5.3	EPV	3150	BDTH	500	20
42614	EPX	90	14.5	GX5.3	EPX	3150	BDTH	500	20
41874	ERV	340	36	GX5.3	ERV	3300	BDTH	75	20
41705	ENX	360	82	GY5.3	ENX	3300	BDTH	75	20
21613	FXL	410	82	GY5.3	FXL	3300	BDTH	38	20



<b>Multi-Mirror Quartzline Projection - MR11</b>									
25261	FLT	28	13.8	G24	FLT	3050	BDTH	500	10

<b>Multi-Mirror Quartzline Projection - MR13</b>									
12097	EXY	250	82	GX5.3	EXY	3200	BDTH	200	10
12092	EXR	300	82	GX5.3	EXR	3350	BDTH	35	10



# SHOWBIZ Lamps

The following pages show GE and alternative brand Order Codes. These cross references are provided as a quick guide and may only represent a near equivalent to other brands. The table contains data from alternative brands' catalogues and website.

GE	OSRAM	PHILIPS
<b>Discharge CSR/CSD (Daylight) Metal Halide, Turn and Lock</b>		
<b>GE Product Code</b>		
CSR300/2/TAL	-	MSR 300/2 MiniFastFit
CSD300/2/TAL	HSD300W/80/P28	MSD 300/2 MiniFastFit
CSR700/TAL/60/PGJX50	HTI 700W/75/P50	MSR 700 FastFit
CSR700/TAL/60/PGJX28	HTI 700W/75/P28	MSR 700/2 MiniFastFit
CSR1500/TAL/60/S	HTI 1500W/60/P50	MSR 1500 FastFit
<b>Discharge CSR/CSD (Daylight) Metal Halide, Single End Cold Start</b>		
CSD250/2/SE	HSD250/80	MSD250/2
CSR575/2/T/SE	-	-
CSR575/2/SE	HSR575/2	MSR575/2
CSR700/2/SE	HSR700/2	MSR700/2
CSR1200/2/SE	HSR1200/2	MSR1200/2
<b>Discharge CSR (Daylight) Metal Halide, Single End Short Arc</b>		
CSR700/SA	HTI705W/SE	MSR700/SA
CSR700/SA/72	-	-
CSR1200/SA	HTI1200W/SE	MSR1200/SA
CSR2000/SA	HTI1800W/SE	MSR2000/SA
<b>Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike</b>		
CSR125/SE/HR	HMI125W	MSR125/HR
CSR400/SE/HR/75	-	-
CSR575/SE/HR	HMI575W/SE	MSR575/HR
CSR1200/SE/HR	HMI1200W/SE	MSR1200/HR
CSR2500/SE/HR	HMI2500W/SE	MSR2500/HR
CSR4000/SE/HR	HMI4000W/SE	MSR4000/HR
CSR6000/SE/HR	HMI6000W/SE	MSR6000/HR
CSR12000/SE/HR	HMI12000W/SE	MSR12000/HR
CSR18000/SE/HR	HMI18000W/SE	MSR18000/HR
<b>Discharge CSR (Daylight) Metal Halide, Single End Hot Restrike, UV Control</b>		
CSR200/SE/HR/UVC	HMI200W/SE	MSR200/HR
CSR400/SE/HR/UVC	HMI400W/SE	MSR400/HR
CSR575/SE/HR/UVC	HMI575W/SE	MSR575/HR
CSR800/SE/HR/UVC	-	-
CSR1200/SE/HRUVC	HMI1200W/SE	MSR1200/HR
CSR1800/SE/HRUVC	HMI1800W/SE/XS	-
CSR2500/SE/HRUVC	HMI2500W/SE	MSR2500/HR
CSR4000/SE/HRUVC	HMI4000W/SE	MSR4000/HR
CSR6000/SE/HRUVC	HMI6000W/SE	MSR6000/HR
<b>Discharge CSR (Daylight) Metal Halide, Linear Double End Hot Restrike</b>		
CSR200/DE	HMI200W	-
CSR400/S/DE/70	HTI400W/D3/75	MSR400/SA/2/DE
CSR400/S/DE/90	-	-
CSR575/S/DE/70	HTI575W/D4/75	MSR575/SA/2/DE
CSR575/SS/DE/75	-	-
CSR700/S/DE/60	HTI700W/D4/60	-
CSR700/S/DE/72	HTI700W/D4/75	MSR700/SA/2/DE
CSR1200/S/DE/60	HTI1200W/D7/60	MSR1200/SA/DE
CSR1200/S/DE/72	HTI1200W/D7/75	MSR1200/SA/2/DE
CSR1200/S/DE/60/STB	-	-
CSR200/DE	HMI1200W/GS	MSI1200
CSR1500/S/DE/60/STB	HTI1500 D7/60	-
CSR2500/DE	HMI2500W/GS	MSI2500
CSR4000/DE	HMI4000W/GS	MSI4000
CSR6000/DE	HMI6000W	MSI6000
CSR12000/DE	HMI12000W/GS	MSI12000
CSR18000/DE	HMI18000W	-
CSR24000/DE	HMI24000W/DXS	-

# Specialty Lighting



	Blacklight Blue	103
	UVA & UVC Germicidal	103
	covRguard	104
	Aquarium	105
	Quarts Heat	106
	Airfield Lighting	106



# Specialty Lamps

GE has a wide range of lamps for a variety of special applications. These applications include:

## Fly and insect control

- Special Phosphor – Black Light (BL)
- UVA 315-400nm
- Lamps to attract fly and insects
- Effect UV irradiance over life
- For use in fly traps
- Common use in food production areas

## Inspection and effect

- Special Phosphor – Black Light Blue (BLB)
- UVA lamps with special Blue cobalt glass
- Used where fine detail or trace evidence is examined
- Create glow effect for club and event lighting

## Bacterial destruction

- UVC 200-280 nm
- For water, air and surface sterilisation
- Destroys micro-organisms via absorption of UV light

## Shatter protection

- Lamp encased in high quality plastic sleeve
- Used where avoidance of glass contamination is critical

## Aquarium

- Various colours and UV outputs
- Promotes coral, invertebrate and plant growth
- For use with tropical fish and reptiles

## Space and industrial heating

- Turning light to heat
- Directional instant radiant heat
- Heats objects and people not the air between
- Ideal for space heating outside bars and restaurants
- Many industrial applications from paint drying to plastic bottle making

## Airfield

- Range of lamps for use on airfields
- Runway and taxiway lighting





# GE UV Lamps

## UVC Germicidal, UVA Blacklight, Blacklight Blue

GE provides the very best in product innovation, reliability, and quality. As one of the largest lamp manufacturers in the world, we offer customers our extensive knowledge and a comprehensive portfolio of UV lamps.



### UVC Germicidal Water, air, and surface sterilisation

As our society demands a cleaner environment to live and work in, GE provides a safer and more efficient sterilisation technique. UVC Germicidal lamps' special glass transmits a spectral band of UV light effective for sterilisation. The UVC wavelength of 254 nm is proven to destroy air-borne bacteria, viruses, and mold spores by preventing DNA replication, effective even if the organism has become immune to other disinfection methods.

### Blacklight & Blacklight Blue

Blacklight lamps consist of a regular fluorescent tube with a special phosphor coating to emit in the UVA range.

These phosphors contain rare earth components that enable the lamp to last over a complete insect season. Blacklight Blue lamps are made of cobalt blue glass which absorbs most visible light.



#### Application areas

- Sterilisation
- Insect traps
- Night clubs and events
- Diazo copy machines
- Marine/aquarium
- Film making

#### Application areas

- Healthcare
- HVAC Systems in commercial buildings
- Food processing
- Scientific labs
- Industrial, municipal, and residential water and pond treatment
- Biotech industry

#### Application areas

- Special effects in night clubs and events
- Insect traps
- Inspection and authentication
- Food processing plants
- Supermarkets/butchers/bakeries
- Restaurants

# Specialty Lamps

## Product identification

The following glossary of terms will help you when selecting lamps in this section. Within each product line, lamps are divided into families – within these families, lamps are listed by wattage. The Product Description can be used as a quick reference to each product's attributes. Where Life or Average Life are stated we refer to the industry standard definition of how many hours of operation 50% of a given installation will exceed.

### Additional parameters:

**UV Output [Watts]:** The initial UV Output at 100 hours  
**Initial UVA Irradiance [mW/cm<sup>2</sup> @ 20cm]:** UV Output at 1 m after 100 hours

**Lumens:** Initial amount of light output

**CCT [K]:** Colour Temperature - Kelvins  
 A measure of the visual "warmth" or "coolness" of the light from the lamp. The higher the value the whiter or "cooler" the light appears.

**CRI [Ra]:** Colour Rendering Index

An indication of the ability of the lamp to render object colours in a normal, natural way. The higher the number (0-100), the better the colour appearance.

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Peak Wavelength [nm]	Life [h]	Length [mm]	Pack Qty
<b>Blacklight Blue T5</b>								
39882	F4W/BLB	4	29	G5	368	5,000	150	25
39883	F6W/BLB	6	42	G5	368	5,000	225	25
39884	F8W/BLB	8	57	G5	368	5,000	300	25

**Product description:**  
The lamp's identification code

**Watts:**  
Energy Used – Nominal Watts. To estimate energy consumption (kWh), multiply watts x hours of use and divide by 1000

**Cap:**  
The type of cap fitted. See page 134-135 for cap drawings

**Length:**  
Lamp length in mm

**Peak Wavelength [nm]**

**F4W / BLB**

(F) Identifies the lamp as Fluorescent

(4W)

Identifies the lamp's wattage

(BLB)

Identifies product type

**Volts:**

Lamp data is based on operating voltage

**Life:**

Rated average life

**Pack quantity:**

Number of product units packed in a case

**Product code:**  
It is important to use this code when ordering to ensure that you receive the exact product you require

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Peak Wavelength [nm]	Life [h]	Length [mm]	Pack Qty
<b>Blacklight Blue T5</b>								
39882	F4W/T5/BLB	4	29	G5	368	5,000	150	25
39883	F6W/T5/BLB	6	42	G5	368	5,000	225	25
39884	F8W/T5/BLB	8	57	G5	368	5,000	300	25



<b>Blacklight Blue T8</b>								
88832	F18/T8/BLB	18	57	G13	368	12,000	600	25
88833	F36/T8/BLB	36	103	G13	368	12,000	1,200	25



<b>Blacklight Blue T12</b>								
34747	F20W/T12/BLB	20	57	G13	368	9,000	600	6
25618	F40W/T12/BLB	40	101	G13	368	20,000	1200	6



<b>Black Light T8</b>								
16941	F15WBL 350	15	55	G13	350	7,500	450	25



<b>covGuard Blacklight</b>								
72939	F15WBLCVG	15	55	G13	368	7,500	450	6

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Initial UVA Irradiance1 [mW/cm2 @ 20cm]	Peak Wavelength [nm]	Life [h]	Length [mm]	Pack Qty
<b>UVA Blacklight Biax - Internal Starter</b>									
42935	F9BX BL G23	9	60	G23	440	368	440	167	10
42936	F11BX BL G23	11	91	G23	670	368	670	237	10
42937	F13BX BL GX23	13.4	58	GX23	630	368	630	177.5	10



<b>UVA Blacklight Biax L - External Starter</b>									
42939	F24BX BL 2G11	24	87	2G11	980	368	980	326.8	10
42940	F36BX BL 2G11	36	107	2G11	1280	368	1,280	421.8	10
42941	F55BX BL 2G11	55	101	2G11	1630	368	1,630	541.8	10



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	UV Output [Watts]	Peak Wavelength [nm]	Life [h]	Length [mm]	Pack Qty
<b>Germicidal T5</b>									
15872	G4T5	4	29	Miniature Bi-pin	0.8	254	6,000	150	24
15873	G6T5	6	42	Miniature Bi-pin	1.7	254	6,000	226	24
11077	G8T5	8	57	Miniature Bi-pin	2.3	254	8,000	302	24
29495	G11T5	11	37	Miniature Bi-pin	2.2	254	8,000	226	24
16494	G16T5	16	50	Miniature Bi-pin	3.2	254	8,000	302	24
15874	G36T5	39	107	Single-pin (Fa8)	12	254	9,000	865	24
15864	G64T5	65	180	Single-pin (Fa8)	18	254	7,500	1575	24
29504	G64T5/4P/SE	65	250	Single 4 pin end cap	25	NA	8,000	1556	24



# Specialty Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	UV Output [Watts]	Life [h]	Length [mm]	Pack Qty
<b>Germicidal T8</b>								
11078	G15T8	15	55	G13 Medium Bi-pin	4.8	8,000	451	24
11082	G25T8	25	46	G13 Medium Bi-pin	6.9	8,000	451	24
11080	G30T8	30	90	G13 Medium Bi-pin	12.4	8,000	908	24
15875	G55T8HO	55	83	G13 Medium Bi-pin	18	8,000	908	24



<b>Germicidal T4 Biax</b>								
40695	GBX5/UVC G23	5	35	G23 2-pin	1.0	8,000	85	10
40696	GBX9/UVC G23	9	59	G23 2-pin	2.4	8,000	145	10
40700	GBX11/UVC G23	11	89	G23 2-pin	3.6	8,000	215	10



<b>Germicidal T6 Biax</b>								
40703	GBX13/UVC GX23	13	59	GX23 2-pin	3.6	8,000	170	10
40704	GBX18/UVC/2G11	18	58	2G11 4-pin	5.3	8,000	225	10
40705	GBX36/UVC/2G11	36	106	2G114-pin	12	8,000	415	10
40706	GBX55/UVC/2G11	55	101	2G114-pin	16.5	8,000	535	10

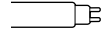


<b>covGuard Germicidal</b>								
72761	G15T8/CVG	15	55	G13 Medium Bi-pin	4.8	8,000	451	24
72762	G25T8/CVG	25	46	G13 Medium Bi-pin	6.9	8,000	451	24
72763	G30T8/CVG	30	90	G13 Medium Bi-pin	12.4	8,000	908	24
72764	G55T8/CVG	55	83	G13 Medium Bi-pin	18	8,000	908	24

Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Length [mm]	Pack Qty
<b>T8 covGuard Polyflux XLr</b>									
17203	F18W/830CVG	18	G13	1300	2950	85	15,000	600	25
17204	F18W/835CVG	18	G13	1300	3400	85	15,000	600	25
17205	F18W/840CVG	18	G13	1300	4000	85	15,000	600	25
17208	F36W/830CVG	36	G13	3250	2950	85	15,000	1200	25
17202	F36W/835CVG	36	G13	3250	3400	85	15,000	1200	25
17209	F36W/840CVG	36	G13	3250	4000	85	15,000	1200	25
12403	F58W/830CVG	58	G13	5050	2950	85	15,000	1500	25
12405	F58W/835CVG	58	G13	5050	3400	85	15,000	1500	25
12407	F58W/840CVG	58	G13	5050	4000	85	15,000	1500	25
12423	F70W/835CVG	70	G13	6100	3400	85	15,000	1800	25
12424	F70W/840CVG	70	G13	6100	4000	85	15,000	1800	25



Product Code	Product Description	Wattage [W]	Cap	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Length [mm]	Pack Qty	
<b>T5 covGuard Starcoat High Output (HO)</b>										
71000	F24W/T5/830/ECO/CVG	24	G5	1950	3000	85	30,000	549	40	
70998	F24W/T5/835/ECO/CVG	24	G5	1950	3500	85	30,000	549	40	
70997	F24W/T5/841/ECO/CVG	24	G5	1950	4100	85	30,000	549	40	
70999	F24W/T5/850/ECO/CVG	24	G5	1850	5000	85	30,000	549	40	
70996	F24W/T5/865/ECO/CVG	24	G5	1800	6500	85	30,000	549	40	
70995	F39W/T5/830/ECO/CVG	39	G5	3400	3000	85	30,000	849	40	
70994	F39W/T5/835/ECO/CVG	39	G5	3400	3500	85	30,000	849	40	
70993	F39W/T5/841/ECO/CVG	39	G5	3400	4100	85	30,000	849	40	
70991	F39W/T5/850/ECO/CVG	39	G5	3250	5000	85	30,000	849	40	
70990	F39W/T5/865/ECO/CVG	39	G5	3200	6500	85	30,000	849	40	
48433	F54T5/830/HO/ECO/CVG	54	G5	4560	3000	85	30,000	1149	40	
48436	F54T5/835/HO/ECO/CVG	54	G5	4560	3500	85	30,000	1149	40	
48458	F54T5/841/HO/ECO/CVG	54	G5	4560	4100	85	30,000	1149	40	
80311	F54T5/850/HO/ECO/CVG	54	G5	4465	5000	85	30,000	1149	40	
48469	F54T5/865/HO/ECO/CVG	54	G5	4465	6500	85	30,000	1149	40	



<b>T5 Watt-Miser covGuard</b>										
72985	F54T5/830//ECO/WM/CVG	54	G5	4330	3000	85	25,000	1149	40	
72986	F54T5/835//ECO/WM/CVG	54	G5	4330	3500	85	25,000	1149	40	
72987	F54T5/841//ECO/WM/CVG	54	G5	4330	4100	85	25,000	1149	40	
72988	F54T5/850//ECO/WM/CVG	54	G5	4120	5000	85	25,000	1149	40	
72989	F54T5/865//ECO/WM/CVG	54	G5	3980	6500	85	25,000	1149	40	



Product Code	Product Description	Wattage [W]	Cap	Additional Information	Lumen [lm]	CCT [K]	CRI [Ra]	Life [h]	Length [mm]	Pack Qty
<b>T8 Aquarium and Reptile*</b>										
44212	F15T8 F&SA	15	G13	Fresh & Salt Aqua	700	10000	60	9,000	450	6
16987 /44230	F15T8 SW	15	G13	Salt Water	210	-	-	7,500	450	10/6
44239	F15T8 REP	15	G13	Reptile	400	6400	82	7,500	450	6
44213	F18T8 F&SA	18	G13	Fresh & Salt Aqua	950	10000	60	10,000	450	6
44231	F18T8 SW	18	G13	Salt Water	430	-	-	9,000	600	6
44240	F18T8 REP	18	G13	Reptile	550	6400	82	7,500	600	6
16968	F25T8 F&SA	25	G13	Fresh & Salt Aqua	1350	10000	60	15,000	760	10
16991	F25T8 SW	25	G13	Salt Water	430	-	-	7,500	762	10
16969 /44218	F30T8 F&SA	30	G13	Fresh & Salt Aqua	1700	10000	60	15,000	910	10/6
16992 /44235	F30T8 SW	30	G13	Salt Water	540	-	-	7,500	910	10/6
44241	F30T8 REP	30	G13	Reptile	1100	6400	82	7,500	910	6
16970 /44219	F36T8 F&SA	36	G13	Fresh & Salt Aqua	2350	10000	60	15,000	1200	10/6
16995 /44236	F36T8 SW	36	G13	Salt Water	700	-	-	7,500	1200	10/6
44242	F36T8 REP	36	G13	Reptile	1250	6400	82	7,500	1200	6
44220	F38T8 F&SA	38	G13	Fresh & Salt Aqua	2200	10000	60	15,000	1060	6
16984	F38T8 FA	38	G13	Fresh Aqua	1320	5000	70	7,500	1060	10
16999	F38T8 SW	38	G13	Salt Water	650	-	-	7,500	1060	10



\*This range is in transition from a 10 pack to a 6 pack.

# Specialty Lamps

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	CCT [K]	Life [h]	Length [mm]	Pack Qty
<b>Quartz Heat</b>								
21788	QH500T3/CL	500	120	Slv	2400	5,000	223.8	12
21787	QH500T3/CL/7	500	120	R7S	2400	5,000	220.5	12
22355	QH1000T3/CL	1000	200-220	Slv	2400	5,000	351	12
22357	QH1000T3/CL	1000	230-250	Slv	2400	5,000	351	12
21377	QH1MT3/CL/R/MS-235V	1000	235	Slv	2500	5,000	483	12
22357	QH1000T3/CL	1000	230-250	Slv	2400	5,000	351	12
22531	QH1200T3/CL	1200	144	Slv	2450	5,000	223.8	12
22532	QH1200T3/CL/HT	1200	144	Slv	2450	5,000	223.8	12
22691	QH1600T3/CL/7	1600	230-250	R7S	2400	5,000	498.4	12
22688	QH1600T3/CL	1600	230-250	Slv	2400	5,000	503	12
22789	QH2M/T3/1CL/HT	2000	230	Slv	2450	5,000	303	12
15551	QH2M/T3/1CL/HT/VB	2000	230-250	Slv	2450	5,000	303	12
18668	QH2MT3/CL/VB	2000	220-250	Slv	2450	5,000	350.5	12
22790	QH2M/T3/CL/HT	2000	230-250	Slv	2450	5,000	350.8	12
12716	QH2MT3/CL/HT/R	2000	230-250	CER	2450	5,000	352.5	12
22838	QH2500T3/CL	2500	460-500	Slv	2400	5,000	731	12
10872	QH3650/CL/5	3650	480	Slv	2500	5,000	1057	6
22875	QH3800/CL	3800	550-600	Slv	2500	5,000	1062	6
22900	QH5M/T3/1CL/HT	5000	575-625	Slv	2500	5,000	731.8	12



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	CCT [K]	Life [h]	Length [mm]	Pack Qty
<b>Jacketed Quartz Heat</b>								
20092	HH 451 1500W RUBY 230-240V	1500	230-240	Special	2450	5,000	348	10
20093	HH 804 2000W RUBY 230-240V	2000	230-240	Special	2450	5,000	348	10



Product Code	Product Description	Wattage [W]	Volts [V]	Cap	CCT [K]	Life [h]	Length [mm]	Pack Qty
<b>Infrared Quartz Heat – Ruby Slim</b>								
40723	QH 750W 230-240V Ruby Slim	750	230-240	RX7s	2450	5000	202.8	10
42740	QH 1300W 230-240V Ruby Slim	1300	230-240	RX7s	2450	5000	254	10

Product Code	Product Description	Wattage [W]	Volts [V]	Cap	Lumen [lm]	Life [h]	Length [mm]	Pack Qty
<b>Airfield Lighting</b>								
11478	EXL	30	6.6A	Gz9.5 2 Pin	375	1000	44.5	24
11482	EXM	45	6.6A	Gz9.5 2 Pin	750	1000	44.5	24
80583	Q6.6A45PK30d male	45	6.6A	PK30d	800	1000	13.5	10
88420	AF6/2 6.6A 45W	45	6.6A	Mycalex cap & Prefocus collar	760	600	54	100
32917	Q65T2 1/2/1/CL	65	6.6A	Special	1200	1000		200
88417	AF 6/5T 6.6A 100W	100	6.6A	Mycalex cap & Prefocus collar	2100	600	60	100
80584	Q6.6A100PK30d male	100	6.6A	PK30d	2700	1000	13.5	10
80588	Q6.6A100PK30d female	100	6.6A	PK30d	2700	1000	13.5	10
80585	Q6.6A150PK30d male	150	6.6A	PK30d	3600	1000	13.5	10
80589	Q6.6A150PK30d female	150	6.6A	PK30d	3600	1000	13.5	10
80586	Q6.6A200PK30d male	200	6.6A	PK30d	4800	1000	13.5	10
80590	Q6.6A200PK30d female	200	6.6A	PK30d	4800	1000	13.5	10
23857	Q6.6A/T4/5CL	200	6.6A	Special 1" Ribbon Leads	5000	500	76	12
23860	Q6.6AT4/DCR	200	6.6A	D.C. Bay	5150	500	64	12
33279	Q6.6A/PAR56/3	200	6.6A	Scrw Term	NA	1000	114	12
88413	AF7/2 6.6A 200W	200	6.6A	Mycalex cap & Prefocus collar	4800	600	54	100
15482	Q20A/PAR56/C	300	20A	Mog End Pr GX16d	NA	500	127	12
23863	Q20A/PAR56/3	499	20A	Scrw Term	NA	500	114	12
88525	IM T20BP	1000	120	G38 Mog BiPost	22000	500	241	12
88523	1200T20	1200	115	G38 Mog BiPost	29600	750	241	12

# Ballast



## 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

- 1.1 HID Electromagnetic Ballast
  - 1.1.1 HID Electromagnetic Ballast (with thermal protector) 109
  - 1.1.2 HID Electromagnetic Ballast (without thermal protector) 113
  - 1.1.3 CSI Electromagnetic Ballast 117
  - 1.1.4 HID Electromagnetic Ballast (AI Line) 118

### 1.2 HID Capacitor

- 1.2.1 Capacitor with line 120
- 1.2.2 Capacitor with clamp 120

### 1.3 Ignitor 121

## 2. Bi-Level for HPS Electromagnetic System 122

## 3. CWA Electromagnetic Ballast & Control Gear for HID Lamp

- 3.1 CWA Electromagnetic Ballast 124
- 3.2 CWA Capacitor 126
  - 3.2.1 Capacitor with line 126
  - 3.2.2 Capacitor with clamp 126

## 4. Electronic Ballast for HID Lamp

- 4.1 Miniature eHID 127
- 4.2 Standard eHID 128
- 4.3 Economics eHID 129

## 5. IElectronic Ballast for T5 LFL

- 5.1 High Performance T5 Electronic Ballast 130
- 5.2 Economic Electronic T5 Ballast 131

## 6. Ballast for T8/T10 LFL

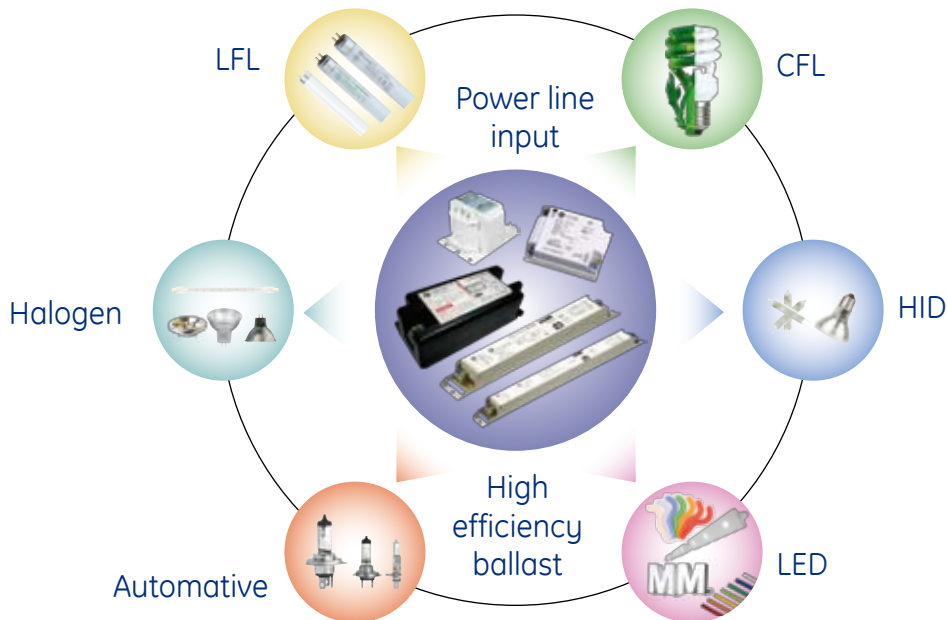
- 6.1 High Performance T8/T10 Electronic Ballast 132
- 6.2 Economic Electronic T8/T10 Ballast 133
- 6.3 High Performance T8/T10 Electromagnetic Ballast 134
- 6.4 Standard Performance T8/T10 Electromagnetic Ballast 135
- 6.5 Starter 136

## 7. Ballast for Plug-in CFL

- 7.1 Plug-in CFL Electromagnetic Ballast 137
- 7.2 Plug-in CFL Electronic Ballast 138

## 8. 12V Electronic Transformer 139

# Who needs a ballast?



## Product Identification

### Product code:

It is important to use this code when ordering to ensure that you receive the exact product you require

**Cosφ≥0.9:**  
working with capacitor, the power factor (Cosφ)≥0.9  
Circuit Current:  
The ballast's input current

### Temp Rise:

The potential allowable maximum temperature rise under normal operation condition or rated voltage or maximum value of rated voltage range

**Wiring Diagram:**  
The ballast's wiring diagram

Product Code	Description	Lamp current (A)	Start Current (A)	Circuit Current(A)	Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)	Wiring Diagram
70981C	MSB35/220V/50Hz/T	0.53	0.30	0.23	6	8.0	45	MSI/400	70	130	A
70982C	MSB50/220V/50Hz/T	0.76	0.39	0.30	8	12	60	MSI/400	70	130	A

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
70981C	MSB35/220V/50Hz/T	220V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.4	255*150*170
70982C	MSB50/220V/50Hz/T	220V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.5	255*150*170

Voltage/Frequency:	Lamp Type:	Dimensions:	Carton Weight:
The ballast's Rated input voltage and frequency	The ballast's matching lamp type	Ballast dimensions in mm	Gross weight of one carton

Lamp Wattage:	Carton Quantity:	Package Size:
The rated wattage of ballast's matching lamp	Number of product units packed in a case	Dimension of carton in mm



# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 1.1 HID Electromagnetic Ballast

### 1.1.1 HID Electromagnetic Ballast (with thermal protector)

#### Features:

- Full voltage range offering for Asia countries
- MSB for IEC HPS/MH lamp use
- MHB for IEC HPM/MH lamp use
- Long life, high reliability, Tw 130°C
- With thermal protection to prevent overheat of ballast at the end of lamp life
- Low loss, low temperature rise, superior silicon steel sheet, 180°C copper wire
- Compact size, suitable for various fixture design, easy installation
- PF>0.9 with capacitor (working with standard lamp)



#### Applications:

- Roadway, Tunnel
- Factory, Warehouse
- Architect flood lighting, Sports
- Department store, High Bay

#### Certifications & Regulations:

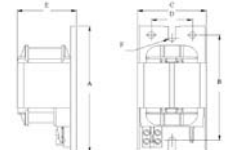
- CCC, CB
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-9, IEC 61347-1

#### 220V/50Hz

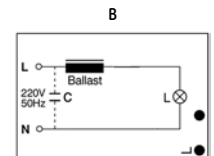
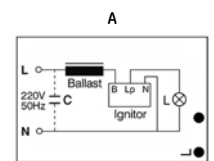


Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)	Wiring Diagram
				Circuit Current(A)	Capacitor (μF)						
70981C	MSB35/220V/50Hz/T	0.53	0.30	0.23	6	8.0	45	MSI/400	70	130	A
70982C	MSB50/220V/50Hz/T	0.76	0.39	0.30	8	12	60	MSI/400	70	130	A
70983C	MSB70/220V/50Hz/T	0.98	0.56	0.43	12	14	86	MSI/400	70	130	A
70986C	MSB100/220V/50Hz/T	1.20	0.78	0.58	12	17	114	MSI/400	70	130	A
70987C	MSB150/220V/50Hz/T	1.80	1.12	0.86	20	21	170	MSI/400	70	130	A
70988C	MSB250/220V/50Hz/T	3.00	1.82	1.40	32	35	277	MSI/400	70	130	A
70989C	MSB400/220V/50Hz/T	4.60	3.08	2.20	50	54	435	MSI/400	70	130	A
70991C	MSB600/220V/50Hz/T	6.20	4.58	3.27	60	65	647	MSI/1000	80	130	A
70992C	MSB1000/220V/50Hz/T	10.30	6.46	5.38	100	98	1065	MSI/1000	80	130	A
25816C	MHB80/220V/50Hz/T	0.80	0.70	0.45	8	11	90	N/A	70	130	B
25817C	MHB125/220V/50Hz/T	1.15	1.10	0.71	10	18	140	N/A	70	130	B
25818C	MHB250/220V/50Hz/T	2.15/2.10	2.12	1.37	20	21	272	N/A for HPM	70	130	B
		2.15/2.10	2.12	1.37	20	21	272	MSI/400 for MH	70	130	A
70990C	MHB400/220V/50Hz/T	3.25	3.35	2.16	28	31	428	N/A for HPM	70	130	B
		3.25	3.35	2.16	28	31	428	MSI/400 for MH	70	130	A

Dimension (mm)



Wiring Diagram

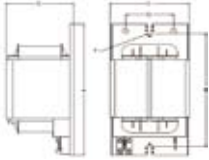


Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
70981C	MSB35/220V/50Hz/T	220V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.4	255*150*170
70982C	MSB50/220V/50Hz/T	220V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.5	255*150*170
70983C	MSB70/220V/50Hz/T	220V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9.0	255*150*170
70986C	MSB100/220V/50Hz/T	220V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.4	255*150*170
70987C	MSB150/220V/50Hz/T	220V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
70988C	MSB250/220V/50Hz/T	220V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.5	260*175*170
70989C	MSB400/220V/50Hz/T	220V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.5	210*190*198
70991C	MSB600/220V/50Hz/T	220V/50Hz	HPS	600W	165	143	96	61	82	R3	4	18.5	210*190*198
70992C	MSB1000/220V/50Hz/T	220V/50Hz	HPS/MH	1000W	200	178	114	81	97	R3	2	18.0	260*220*115
25816C	MHB80/220V/50Hz/T	220V/50Hz	HPM	80W	108	86	60	36	52	R3	8	9.4	255*150*170
25817C	MHB125/220V/50Hz/T	220V/50Hz	HPM	125W	117	86	60	36	52	R3	8	10.9	255*150*170
25818C	MHB250/220V/50Hz/T	220V/50Hz	HPM/MH	250W	126	104	75	45	64	R3	6	12.0	255*150*170
70990C	MHB400/220V/50Hz/T	220V/50Hz	HPM/MH	400W	150	104	75	45	64	R3	6	17.0	260*175*170

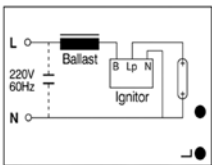
# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 220V/60Hz

Dimension (mm)



Wiring Diagram

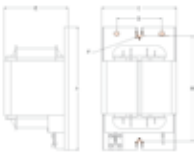


Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)
			Start Current (A)	Circuit Current(A)	Capacitor (μF)					
78671	MSB35/220V/60Hz/T	0.53	0.30	0.23	6	8	45	MSI/400	70	170
28810	MSB70/220V/60Hz/T	0.98	0.60	0.43	12	14	86	MSI/400	70	130
78672	MSB100/220V/60Hz/T	1.20	0.87	0.58	12	17	114	MSI/400	70	170
28812	MSB150/220V/60Hz/T	1.80	1.12	0.86	20	21	170	MSI/400	70	130
28814	MSB250/220V/60Hz/T	3.00	1.88	1.39	32	35	276	MSI/400	70	130
78673	MSB400/220V/60Hz/T	4.60	2.97	2.20	50	54	436	MSI/400	70	170
99720	MSB1000/220V/60Hz/T	10.30	6.73	5.38	100	98	1065	MSI/1000	80	130

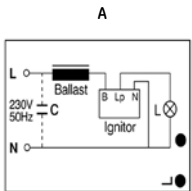
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
78671	MSB35/220V/60Hz/T	220V/60Hz	MH	35W	108	86	60	36	52	R3	8	7	255*150*170
28810	MSB70/220V/60Hz/T	220V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	8.6	255*150*170
78672	MSB100/220V/60Hz/T	220V/60Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.8	255*150*170
28812	MSB150/220V/60Hz/T	220V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
28814	MSB250/220V/60Hz/T	220V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	15.6	260*175*170
78673	MSB400/220V/60Hz/T	220V/60Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17	210*190*198
99720	MSB1000/220V/60Hz/T	220V/60Hz	HPS/MH	1000W	200	178	114	81	97	R3	2	17.6	260*220*115

## 230V/50Hz

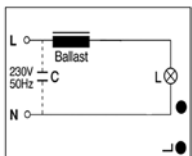
Dimension (mm)



Wiring Diagram



A



B

Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)	Wiring Diagram
			Start Current (A)	Circuit Current(A)	Capacitor (μF)						
28789	MSB35/230V/50Hz/T	0.53	0.28	0.23	6	9	45	MSI/400	70	130	A
95859T	MSB50/230V/50Hz/T	0.76	0.41	0.30	8	13	60	MSI/400	70	130	A
28790	MSB70/230V/50Hz/T	0.98	0.58	0.43	12	15	86	MSI/400	70	130	A
28796	MSB100/230V/50Hz/T	1.2	0.78	0.58	12	18	114	MSI/400	70	130	A
28797	MSB150/230V/50Hz/T	1.8	1.08	0.86	20	22	170	MSI/400	70	130	A
28798	MSB250/230V/50Hz/T	3	1.82	1.40	32	37	278	MSI/400	70	130	A
95864C	MSB400/230V/50Hz/T	4.6	2.97	2.20	50	45	436	MSI/400	70	130	A
95866T	MSB600/230V/50Hz/T	6.2	4.40	3.26	60	69	645	MSI/1000	80	130	A
99721	MSB1000/230V/50Hz/T	10.3	6.46	5.38	100	104	1065	MSI/1000 for HPS	80	130	A
		9.5	6.46	5.38	100	104	1065	MSI/1000 for MH	80	130	A
25819T	MHB80/230V/50Hz/T	0.8	0.68	0.45	8	12	90	N/A	70	130	B
25822T	MHB125/230V/50Hz/T	1.15	1.07	0.71	10	19	140	N/A	70	130	B
25823T	MHB250/230V/50Hz/T	2.15	2.04	1.36	20	23	270	N/A for HPM	70	130	B
		2.1	2.04	1.36	20	23	270	MSI/400 for MH	70	130	A
95865C	MHB400/230V/50Hz/T	3.25	3.24	2.16	25	33	428	N/A for HPM	70	130	B
		3.25	3.24	2.16	25	33	428	MSI/400 for MH	70	130	A

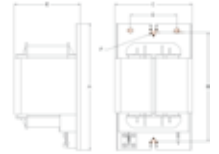
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
28789	MSB35/230V/50Hz/T	230V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.5	250*150*170
95859T	MSB50/230V/50Hz/T	230V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.7	250*150*170
28790	MSB70/230V/50Hz/T	230V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9.0	250*150*170
28796	MSB100/230V/50Hz/T	230V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.7	250*150*170
28797	MSB150/230V/50Hz/T	230V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11	250*150*170
28798	MSB250/230V/50Hz/T	230V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.8	260*175*170
95864C	MSB400/230V/50Hz/T	230V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.5	210*190*198
95866T	MSB600/230V/50Hz/T	230V/50Hz	HPS	600W	165	143	96	61	82	R3	4	18.5	210*190*198
99721	MSB1000/230V/50Hz/T	230V/50Hz	HPS/MH	1000W	200	178	114	81	97	R3	2	19.3	260*220*115
25819T	MHB80/230V/50Hz/T	230V/50Hz	HPM	80W	108	86	60	36	52	R3	8	9	255*150*170
25822T	MHB125/230V/50Hz/T	230V/50Hz	HPM	125W	117	86	60	36	52	R3	8	10.9	255*150*170
25823T	MHB250/230V/50Hz/T	230V/50Hz	HPM/MH	250W	126	104	75	45	64	R3	6	13.2	255*150*170
95865C	MHB400/230V/50Hz/T	230V/50Hz	HPM/MH	400W	155	133	75	45	64	R3	6	19.2	260*175*170

### 230V/60Hz

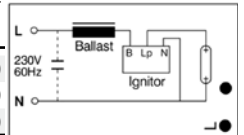
Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)
			Start Current (A)	Circuit Current(A)	Capacitor (μF)					
28815	MSB70/230V/60Hz/T	0.98	0.57	0.42	12	15	86	MSI/400	70	130
28817	MSB150/230V/60Hz/T	1.80	1.11	0.82	20	22	170	MSI/400	70	130
28818	MSB250/230V/60Hz/T	3.00	1.88	1.34	32	37	278	MSI/400	70	130

Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
28815	MSB70/230V/60Hz/T	230V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9	255*150*170
28817	MSB150/230V/60Hz/T	230V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
28818	MSB250/230V/60Hz/T	230V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	15.8	260*175*170

Dimension (mm)



Wiring Diagram



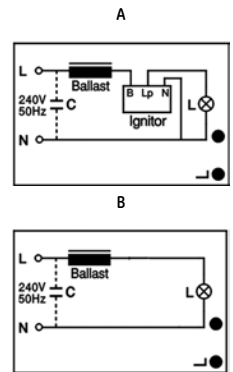
### 240V/50Hz

Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)	Wiring Diagram
			Start Current (A)	Circuit Current(A)	Capacitor (μF)						
28800	MSB35/240V/50Hz/T	0.53	0.28	0.21	6	10	45	MSI/400	70	130	A
28801	MSB70/240V/50Hz/T	0.98	0.56	0.40	12	16	86	MSI/400	70	130	A
28807	MSB100/240V/50Hz/T	1.20	0.77	0.53	12	19	114	MSI/400	70	130	A
28808	MSB150/240V/50Hz/T	1.80	1.03	0.79	20	23	171	MSI/400	70	130	A
28809	MSB250/240V/50Hz/T	3.00	1.68	1.29	32	39	278	MSI/400	70	130	A
95874C	MSB400/240V/50Hz/T	4.60	2.83	2.02	50	60	436	MSI/400	70	130	A
99722	MSB1000/240V/50Hz/T	10.30	6.16	4.93	100	111	1065	MSI/400	80	130	A
95875C	MHB400/240V/50Hz/T	3.25	3.17	1.98	25	36	428	N/A for HPM	70	130	B
		3.25	3.17	1.98	25	36	428	MSI/400 for MH	70	130	A

Dimension (mm)



Wiring Diagram

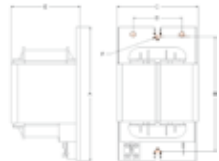


Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
28800	MSB35/240V/50Hz/T	240V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.5	255*150*170
28801	MSB70/240V/50Hz/T	240V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9.4	255*150*170
28807	MSB100/240V/50Hz/T	240V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.8	255*150*170
28808	MSB150/240V/50Hz/T	240V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
28809	MSB250/240V/50Hz/T	240V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	18.3	260*175*170
95874C	MSB400/240V/50Hz/T	240V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.7	210*190*198
99722	MSB1000/240V/50Hz/T	240V/50Hz	HPS/MH	1000W	220	198	114	81	97	R3	2	21.4	260*240*115
95875C	MHB400/240V/50Hz/T	240V/50Hz	HPM/MH	400W	160	138	75	45	64	R3	6	19.2	260*175*170

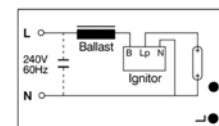
### 240V/60Hz

Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)
			Start Current (A)	Circuit Current(A)	Capacitor (μF)					
28819	MSB70/240V/60Hz/T	0.98	0.52	0.40	12	16	86	MSI/400	70	130
28821	MSB150/240V/60Hz/T	1.80	1.08	0.80	20	23	173	MSI/400	70	130
28823	MSB250/240V/60Hz/T	3.00	1.68	1.29	32	39	278	MSI/400	70	130

Dimension (mm)



Wiring Diagram



Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
28819	MSB70/240V/60Hz/T	240V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	8.7	255*150*170
28821	MSB150/240V/60Hz/T	240V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	10.9	255*150*170
28823	MSB250/240V/60Hz/T	240V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.3	260*175*170

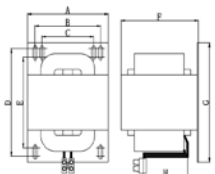
# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

Dimension (mm)

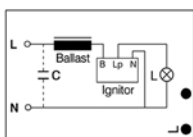
A



B



Wiring Diagram



(others)

CB

Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)
				Circuit Current(A)	Capacitor (μF)					
99719	MHB2000/380V/50Hz/T	11.3	8.49	6.29	60	164	2150	MSI/2000	85	130
99723	MHB2000/380V/60Hz/T	11.3	7.98	6.14	60	164	2100	MSI/2000	85	130
99724	MHB2000/400V/50Hz/T	11.3	8.75	5.83	60	164	2100	MSI/2000	80	130
99725	MHB2000/415V/50Hz/T	11.3	8.43	5.62	60	185	2100	MSI/2000	80	130

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Picture	Dimensions (mm)								Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
						A	B	C	D	E	F	G	H			
99719	MHB2000/380V/50Hz/T	380V/50Hz	SPL	2000W	A	235	213	127	94	112	R3	-	-	1	15.7	255*150*135
99723	MHB2000/380V/60Hz/T	380V/60Hz	SPL	2000W	A	235	213	127	94	112	R3	-	-	1	15.8	255*150*135
99724	MHB2000/400V/50Hz/T	400V/50Hz	SPL	2000W	B	153	125	98	176	148	147	195	R4	1	17.5	260*175*170
99725	MHB2000/415V/50Hz/T	415V/50Hz	SPL	2000W	B	153	125	98	176	148	147	195	R4	1	18.9	260*175*170

## 1.1.2 HID Electromagnetic Ballast (without thermal protector)

### Features:

- Full voltage range offering for Asia countries
- MSB for IEC HPS/MH lamp use
- MHB for IEC HPM/MH lamp use
- Long life, high reliability, Tw 130°C
- Low loss, low temperature rise, superior silicon steel sheet, 180°C copper wire
- Compact size, suitable for various fixture design, easy installation
- PF>0.9 with capacitor (working with standard lamp)

### Applications:

- Roadway, Tunnel
- Factory, Warehouse
- Architect flood lighting, Sports
- Department store, High Bay

### Certifications & Regulations:

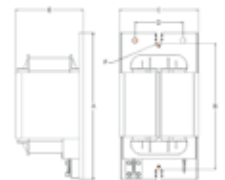
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-9, IEC 61347-1

### 220V/50Hz

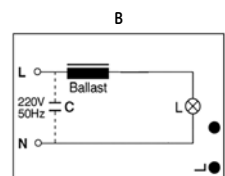
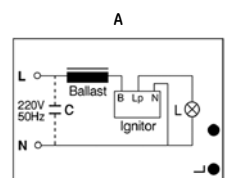
Product Code	Description	Lamp current (A)	Cos $\phi$ ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram	
			Start Current (A)	Circuit Current(A)						Capacitor (μF)
70981	MSB35/220V/50Hz	0.53	0.30	0.23	6	8	45	MSI/400	70	A
70982	MSB50/220V/50Hz	0.76	0.39	0.30	8	12	60	MSI/400	70	A
70983	MSB70/220V/50Hz	0.98	0.56	0.43	12	14	86	MSI/400	70	A
70986	MSB100/220V/50Hz	1.2	0.78	0.58	12	17	114	MSI/400	70	A
70987	MSB150/220V/50Hz	1.8	1.12	0.86	20	21	170	MSI/400	70	A
70988	MSB250/220V/50Hz	3	1.82	1.40	32	35	277	MSI/400	70	A
70989	MSB400/220V/50Hz	4.6	3.08	2.20	50	54	435	MSI/400	70	A
70991	MSB600/220V/50Hz	6.2	4.58	3.27	60	65	647	MSI/1000	80	A
70992	MSB1000/220V/50Hz	10.3	6.46	5.38	100	98	1065	MSI/1000	80	A
25816	MHB80/220V/50Hz	0.8	0.70	0.45	8	11	90	N/A	70	B
25817	MHB125/220V/50Hz	1.25	1.10	0.71	10	18	140	N/A	70	B
25818	MHB250/220V/50Hz	2.15	2.12	1.37	18	21	272	N/A for HPM	70	B
		2.1	2.12	1.37	18	21	272	MSI/400 for MH	70	A
70990	MHB400/220V/50Hz	3.25	3.35	2.16	25	31	428	N/A for HPM	70	B
		3.25	3.35	216.00	25	31	428	MSI/400 for MH	70	A

Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
70981	MSB35/220V/50Hz	220V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.4	255*150*170
70982	MSB50/220V/50Hz	220V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.5	255*150*170
70983	MSB70/220V/50Hz	220V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9	255*150*170
70986	MSB100/220V/50Hz	220V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.4	255*150*170
70987	MSB150/220V/50Hz	220V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
70988	MSB250/220V/50Hz	220V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.5	260*175*170
70989	MSB400/220V/50Hz	220V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.5	210*190*198
70991	MSB600/220V/50Hz	220V/50Hz	HPS	600W	165	143	96	61	82	R3	4	18.5	210*190*198
70992	MSB1000/220V/50Hz	220V/50Hz	HPS/MH	1000W	200	178	114	81	97	R3	2	18	260*220*115
25816	MHB80/220V/50Hz	220V/50Hz	HPM	80W	108	86	60	36	52	R3	8	9.4	255*150*170
25817	MHB125/220V/50Hz	220V/50Hz	HPM	125W	117	86	60	36	52	R3	8	10.9	255*150*170
25818	MHB250/220V/50Hz	220V/50Hz	HPM/MH	250W	126	104	75	45	64	R3	6	12	255*150*170
70990	MHB400/220V/50Hz	220V/50Hz	HPM/MH	400W	150	104	75	45	64	R3	6	17	260*175*170

Dimension (mm)



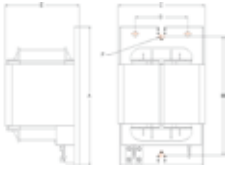
Wiring Diagram



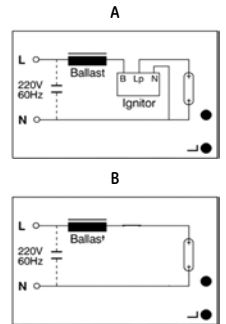
# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 220V/60Hz

Dimension (mm)



Wiring Diagram



Product Code	Description	Lamp current (A)	Cosφ≥0.9		Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
			Start Current (A)	Circuit Current(A)						
78669	MSB35/220V/60Hz	0.53	0.30	0.23	6	8	45	MSI/400	70	A
11212	MSB70/220V/60Hz	0.98	0.60	0.43	12	14	86	MSI/400	70	A
78670	MSB100/220V/60Hz	1.20	0.87	0.58	12	17	114	MSI/400	70	A
11215	MSB150/220V/60Hz	1.80	1.12	0.86	20	21	170	MSI/400	70	A
11221	MSB250/220V/60Hz	3.00	1.88	1.39	32	35	276	MSI/400	70	A
11222	MSB400/220V/60Hz	4.60	2.97	2.20	50	54	436	MSI/400	70	A
25827	MHB400/220V/60Hz	3.25	3.35	2.16	25	31	427	N/A for HPM	70	B
		3.25	3.35	2.16	25	31	427	MSI/400 for MH	70	A

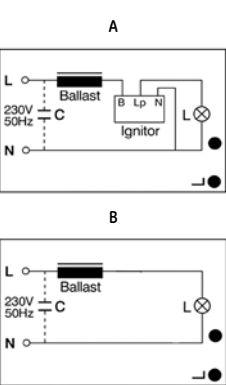
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
78669	MSB35/220V/60Hz	220V/60Hz	MH	35W	108	86	60	36	52	R3	8	7	255*150*170
11212	MSB70/220V/60Hz	220V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	8.6	255*150*170
78670	MSB100/220V/60Hz	220V/60Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.8	255*150*170
11215	MSB150/220V/60Hz	220V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
11221	MSB250/220V/60Hz	220V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	15.6	260*175*170
11222	MSB400/220V/60Hz	220V/60Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17	210*190*198
25827	MHB400/220V/60Hz	220V/60Hz	HPM/MH	400W	150	128	75	45	64	R3	6	17	260*175*170

## 230V/50Hz

Dimension (mm)



Wiring Diagram



Product Code	Description	Lamp current (A)	Cosφ≥0.9		Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
			Start Current (A)	Circuit Current(A)						
95858	MSB35/230V/50Hz	0.53	0.28	0.23	6	9	45	MSI/400	70	A
95859	MSB50/230V/50Hz	0.76	0.41	0.30	8	13	60	MSI/400	70	A
95860	MSB70/230V/50Hz	0.98	0.58	0.43	12	15	86	MSI/400	70	A
95861	MSB100/230V/50Hz	1.2	0.78	0.58	12	18	114	MSI/400	70	A
95862	MSB150/230V/50Hz	1.8	1.08	0.86	20	22	170	MSI/400	70	A
95863	MSB250/230V/50Hz	3	1.82	1.40	32	37	278	MSI/400	70	A
95864	MSB400/230V/50Hz	4.6	2.97	2.20	50	45	436	MSI/400	70	A
95866	MSB600/230V/50Hz	6.2	4.40	3.26	60	69	645	MSI/1000	80	A
95867	MSB1000/230V/50Hz	10.3	6.46	5.38	100	104	1065	MSI/1000 for HPS	80	A
		9.5	6.46	5.38	100	104	1065	MSI/1000 for MH	80	A
25819	MHB80/230V/50Hz	1.15	0.68	0.45	8	12	90	N/A	70	B
25822	MHB125/230V/50Hz	1.25	1.07	0.71	10	19	140	N/A	70	B
		2.15	2.04	1.36	20	23	270	N/A for HPM	70	B
25823	MHB250/230V/50Hz	2.15	2.04	1.36	20	23	270	MSI/400 for MH	70	A
		3.25	3.24	2.16	25	33	428	N/A for HPM	70	B
95865	MHB400/230V/50Hz	3.25	3.24	2.16	25	33	428	MSI/400 for MH	70	A

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
95858	MSB35/230V/50Hz	230V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.5	250*150*170
95859	MSB50/230V/50Hz	230V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.7	250*150*170
95860	MSB70/230V/50Hz	230V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9.0	250*150*170
95861	MSB100/230V/50Hz	230V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.7	250*150*170
95862	MSB150/230V/50Hz	230V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11	250*150*170
95863	MSB250/230V/50Hz	230V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.8	260*175*170
95864	MSB400/230V/50Hz	230V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.5	210*190*198
95866	MSB600/230V/50Hz	230V/50Hz	HPS	600W	165	143	96	61	82	R3	4	18.5	210*190*198
95867	MSB1000/230V/50Hz	230V/50Hz	HPS/MH	1000W	200	178	114	81	97	R3	2	19.3	260*220*115
25819	MHB80/230V/50Hz	230V/50Hz	HPM	80W	108	86	60	36	52	R3	8	9	255*150*170
25822	MHB125/230V/50Hz	230V/50Hz	HPM	125W	117	86	60	36	52	R3	8	10.9	255*150*170
25823	MHB250/230V/50Hz	230V/50Hz	HPM/MH	250W	126	104	75	45	64	R3	6	13.2	255*150*170
95865	MHB400/230V/50Hz	230V/50Hz	HPM/MH	400W	155	133	75	45	64	R3	6	19.2	260*175*170

## 230V/60Hz

Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
				Circuit Current(A)	Capacitor (μF)					
11049	MSB70/230V/60Hz	0.98	0.567	0.42	12	15	86	MSI/400	70	A
11050	MSB150/230V/60Hz	1.80	1.107	0.82	20	22	170	MSI/400	70	A
11053	MSB250/230V/60Hz	3.00	1.876	1.34	32	37	278	MSI/400	70	A
11223	MSB400/230V/60Hz	4.60	3.08	2.2	50	57	435	MSI/400	70	A
25828	MHB400/230V/60Hz	3.25	3.348	2.16	25	33	428	N/A for HPM	70	B
		3.25	3.348	2.16	25	33	428	MSI/400 for MH	70	A

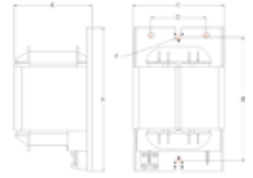
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
11049	MSB70/230V/60Hz	230V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	8.6	255*150*170
11050	MSB150/230V/60Hz	230V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
11053	MSB250/230V/60Hz	230V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	15.6	260*175*170
11223	MSB400/230V/60Hz	230V/60Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17	210*190*198
25828	MHB400/230V/60Hz	230V/60Hz	HPM/MH	400W	150	128	75	45	64	R3	6	19.2	260*175*170

## 240V/50Hz

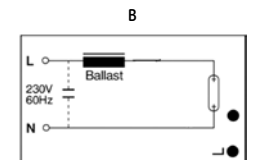
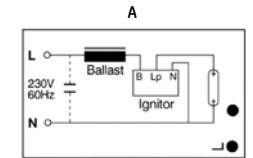
Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
				Circuit Current(A)	Capacitor (μF)					
95868	MSB35/240V/50Hz	0.53	0.30	0.23	6	9	45	MSI/400	70	A
95869	MSB50/240V/50Hz	0.76	0.39	0.30	8	13	60	MSI/400	70	A
95870	MSB70/240V/50Hz	0.98	0.56	0.43	12	16	86	MSI/400	70	A
95871	MSB100/240V/50Hz	1.20	0.78	0.58	12	19	114	MSI/400	70	A
95872	MSB150/240V/50Hz	1.80	1.12	0.86	20	23	171	MSI/400	70	A
95873	MSB250/240V/50Hz	3.00	1.82	1.40	32	39	278	MSI/400	70	A
95874	MSB400/240V/50Hz	4.60	3.08	2.20	50	60	436	MSI/400	70	A
95876	MSB600/240V/50Hz	6.20	4.58	3.27	60	73	647	MSI/1000	80	A
95877	MSB1000/240V/50Hz	10.30	6.46	5.38	100	111	1065	MSI/1000 for HPS	80	A
		9.50	6.46	5.38	100	111	1065	MSI/1000 for MH	80	A
25824	MHB80/240V/50Hz	0.80	0.70	0.45	8	13	90	N/A	70	B
25825	MHB125/240V/50Hz	1.25	1.10	0.71	10	20	140	N/A	70	B
25826	MHB250/240V/50Hz	2.15	2.12	1.37	18	25	272	N/A for HPM	70	B
		2.10	2.12	1.37	18	25	272	MSI/400 for MH	70	A
95875	MHB400/240V/50Hz	3.25	3.35	2.16	25	36	428	N/A for HPM	70	B
		3.25	3.35	2.16	25	36	428	MSI/400 for MH	70	A

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
95868	MSB35/240V/50Hz	240V/50Hz	MH	35W	108	86	60	36	52	R3	8	7.5	255*150*170
95869	MSB50/240V/50Hz	240V/50Hz	HPS	50W	108	86	60	36	52	R3	8	8.5	255*150*170
95870	MSB70/240V/50Hz	240V/50Hz	HPS/MH	70W	108	86	60	36	52	R3	8	9.4	255*150*170
95871	MSB100/240V/50Hz	240V/50Hz	HPS/MH	100W	117	86	60	36	52	R3	8	10.8	255*150*170
95872	MSB150/240V/50Hz	240V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	11.2	255*150*170
95873	MSB250/240V/50Hz	240V/50Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	18.3	260*175*170
95874	MSB400/240V/50Hz	240V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.7	210*190*198
95876	MSB600/240V/50Hz	240V/50Hz	HPS	600W	165	143	96	61	82	R3	4	18.5	210*190*198
95877	MSB1000/240V/50Hz	240V/50Hz	HPS/MH	1000W	200	198	114	81	97	R3	2	21.4	260*240*115
25824	MHB80/240V/50Hz	240V/50Hz	HPM	80W	108	86	60	36	52	R3	8	9.4	255*150*170
25825	MHB125/240V/50Hz	240V/50Hz	HPM	125W	117	86	60	36	52	R3	8	10.9	255*150*170
25826	MHB250/240V/50Hz	240V/50Hz	HPM/MH	250W	126	104	75	45	64	R3	6	12	255*150*170
95875	MHB400/240V/50Hz	240V/50Hz	HPM/MH	400W	160	138	75	45	64	R3	6	17	260*175*170

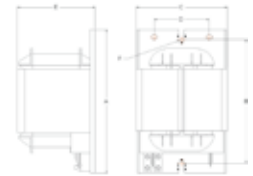
### Dimension (mm)



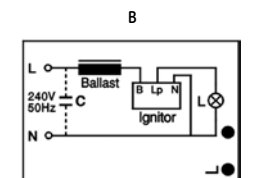
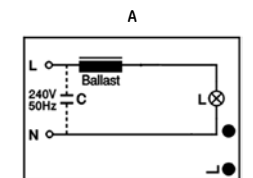
### Wiring Diagram



### Dimension (mm)



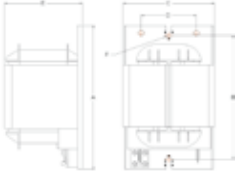
### Wiring Diagram



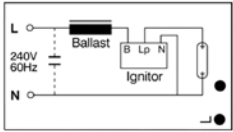
# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 240V/60Hz

Dimension (mm)



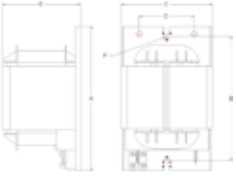
Wiring Diagram



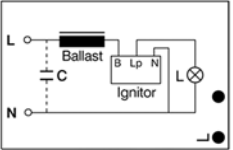
Product Code	Description	Lamp current (A)	Start Current (A)	Cos $\phi$ ≥0.9		Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)
				Circuit Current(A)						
11224	MSB70/240V/60Hz	0.98	0.52	0.40		12	14	86	MSI/400	70
11225	MSB150/240V/60Hz	1.80	1.08	0.80		20	23	173	MSI/400	70
11226	MSB250/240V/60Hz	3.00	1.68	1.29		32	39	278	MSI/400	70
11227	MSB400/240V/60Hz	4.60	3.08	2.20		50	60	435	MSI/400	70
25839	MHB400/240V/60Hz	3.25	3.35	2.16		25	36	428	MSI/400	70

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
11224	MSB70/240V/60Hz	240V/60Hz	HPS/MH	70W	108	86	60	36	52	R3	8	8.7	255*150*170
11225	MSB150/240V/60Hz	240V/60Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	10.9	255*150*170
11226	MSB250/240V/60Hz	240V/60Hz	HPS/MH	250W	150	128	75	45	64.5	R3	6	16.3	260*175*170
11227	MSB400/240V/60Hz	240V/60Hz	HPS/MH	400W	165	143	96	61	82	R3	4	17.5	210*190*198
25839	MHB400/240V/60Hz	240V/60Hz	HPS/MH	400W	150	128	75	45	64	R3	6	17	260*175*170

Dimension (mm)



Wiring Diagram



## 380V/50Hz



Product Code	Description	Lamp current (A)	Start Current (A)	Cos $\phi$ ≥0.9		Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)
				Circuit Current(A)						
89192	MHB1000/380V/50Hz	4.2	4.65	3.10		21	60	1050	MSI/2000	80
89191	MHB1500/380V/50Hz	6.7	7.35	4.90		35	86	1680	MSI/2000	80
89190	MHB2000/380V/50Hz	10.3	9.15	6.10		60	130	2100	MSI/2000	80

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
89192	MHB1000/380V/50Hz	380V/50Hz	SPL	1000W	185	163	114	81	97	R3	2	25.4	285*220*135
89191	MHB1500/380V/50Hz	380V/50Hz	SPL	1500W	200	178	127	94	112	R3	2	17.2	260*220*115
89190	MHB2000/380V/50Hz	380V/50Hz	SPL	2000W	235	213	127	94	112	R3	1	15.1	255*150*135



## 1.1.3 CSI Electromagnetic Ballast

### Features:

- Designed for CSI/CID MH Lamp
- Full voltage range offering for Asia countries
- Long life, high reliability, Tw 130°C
- Low loss, low temperature rise, superior silicon steel sheet, 180°C copper wire
- PF>0.9 with capacitor (working with standard lamp)

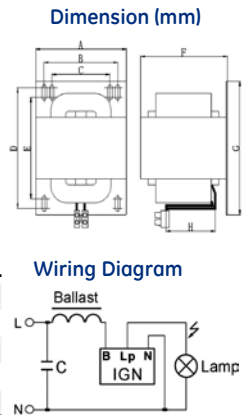
### Certifications & Regulations:

- CCC, CB
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-9, IEC 61347-1

CSI Electromagnetic Ballast											CCC	CB									
Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Max Operating Temp (°C)											
				Circuit Current(A)	Capacitor (μF)																
99664	CSI 1000/220V/50Hz	15	6.3	5.5	160	119	1090	MSI/1000/CSI	80	CCC, CB											
89186	CSI 1000/220V/60Hz	15	6.2	5.4	160	119	1090	MSI/1000/CSI	80	CB											
89187	CSI 1000/230V/50Hz	15	6.0	5.2	160	126	1090	MSI/1000/CSI	80	CCC, CB											
89188	CSI 1000/230V/60Hz	15	6.0	5.2	160	126	1090	MSI/1000/CSI	80	CB											
89189	CSI 1000/240V/50Hz	15	5.8	5.0	160	132	1090	MSI/1000/CSI	80	CCC, CB											

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Picture	Dimensions (mm)								Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
						A	B	C	D	E	F	G	H			
99664	CSI 1000/220V/50Hz	220V/50Hz	CSI&CID MH	1000W	153	125	98	176	148	147	195	195	R4	1	15.5	260*175*170
89186	CSI 1000/220V/60Hz	220V/60Hz	CSI&CID MH	1000W	153	125	98	176	148	147	195	195	R4	1	15.4	260*175*170
89187	CSI 1000/230V/50Hz	230V/50Hz	CSI&CID MH	1000W	153	125	98	176	148	147	195	195	R4	1	15.6	260*175*170
89188	CSI 1000/230V/60Hz	230V/60Hz	CSI&CID MH	1000W	153	125	98	176	148	147	195	195	R4	1	15.5	260*175*170
89189	CSI 1000/240V/50Hz	240V/50Hz	CSI&CID MH	1000W	153	125	98	176	148	147	195	195	R4	1	15.7	260*175*170



# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 1.1.4 HID Electromagnetic Ballast (AI Line)

### Features:

- Different voltage range for 220V/50Hz, 230V/50Hz
- MSB for IEC HPS/MH lamp use
- MHB for IEC HPM/MH lamp use
- Long life, high reliability, Tw 130°C
- With thermal protection to prevent overheat of ballast at the end of lamp life
- Low loss, low temperature rise, superior silicon steel sheet, 180°C copper wire
- Compact size, suitable for various fixture design, easy installation
- PF>0.9 with capacitor (working with standard lamp)

### Applications:

- Roadway, Tunnel
- Architect flood lighting, Sports
- Department store, High Bay



### Certifications & Regulations:

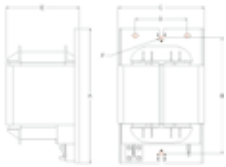
- CCC, CE, CB
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-9, IEC 61347-1

220V/50Hz

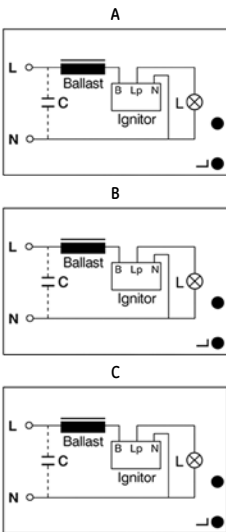


Product Code	Description	Lamp current (A)	Cosφ≥0.9			Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
			Start Current (A)	Circuit Current(A)	Capacitor (μF)					
65869	MSB35/220V/50Hz/A/T	0.53	0.30	0.25	6	9.3	46	MSI/150 or MSI/400	70	A
65870	MSB50/220V/50Hz/A/T	0.76	0.42	0.32	8	10	60	MSI/150 or MSI/400	70	A
65871	MSB70/220V/50Hz/A/T	0.98	0.60	0.46	12	16	86	MSI/150 or MSI/400	70	A
65872	MSB100/220V/50Hz/A/T	1.2	0.82	0.63	12	17	117	MSI/150 or MSI/400	70	A
65873	MSB150/220V/50Hz/A/T	1.8	1.20	0.92	20	22	172	MSI/150 or MSI/400	70	A
65874	MSB250/220V/50Hz/A/T	3	1.95	1.50	32	30	280	MSI/400	80	A
65875	MSB400/220V/50Hz/A/T	4.6	3.04	2.34	50	37	437	MSI/400	70	A
65876	MSB600/220V/50Hz/A/T	6.2	4.52	3.48	60	50	650	MSI/1000	80	A
65877	MHB50/220V/50Hz/A/T	0.62	0.46	0.32	8	10	60	N/A	70	B
65878	MHB80/220V/50Hz/A/T	0.8	0.71	0.49	8	11	91	N/A	70	B
65879	MHB125/220V/50Hz/A/T	1.15	1.09	0.75	10	15	140	N/A	70	B
65880	MHB175/220V/50Hz/A/T	1.5	1.49	1.03	12	17	192	N/A	70	B
65881	MHB250/220V/50Hz/A/T	2.1	2.13	1.47	20	24	274	MSI/400 for MH	70	A
		2.15	2.13	1.47	20	24	274	N/A for HPM	70	B
65882	MHB400/220V/50Hz/A/T	3.25	3.35	2.31	28	32	432	MSI/400 for MH	80	A
		3.25	3.35	2.31	28	32	432	N/A for HPM	80	B
65883	MSB100/70/220V/50Hz/A/T	1.2/1.0	0.75	0.62/0.43	12	17	117/86	MSI/400	70	C
65884	MSB150/100/220V/50Hz/A/T	1.8/1.4	1.10	0.92/0.68	20	22	172/120	MSI/400	70	C
65885	MSB250/150/220V/50Hz/A/T	3.0/2.2	1.80	1.49/0.90	32	30	280/178	MSI/400	70	C
65886	MSB400/250/220V/50Hz/A/T	4.6/3.6	2.80	2.33/1.43	50	37	437/285	MSI/400	70	C

Dimension (mm)



Wiring Diagram

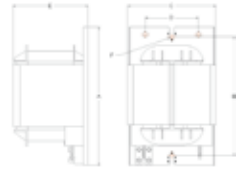


Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
65869	MSB35/220V/50Hz/A/T	220V/50Hz	MH	35W	117	95	60	36	52	R3	8	6.9	255*150*170
65870	MSB50/220V/50Hz/A/T	220V/50Hz	HPS	50W	117	95	60	36	52	R3	8	9	255*150*170
65871	MSB70/220V/50Hz/A/T	220V/50Hz	HPS/MH	70W	117	95	60	36	52	R3	8	9.5	255*150*170
65872	MSB100/220V/50Hz/A/T	220V/50Hz	HPS/MH	100W	140	118	60	36	52	R3	6	11.8	260*175*170
65873	MSB150/220V/50Hz/A/T	220V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	15.5	255*150*170
65874	MSB250/220V/50Hz/A/T	220V/50Hz	HPS/MH	250W	155	133	75	45	64.5	R3	4	20.8	260*175*170
65875	MSB400/220V/50Hz/A/T	220V/50Hz	HPS/MH	400W	165	143	96	61	82	R3	2	19.3	210*190*198
65876	MSB600/220V/50Hz/A/T	220V/50Hz	HPS	600W	200	178	96	61	82	R3	8	12.4	240*220*104
65877	MHB50/220V/50Hz/A/T	220V/50Hz	HPM	50W	117	95	60	36	52	R3	8	8.5	255*150*170
65878	MHB80/220V/50Hz/A/T	220V/50Hz	HPM	80W	117	95	60	36	52	R3	8	9	255*150*170
65879	MHB125/220V/50Hz/A/T	220V/50Hz	HPM	125W	140	118	60	36	52	R3	8	11.6	260*175*170
65880	MHB175/220V/50Hz/A/T	220V/50Hz	HPM/MH	175W	126	104	75	45	64.5	R3	6	8.9	255*150*170
65881	MHB250/220V/50Hz/A/T	220V/50Hz	HPM/MH	250W	150	128	75	45	64.5	R3	6	16.5	260*175*170
65882	MHB400/220V/50Hz/A/T	220V/50Hz	HPM/MH	400W	160	138	75	45	64.5	R3	6	17.9	260*175*170
65883	MSB100/70/220V/50Hz/A/T	220V/50Hz	HPS	100W	126	104	75	45	64.5	R3	6	9.6	255*150*170
65884	MSB150/100/220V/50Hz/A/T	220V/50Hz	HPS	150W	150	128	75	45	64.5	R3	6	14.1	260*175*170
65885	MSB250/150/220V/50Hz/A/T	220V/50Hz	HPS	250W	165	143	96	61	82	R3	4	13.3	210*190*198
65886	MSB400/250/220V/50Hz/A/T	220V/50Hz	HPS	400W	200	178	96	61	82	R3	2	12.3	240*220*104

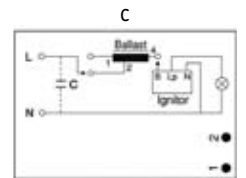
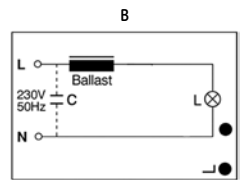
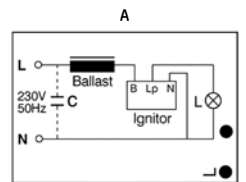
Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9		Max Loss (W)	System Power (W)	Ignitor	Temp Rise (K)	Wiring Diagram
				Circuit Current(A)	Capacitor (μF)					
65890	MSB35/230V/50Hz/A/T	0.53	0.280	0.230	6	9.3	46	MSI/150 or MSI/400	70	A
65891	MSB50/230V/50Hz/A/T	0.76	0.390	0.300	8	10	60	MSI/150 or MSI/400	70	A
65892	MSB70/230V/50Hz/A/T	0.98	0.550	0.420	12	16	86	MSI/150 or MSI/400	70	A
65893	MSB100/230V/50Hz/A/T	1.2	0.750	0.580	12	17	117	MSI/150 or MSI/400	70	A
65894	MSB150/230V/50Hz/A/T	1.8	1.110	0.850	20	22	172	MSI/150 or MSI/400	70	A
65895	MSB250/230V/50Hz/A/T	3	1.790	1.380	32	30	280	MSI/400	70	A
65896	MSB400/230V/50Hz/A/T	4.6	2.810	2.160	50	37	437	MSI/400	70	A
65897	MSB600/230V/50Hz/A/T	6.2	4.170	3.210	60	50	650	MSI/1000	80	A
65898	MHB50/230V/50Hz/A/T	0.62	0.440	0.300	8	10	60	N/A	70	B
65899	MHB80/230V/50Hz/A/T	0.8	0.650	0.450	8	11	91	N/A	70	B
65900	MHB125/230V/50Hz/A/T	1.15	1.000	0.690	10	15	140	N/A	70	B
65901	MHB175/230V/50Hz/A/T	1.5	1.380	0.950	12	17	192	N/A	70	B
65902	MHB250/230V/50Hz/A/T	2.13	1.960	1.350	20	24	274	MSI/400 for MH	70	A
		2.13	1.960	1.350	20	24	274	N/A for HPM	70	B
65904	MHB400/230V/50Hz/A/T	3.25	3.090	2.130	25	32	432	MSI/400 for MH	70	A
		3.25	3.090	2.130	25	32	432	N/A for HPM	70	B
65905	MSB100/70/230V/50Hz/A/T	1.2/1.0	0.690	0.58/0.41	12	17	117/86	MSI/400	70	C
65906	MSB150/100/230V/50Hz/A/T	1.8/1.4	1.020	0.85/0.57	20	22	172/120	MSI/400	70	C
65907	MSB250/150/230V/50Hz/A/T	3.0/2.2	1.660	1.38/0.85	32	30	280/178	MSI/400	70	C
65908	MSB400/250/230V/50Hz/A/T	4.6/3.6	2.590	2.16/1.37	50	37	437/285	MSI/400	70	C

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
65890	MSB35/230V/50Hz/A/T	230V/50Hz	MH	35W	117	95	60	36	52	R3	8	8.5	255*150*170
65891	MSB50/230V/50Hz/A/T	230V/50Hz	HPS	50W	117	95	60	36	52	R3	8	9	255*150*170
65892	MSB70/230V/50Hz/A/T	230V/50Hz	HPS/MH	70W	117	95	60	36	52	R3	8	9.8	255*150*170
65893	MSB100/230V/50Hz/A/T	230V/50Hz	HPS/MH	100W	140	118	60	36	52	R3	8	12.9	260*175*170
65894	MSB150/230V/50Hz/A/T	230V/50Hz	HPS/MH	150W	126	104	75	45	64.5	R3	6	12.2	255*150*170
65895	MSB250/230V/50Hz/A/T	230V/50Hz	HPS/MH	250W	165	143	96	61	82	R3	4	12.6	260*175*170
65896	MSB400/230V/50Hz/A/T	230V/50Hz	HPS/MH	400W	170	148	96	61	82	R3	4	10.3	210*190*198
65897	MSB600/230V/50Hz/A/T	230V/50Hz	HPS	600W	200	178	96	61	82	R3	2	12.8	240*220*104
65898	MHB50/230V/50Hz/A/T	230V/50Hz	HPM	50W	117	95	60	36	52	R3	8	8.5	255*150*170
65899	MHB80/230V/50Hz/A/T	230V/50Hz	HPM	80W	117	95	60	36	52	R3	8	9.5	255*150*170
65900	MHB125/230V/50Hz/A/T	230V/50Hz	HPM	125W	140	118	60	36	52	R3	8	11	260*175*170
65901	MHB175/230V/50Hz/A/T	230V/50Hz	HPM	175W	126	104	75	45	64.5	R3	6	11.1	255*150*170
65902	MHB250/230V/50Hz/A/T	230V/50Hz	HPM/MH	250W	150	128	75	45	64.5	R3	6	14.3	260*175*170
65904	MHB400/230V/50Hz/A/T	230V/50Hz	HPM/MH	400W	165	143	96	61	82	R3	4	12.6	260*175*170
65905	MSB100/70/230V/50Hz/A/T	230V/50Hz	HPS	100W	126	104	75	45	64.5	R3	6	10.2	255*150*170
65906	MSB150/100/230V/50Hz/A/T	230V/50Hz	HPS	150W	150	128	75	45	64.5	R3	6	14.9	260*175*170
65907	MSB250/150/230V/50Hz/A/T	230V/50Hz	HPS	250W	165	143	96	61	82	R3	4	14.3	210*190*198
65908	MSB400/250/230V/50Hz/A/T	230V/50Hz	HPS	400W	200	178	96	61	82	R3	2	12.3	240*220*104

Dimension (mm)



Wiring Diagram



# 1. IEC Electromagnetic Ballast & Control Gear for HID Lamp

## 1.2 HID Capacitor

### 1.2.1 Capacitor with line

#### Features:

- Working with HID Electromagnetic Ballast
- Plastic case, over temperature protection device
- Easy installation with 25cm length heat-resistance wiring
- Wide ambient temperature range: -40°C-105°C

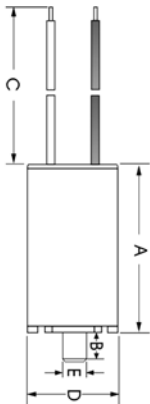


#### Certifications & Regulations:

- CQC, CE
- Safety: IEC 61048

#### Dimension (mm)

#### Capacitor with line



Product Code	Description	Capacitance (μF)	Voltage/Frequency	Mounting (mm)	Case Temp(°C)	Dimensions (mm)					Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)	Case
						A	B	C	D	E				
70993	6μF/250V	6	250V/50-60Hz	M8	-40~100	62	12	350	30	M8	80	5.7	453*292*184	A
70994	8μF/250V	8	250V/50-60Hz	M8	-40~100	62	12	350	30	M8	80	5.7	453*292*184	A
82017	10μF/250V	10	250V/50-60Hz	M8	-40~100	82	12	350	35	M8	40	4.1	453*292*184	A
70995	12μF/250V	12	250V/50-60Hz	M8	-40~100	82	12	350	35	M8	40	4.18	453*292*184	A
70996	18μF/250V	18	250V/50-60Hz	M8	-40~100	82	12	350	35	M8	40	4.66	453*292*184	A
71009	25μF/250V	25	250V/50-60Hz	M8	-40~100	82	12	350	45	M8	40	6.2	453*292*184	A
70997	32μF/250V	32	250V/50-60Hz	M8	-40~100	82	12	350	45	M8	40	6.42	453*292*184	A
72090	36μF/250V	36	250V/50-60Hz	M8	-40~100	92	12	350	50	M8	40	8.15	453*292*184	A
70998	50μF/250V	50	250V/50-60Hz	M8	-40~100	92	12	350	50	M8	40	8.37	453*292*184	A
89197	25μF/540V	25	540V/50-60Hz	M8	-40~105	105	10	250	55	M8	28	8.4	453*292*184	B
89200	35μF/540V	35	540V/50-60Hz	M8	-40~105	105	10	250	60	M8	28	9.4	453*292*184	B

### 1.2.2 Capacitor with clamp

#### Features:

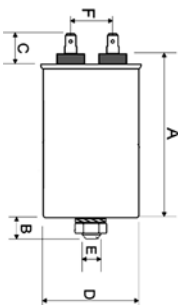
- Working with HID Electromagnetic Ballast
- Clamp connector, suitable for various situation
- Self-healing, low loss
- Highly reliable aluminum case, anti-explosion design
- Wide ambient temperature range: -40°C-105°C

#### Certifications & Regulations:

- CQC, CE
- Safety: IEC 61048

#### Dimension (mm)

#### Capacitor with clamp



Product Code	Description	Capacitance (μF)	Voltage/Frequency	Mounting (mm)	Case Temp(°C)	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
						A	B	C	D	E	F			
28243	6μF/250V/C	6	250V/50-60Hz	M8	-40~105	63	10	12	40	M8	16	80	9.6	453*292*184
28244	8μF/250V/C	8	250V/50-60Hz	M8	-40~105	63	10	12	40	M8	16	80	9.5	453*292*184
28246	10μF/250V/C	10	250V/50-60Hz	M8	-40~105	63	10	12	40	M8	16	40	9.5	453*292*184
28253	12μF/250V/C	12	250V/50-60Hz	M8	-40~105	73	10	12	40	M8	16	40	6	453*292*184
28255	18μF/250V/C	18	250V/50-60Hz	M8	-40~105	83	10	12	40	M8	16	40	6.5	453*292*184
28256	25μF/250V/C	25	250V/50-60Hz	M8	-40~105	83	10	12	45	M8	18	40	7.5	453*292*184
28257	32μF/250V/C	32	250V/50-60Hz	M8	-40~105	93	10	12	45	M8	18	40	8.5	453*292*184
28258	50μF/250V/C	50	250V/50-60Hz	M8	-40~105	103	10	12	50	M8	18	40	10	453*292*184

# 1.3 Ignitor

## Features:

- Interactive multi-pulse design to guarantee lamp start
- Ignite both HPS and MH Lamp
- Series connection, safe design by preventing harm to ballast during ignition
- Max case temperature: 105°C
- MSI series  
MSI 400, for ballast wattage <=400W;  
MSI 1000, for ballast wattage <=1000W;
- MSI/L series, Long Distance Ignitor  
MSI 400/L, for ballast wattage <=400W;  
MSI 1000/L, for ballast wattage <=1000W;

## Certifications & Regulations:

- CQC, CE
- Safety: IEC 61347-2-1, IEC 61347-1



## Ignitor CAC CE

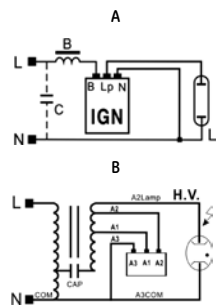
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Max load Capacitor(pF)	Max current (A)	Wiring Diagram
65954	MSI/150	220V-240V/50-60Hz	HPS/MH	35-150W	20	2	A
11233	MSI/400	220V-240V/50-60Hz	HPS/MH	35-400W	150	5	A
11234	MSI/1000	220V-240V/50-60Hz	HPS/MH	600-1000W/575-1000W	150	12	A
11235	MSI/400/L	220V-240V/50-60Hz	HPS/MH	35-400W	150	5	A
95883	MSI/1000/L	220V-240V/50-60Hz	HPS/MH	600-1000W/575-1000W	1000	12	A
81303*	MSIA1000	220V-240V/50-60Hz	S52	1000W	1000	12	B
89193	MSI/1000/CSI/Aluminum	220V-240V/50-60Hz	CSI	1000W	100	18	A
89195	MSI/2000	380V/50Hz	HPS/MH	1000W/1000-2000W	100	12	A

\* Suitable for the CWA1000 Lamp

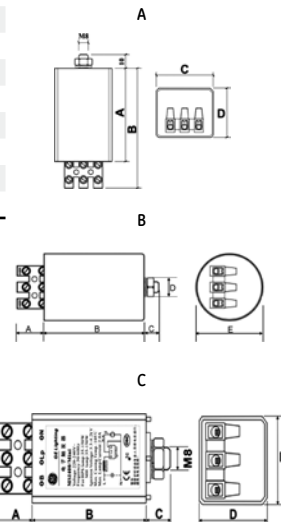
Product Code	Picture	Dimensions (mm)					Max casing temperature (°C)	Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)	Certification
		A	B	C	D	E					
65954	C	17	51	12	29	32	105	100	15	385*190*180	CQC
11233	A	65	82	32	29	-	105	100	15.8	385*190*180	CQC, CE
11234	A	76	93	48	40	-	105	50	18.5	270*225*240	CQC
11235	A	65	82	32	29	-	105	100	15.8	385*190*180	CQC
95883	A	76	93	48	40	-	105	50	18.5	270*225*240	CQC
81303*	A	65	82	32	29	-	105	100	12.3	385*210*210	CQC
89193	B	20	85	14	M12	60	105	36	27.5	385*260*210	CE
89195	B	21	75	70	M8	50	105	50	19.3	283*230*280	CE

\* Suitable for the CWA1000 Lamp

## Wiring Diagram



## Dimension (mm)



## 2. Bi-Level for HPS Electromagnetic System

### Features:

- Auto/Manual switch
- Save energy and money by lowering down the wattage of the HPS lamp in appropriate period of time
- Two different control methods and systems

### Certifications & Regulations:

- CCC, CB
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-8, IEC 61347-1

### Systems

#### Systems Independent control

- Bi-level Ballast
- Ignitor
- Capacitor
- Power Switch

#### Feature

- Preset timer for single lamp, wattage transition after 5 hours (customization available)
- Simple system, no extra controls and wirings
- Accurate wattage transition time control, easy operation and maintenance.

### Centralized control

- Bi-level Ballast
- Ignitor
- Capacitor
- Power Switch
- Timer

#### Feature

- Lamp group control mode
- Auto/Manual Switch, adjustable transition timing
- Need control line (embedded)

### Certifications & Regulations:

- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-8, IEC 61347-1



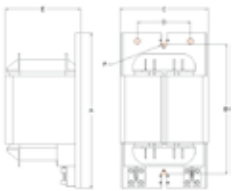
### Bi-Level Electromagnetic Ballast



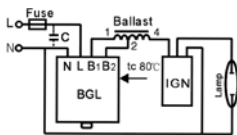
Product Code	Description	Lamp current (A)	Start Current (A)	Cosφ≥0.9 Circuit Current(A)	Capacitor (μF)	Max Loss (W)	System Power (W)	Ignitor*	Temp Rise (K)	Max Operating Temp (°C)	Certification
89165	MSB100/70/220V/50Hz/T	1.2/0.98	0.70/0.56	0.59/0.42	12	17/14	116/84	MSI/400	70	130	CCC, CB
89160	MSB150/100/220V/50Hz/T	1.8/1.4	1.03/0.77	0.86/0.57	20	21/16	170/116	MSI/400	70	130	CCC, CB
89155	MSB250/150/220V/50Hz/T	3/2.5	1.69/1.16	1.40/0.86	32	35/24	278/174	MSI/400	70	130	CCC, CB
89144	MSB400/250/220V/50Hz/T	4.6/3.4	2.64/1.89	2.20/1.40	50	54/40	435/283	MSI/400	70	130	CCC, CB
89168	MSB100/70/220V/60Hz/T	1.2/0.98	0.70/0.56	0.59/0.42	12	17/14	116/84	MSI/400	70	130	CB
89163	MSB150/100/220V/60Hz/T	1.8/1.4	1.03/0.77	0.86/0.57	20	21/16	170/116	MSI/400	70	130	CB
99658	MSB250/150/220V/60Hz/T	3/2.5	1.69/1.16	1.40/0.86	32	35/24	278/174	MSI/400	70	130	CB
89153	MSB400/250/220V/60Hz/T	4.6/3.4	2.64/1.89	2.20/1.40	50	54/40	435/283	MSI/400	70	130	CB
89166	MSB100/70/230V/50Hz/T	1.2/0.98	0.67/0.54	0.56/0.40	12	18/15	116/84	MSI/400	70	130	CB
89161	MSB150/100/230V/50Hz/T	1.8/1.4	0.99/0.74	0.82/0.55	20	22/17	170/116	MSI/400	70	130	CB
89156	MSB250/150/230V/50Hz/T	3/2.5	1.61/1.11	1.34/0.82	32	27/28	278/174	MSI/400	70	130	CB
89151	MSB400/250/230V/50Hz/T	4.6/3.4	2.52/1.80	2.10/1.33	50	57/42	435/283	MSI/400	70	130	CB
89169	MSB100/70/230V/60Hz/T	1.2/0.98	0.67/0.54	0.56/0.40	12	18/15	116/84	MSI/400	70	130	CB
89164	MSB150/100/230V/60Hz/T	1.8/1.4	0.99/0.74	0.82/0.55	20	22/17	170/116	MSI/400	70	130	CB
99659	MSB250/150/230V/60Hz/T	3/2.25	1.61/1.11	1.34/0.82	32	37/28	278/174	MSI/400	70	130	CB
89154	MSB400/250/230V/60Hz/T	4.6/3.4	2.52/1.80	2.10/1.33	50	57/42	435/283	MSI/400	70	130	CB
89167	MSB100/70/240V/50Hz/T	1.2/0.98	0.64/0.51	0.54/0.38	12	19/16	116/84	MSI/400	70	130	CB
99660	MSB150/100/240V/50Hz/T	1.8/1.4	0.94/0.71	0.79/0.53	20	23/18	170/116	MSI/400	70	130	CB
89157	MSB250/150/240V/50Hz/T	3/2.5	1.54/1.06	1.29/0.79	32	39/29	278/174	MSI/400	70	130	CB
89152	MSB400/250/240V/50Hz/T	4.6/3.4	2.42/1.73	2.00/1.29	50	60/44	435/283	MSI/400	70	130	CB

\*Ignitor details in HID Ignitor Group

#### Dimension (mm)



#### Wiring Diagram



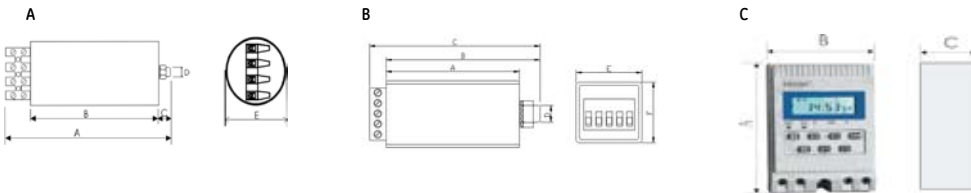
## Bi-Level Electromagnetic Ballast

Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
89165	MSB100/70/220V/50Hz/T	220V/50Hz	HPS	100W	126	104	75	45	64	R3	6	10.8	255*150*170
89160	MSB150/100/220V/50Hz/T	220V/50Hz	HPS	150W	126	104	75	45	64	R3	6	13.7	255*150*170
89155	MSB250/150/220V/50Hz/T	220V/50Hz	HPS	250W	130	108	96	61	82	R3	4	12.8	210*190*205
89144	MSB400/250/220V/50Hz/T	220V/50Hz	HPS	400W	145	123	114	81	97	R3	2	10.4	260*185*115
89168	MSB100/70/220V/60Hz/T	220V/60Hz	HPS	100W	126	104	75	45	64	R3	6	10.7	255*150*170
89163	MSB150/100/220V/60Hz/T	220V/60Hz	HPS	150W	126	104	75	45	64	R3	6	13.4	255*150*170
99658	MSB250/150/220V/60Hz/T	220V/60Hz	HPS	250W	130	108	96	61	82	R3	4	12.7	210*190*205
89153	MSB400/250/220V/60Hz/T	220V/60Hz	HPS	400W	145	123	114	81	97	R3	2	10.3	260*185*115
89166	MSB100/70/230V/50Hz/T	230V/50Hz	HPS	100W	126	104	75	45	64	R3	6	10.9	255*150*170
89161	MSB150/100/230V/50Hz/T	230V/50Hz	HPS	150W	126	104	75	45	64	R3	6	13.6	255*150*170
89156	MSB250/150/230V/50Hz/T	230V/50Hz	HPS	250W	130	108	96	61	82	R3	4	13.1	210*190*205
89151	MSB400/250/230V/50Hz/T	230V/50Hz	HPS	400W	145	123	114	81	97	R3	2	10.5	260*185*115
89169	MSB100/70/230V/60Hz/T	230V/60Hz	HPS	100W	126	104	75	45	64	R3	6	10.8	255*150*170
89164	MSB150/100/230V/60Hz/T	230V/60Hz	HPS	150W	126	104	75	45	64	R3	6	13.7	255*150*170
99659	MSB250/150/230V/60Hz/T	230V/60Hz	HPS	250W	130	108	96	61	82	R3	4	12.8	210*190*205
89154	MSB400/250/230V/60Hz/T	230V/60Hz	HPS	400W	145	123	114	81	97	R3	2	10.4	260*185*115
89167	MSB100/70/240V/50Hz/T	240V/50Hz	HPS	100W	126	104	75	45	64	R3	6	11.4	255*150*170
99660	MSB150/100/240V/50Hz/T	240V/50Hz	HPS	150W	126	104	75	45	64	R3	6	14	255*150*170
89157	MSB250/150/240V/50Hz/T	240V/50Hz	HPS	250W	130	108	96	61	82	R3	4	13.2	210*190*205
89152	MSB400/250/240V/50Hz/T	240V/50Hz	HPS	400W	145	123	114	81	97	R3	2	11.3	260*185*115

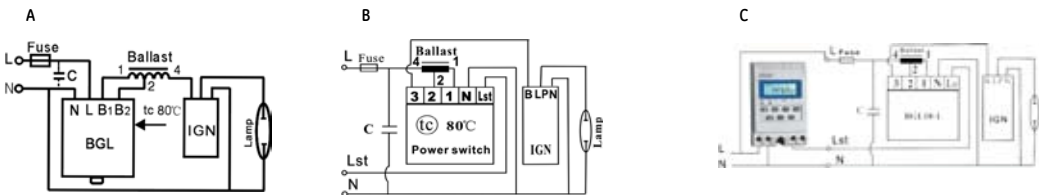
## Power Switch/Timer

Product Code	Description	Loss (W)	Max Operating Temp (°C)	Dimension Diagram	Wiring Diagram	Dimensions (mm)						Carton Quantity(PCS)	Carton Weight (Kg)	Package Size (mm)
						A	B	C	D	E	F			
89170	MSB/Dual/PS	3	80	A	D	132	102	10	M8	φ45	-	50	18.6	283*242*265
75251	MSB/Dual/PS/Timer	3	80	B	E	65	75	84	M8	32	29	100	10	385*190*180
89176	Timer/PS	3	-30~50	C	F	125	70	50	-	-	-	1	0.354	125*70*157

### Dimension (mm)



### Wiring Diagram



# 3. CWA Electromagnetic Ballast & Control Gear for HID Lamp

## 3.1 CWA Electromagnetic Ballast

### Features:

- GE special design
- Stable power output , excellent choice for high line voltage fluctuation areas
- PF>0.9 with capacitor
- Low start current, minimized disturbing to line voltage
- Ignitor not required, saving cost for system

### Applications:

- Factory, Warehouse
- Architect flood lighting, Sports
- Harbor, Square

### Certifications & Regulations:

- CCC, CB
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-8, IEC 61347-1



### 220V/50Hz

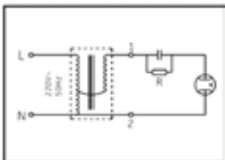


#### Dimension (mm)



Product Code	Description	Lamp current (A)	Max Start Current (A)	Cosφ≥0.9		Loss (W)	System Power (W)	Ignitor	Temp Rise (K)
				Circuit Current(A)	Capacitor (μF)				
10987	CWA175/220V/50Hz	1.5	0.88	1.03	13	38	210	N/A	75
10988	CWA250/220V/50Hz	2.1	1.22	1.44	19	45	295	N/A	80
10989	CWA400/220V/50Hz	3.25	1.89	2.23	28	58	458	N/A	80
10991	CWA1000/220V/50Hz	4.1	4.50	5.30	30	85	1085	N/A	80
10992	CWA1500/220V/50Hz	6.2	6.70	7.90	41	125	1625	N/A	80

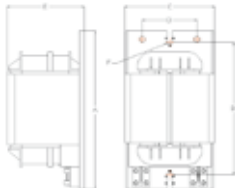
#### Wiring Diagram



Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
10987	CWA175/220V/50Hz	220V/50Hz	ANSI MH	175W	130	108	114	81	97	R3	2	7.7	210*190*250
10988	CWA250/220V/50Hz	220V/50Hz	ANSI MH	250W	145	123	114	81	97	R3	2	10.2	260*185*115
10989	CWA400/220V/50Hz	220V/50Hz	ANSI MH	400W	168	146	114	81	97	R3	2	14.2	260*185*115
10991	CWA1000/220V/50Hz	220V/50Hz	ANSI MH	1000W	200	178	127	94	112	R3	2	22.9	285*220*135
10992	CWA1500/220V/50Hz	220V/50Hz	ANSI MH	1500W	235	213	127	94	112	R3	1	14.3	255*150*135

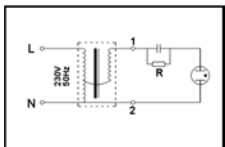
### 230V/50Hz

#### Dimension (mm)



Product Code	Description	Lamp current (A)	Max Start Current (A)	Cosφ≥0.9		Loss (W)	System Power (W)	Ignitor	Temp Rise (K)
				Circuit Current(A)	Capacitor (μF)				
95878	CWA175/230V/50Hz	1.5	0.830	0.98	13	38	210	N/A	80
95879	CWA250/230V/50Hz	2.1	1.170	1.38	19	45	295	N/A	80
95880	CWA400/230V/50Hz	3.25	1.830	2.15	28	60	460	N/A	80
95881	CWA1000/230V/50Hz	4.1	4.300	5.07	30	85	1085	N/A	80
95882	CWA1500/230V/50Hz	6.2	6.500	7.64	41	135	1635	N/A	90

#### Wiring Diagram



Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
95878	CWA175/230V/50Hz	230V/50Hz	ANSI MH	175W	130	108	114	81	97	R3	2	7.4	210*190*250
95879	CWA250/230V/50Hz	230V/50Hz	ANSI MH	250W	145	123	114	81	97	R3	2	8.6	260*185*115
95880	CWA400/230V/50Hz	230V/50Hz	ANSI MH	400W	168	146	114	81	97	R3	2	14.2	260*185*115
95881	CWA1000/230V/50Hz	230V/50Hz	ANSI MH	1000W	200	178	127	94	112	R3	2	22.9	285*220*135
95882	CWA1500/230V/50Hz	230V/50Hz	ANSI MH	1500W	235	213	127	94	112	R3	1	14.3	255*150*135

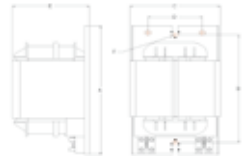


## 240V/50Hz

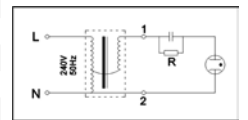
Product Code	Description	Lamp current (A)	Max Start Current (A)	Cosφ≥0.9		Loss (W)	System Power (W)	Ignitor	Temp Rise (K)
				Circuit Current(A)	Capacitor (μF)				
11228	CWA175/240V/50Hz	1.5	0.85	0.94	13	35	210	N/A	80
11229	CWA250/240V/50Hz	2.1	1.10	1.32	19	45	295	N/A	80
11230	CWA400/240V/50Hz	3.25	1.75	2.06	28	60	460	N/A	80
11231	CWA1000/240V/50Hz	4.1	4.10	4.86	30	85	1085	N/A	80
11232	CWA1500/240V/50Hz	6.2	6.50	7.30	41	135	1635	N/A	90

Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
11228	CWA175/240V/50Hz	240V/50Hz	ANSI MH	175W	130	108	114	81	97	R3	2	7.4	210*190*250
11229	CWA250/240V/50Hz	240V/50Hz	ANSI MH	250W	145	123	114	81	97	R3	2	8.6	260*185*115
11230	CWA400/240V/50Hz	240V/50Hz	ANSI MH	400W	168	146	114	81	97	R3	2	14.2	260*185*115
11231	CWA1000/240V/50Hz	240V/50Hz	ANSI MH	1000W	200	178	127	94	112	R3	2	22.9	285*220*135
11232	CWA1500/240V/50Hz	240V/50Hz	ANSI MH	1500W	235	213	127	94	112	R3	1	14.3	255*150*135

Dimension (mm)



Wiring Diagram

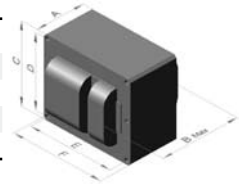


## CWA1000

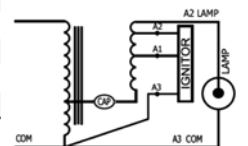
CB

Product Code	Description	Lamp current (A)	Max Start Current (A)	Cosφ≥0.9		Loss (W)	System Power (W)	Ignitor*	Temp Rise (K)
				Circuit Current(A)	Capacitor (μF)				
81302	CWA1000/S52/220V/50Hz	4.7	4.20	5.20	30	115	1100	MSIA/1000	80
85922	CWA1000/S52/220V/60Hz	4.7	3.60	5.10	26	105	1085	MSIA/1000	80
85923	CWA1000/S52/230V/50Hz	4.7	4.00	5.00	30	115	1100	MSIA/1000	80
85926	CWA1000/S52/230V/60Hz	4.7	3.40	4.90	26	105	1085	MSIA/1000	80
85921	CWA1000/S52/240V/50Hz	4.7	3.80	4.80	30	115	1100	MSIA/1000	80

Dimension (mm)



Wiring Diagram



Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Net Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F				
81302	CWA1000/S52/220V/50Hz	220V/50Hz	ANSI HPS	1000W	108	163	108	98	136	152	1	14.4	14	210*190*160
85922	CWA1000/S52/220V/60Hz	220V/60Hz	ANSI HPS	1000W	95	150	108	98	136	152	1	12.67	12.27	210*190*160
85923	CWA1000/S52/230V/50Hz	230V/50Hz	ANSI HPS	1000W	108	163	108	98	136	152	1	14.01	13.71	210*190*160
85926	CWA1000/S52/230V/60Hz	230V/60Hz	ANSI HPS	1000W	95	150	108	98	136	152	1	12.63	12.23	210*190*160
85921	CWA1000/S52/240V/50Hz	240V/50Hz	ANSI HPS	1000W	108	163	108	98	136	152	1	14.07	13.67	210*190*160

\*Ignitor details in HID Ignitor Group

# 3. CWA Electromagnetic Ballast & Control Gear for HID Lamp

## 3.2 CWA Capacitor

### 3.2.1 Capacitor with line

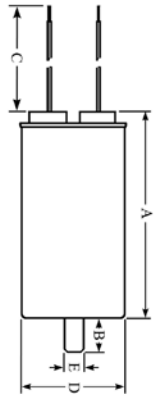
#### Features:

- Working with HID Electromagnetic Ballast
- Highly reliable aluminum case, anti-explosion design
- Easy installation with 25cm length heat-resistance wiring
- Wide ambient temperature range: -40°C-105°C

#### Certifications & Regulations:

- CQC, CE
- Safety: IEC 61048

#### Dimension (mm)



Capacitor with line												
Product Code	Description	Capacitance (μF)	Voltage/Frequency	Case Temp (°C)	Dimensions (mm)					Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E			
10993	13μF/540V	13	540V/50-60Hz	-40~105	95	10	250	45	M8	40	8	453*292*184
10994	19μF/540V	19	540V/50-60Hz	-40~105	95	10	250	50	M8	40	10	453*292*184
10995	28μF/540V	28	540V/50-60Hz	-40~105	105	10	250	55	M8	28	8.5	453*292*184
10996	30μF/540V	30	540V/50-60Hz	-40~105	115	10	250	55	M8	28	9	453*292*184
10997	41μF/540V	41	540V/50-60Hz	-40~105	115	10	250	60	M10	28	10.5	453*292*184
89625	26μF/540V	26	540V/50-60Hz	-40~105	105	10	250	55	M8	28	8	453*292*184



### 3.2.2 Capacitor with clamp

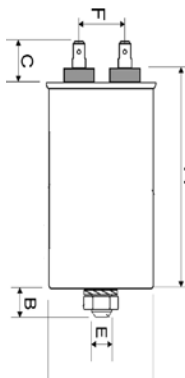
#### Features:

- Working with HID Electromagnetic Ballast
- Clamp connector, suitable for various situation
- Self-healing, low loss
- Highly reliable aluminum case, anti-explosion design
- Wide ambient temperature range: -40°C-105°C

#### Certifications & Regulations:

- CQC, CE
- Safety: IEC 61048

#### Dimension (mm)



Capacitor with clamp													
Product Code	Description	Capacitance (μF)	Voltage/Frequency	Case Temp (°C)	Dimensions (mm)						Carton Quantity (PCS)	Carton Weight (Kg)	Package Size (mm)
					A	B	C	D	E	F			
31599	13μF/540V/C	13	540V/50-60Hz	-40~105	93	10	12	45	M8	18	40	8	453*292*184
31614	19μF/540V/C	19	540V/50-60Hz	-40~105	93	10	12	50	M8	18	40	10	453*292*184
31625	28μF/540V/C	28	540V/50-60Hz	-40~105	103	10	12	55	M8	20	28	8.5	453*292*184
31638	30μF/540V/C	30	540V/50-60Hz	-40~105	113	10	12	55	M8	20	28	9	453*292*184
31647	41μF/540V/C	41	540V/50-60Hz	-40~105	113	10	12	60	M10	20	28	10.5	453*292*184



# 4. Electronic Ballast for HID Lamp

## 4.1 Miniature eHID

### Features:

- Bright new design with more compact size, ideal selection for delicate lighting fixtures and various system needs, maximum flexibility to lighting design
- Up to 15% energy saving vs. standard magnetic control gear, and up to 70% energy savings vs. standard HAL/transformer system
- Flicker-free to bring lighting comfort and excellence
- Constant electronically controlled output to resist fluctuations of line voltage and prolong lamp life
- High power factor, low power loss, 'Green' product
- Potting technology to enhance thermal emission performance and to prolong ballast life
- Lamp EOL (End of life) shutdown protection, and short circuit protection
- Working with GE star product CMH lamp to provide competitive lamp/eHID system
- Rated voltage 220-240V,50/60Hz
- Design life 50,000 hours

### Applications:

- Retail
- Department store, Display
- Super market, Hotel
- Airport

### Certifications & Regulations:

- CQC, CE, CB, S-MARK, KC
- Harmonic: IEC 61000-3-2 , IEC 61000-3-3
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-12, IEC 61347-1
- Housing meets UL94V0 flame retardant
- RoHS Compliance

### Warning:

- Don't connect either output lead to neutral/common or earth/safety ground
- The ballast case temperature must be less than the indicated Tc temperature
- Neutral line is required to be flawlessly connected when use AC power



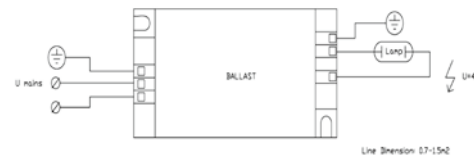
### Miniature eHID



Product Code	Description	Input Power (W)	Input Current (A)	SPower Factor (PF)	EEl	Tc Point (°C)	Ambient Temperature Range (°C)	THD	Case
78711	BLS/E/20W/CMH	23	0.1	0.95	A2	80	-20~55	<15%	A
78712	BLS/E/20W/CMH/R CC	23	0.1	0.95	A2	80	-20~55	<15%	B
78713	BLS/E/20W/CMH/R LP	23	0.1	0.95	A2	80	-20~55	<15%	C
78714	BLS/E/35W/CMH	44	0.19	0.95	A2	85	-20~55	<15%	A
78715	BLS/E/35W/CMH/R CC	44	0.19	0.95	A2	85	-20~55	<15%	B
78716	BLS/E/35W/CMH/R LP	44	0.19	0.95	A2	85	-20~55	<15%	C

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)			Carton Quantity (PCS)	Unit Weight (g)
						L	W	H		
78711	BLS/E/20W/CMH	CMH	20W	1	220-240V/50-60Hz	97.3	43.3	30	12	165
78712	BLS/E/20W/CMH/R CC	CMH	20W	1	220-240V/50-60Hz	162	43.3	30	12	180
78713	BLS/E/20W/CMH/R LP	CMH	20W	1	220-240V/50-60Hz	162	43.3	30	12	240
78714	BLS/E/35W/CMH	CMH	35W	1	220-240V/50-60Hz	97.3	43.3	30	12	165
78715	BLS/E/35W/CMH/R CC	CMH	35W	1	220-240V/50-60Hz	162	43.3	30	12	180
78716	BLS/E/35W/CMH/R LP	CMH	35W	1	220-240V/50-60Hz	162	43.3	30	12	240

### Wiring Diagram



### NOTE

Terminal Wire  
 Cross-section: 0.75 to 1.5 mm<sup>2</sup>  
 Strip Length: 6-7 mm



# 4. Electronic Ballast for HID Lamp

## 4.2 Standard eHID

### Features:

- GE designed eHID product brings both guaranteed long life and compact size, to give the most maintenance-free system and excellent design flexibility.
- Up to 15% energy saving vs. standard magnetic control gear, and up to 70% energy savings vs. standard HAL/transformer system
- Flicker-free to bring lighting comfort and excellence
- Constant electronically controlled output to resist fluctuations of line voltage and prolong lamp life
- High power factor, low power loss, 'Green' product
- Potting technology to enhance thermal emission performance and to prolong ballast life
- Lamp EOL (End of life) shutdown protection, and short circuit protection
- Working with GE star product CMH lamp to provide competitive lamp/eHID system
- Rated voltage 220-240V,50/60Hz
- Design life 50,000 hours

### Applications:

- Retail
- Department store, Display
- Super market, Hotel
- Airport

### Certifications & Regulations:

- CQC, CE, CB, S-MARK, KC
- Harmonic: IEC 61000-3-2 , IEC 61000-3-3
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-12, IEC 61347-1
- Housing meets UL94V0 flame retardant
- RoHS Compliance

### Warning:

- Don't connect either output lead to neutral/common or earth/ safety ground
- The ballast case temperature must be less than the indicated Tc temperature
- Neutral line is required to be flawlessly connected when use AC power



### Standard eHID



### Case



A



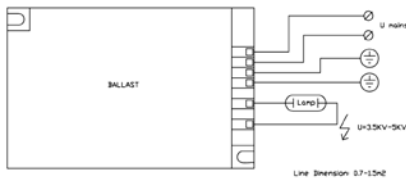
B

Product Code	Description	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Ambient Temperature Range (°C)	Case
61487	BLS/ES/35W/CMH	44	0.19	0.95	< 10%	A2	85	-20~55	A
61488	BLS/ES/35W/CMH/R CC	44	0.19	0.95	< 10%	A2	85	-20~50	B
61376	BLS/ES/70W/CMH	81	0.35	0.95	< 10%	A2	85	-20~55	A
61569	BLS/ES/70W/CMH/R CC	81	0.35	0.95	< 10%	A2	85	-20~50	B

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)			Carton Quantity (PCS)	Unit Weight (g)
						L	W	H		
61487	BLS/ES/35W/CMH	CMH/QMH	35W	1	220-240V/50-60Hz	110	70	31	10	350
61488	BLS/ES/35W/CMH/R CC	CMH/QMH	35W	1	220-240V/50-60Hz	140	70	31	10	370
61376	BLS/ES/70W/CMH	CMH/QMH	70W	1	220-240V/50-60Hz	110	70	31	10	350
61569	BLS/ES/70W/CMH/R CC	CMH/QMH	70W	1	220-240V/50-60Hz	140	70	31	10	370

### Wiring Diagram



### NOTE

- Terminal Wire
- Cross-section: 0.75 to 1.5 mm<sup>2</sup>
- Strip Length: 6-7 mm

## 4.3 Economics eHID

### Features:

- Bright new design with more compact size, ideal selection for delicate lighting fixtures and various system needs, maximum flexibility to lighting design
- Up to 15% energy saving vs. standard magnetic control gear, and up to 70% energy savings vs. standard HAL/transformer system
- Flicker-free to bring lighting comfort and excellence
- Constant electronically controlled output to resist fluctuations of line voltage and prolong lamp life
- High power factor, low power loss, 'Green' product
- Potting technology to enhance thermal emission performance and to prolong ballast life
- Lamp EOL (End of life) shutdown protection, and short circuit protection
- Working with GE star product CMH lamp to provide competitive lamp/eHID system
- Rated voltage 220-240V,50/60Hz
- Design life 50,000 hours

### Applications:

- Retail
- Department store, Display
- Super market, Hotel

### Certifications & Regulations:

- CQC, CE, CB
- Harmonic: IEC 61000-3-2 , IEC 61000-3-3
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-12, IEC 61347-1
- Housing meets UL94V0 flame retardant
- RoHS Compliance

### Warning:

- Don't connect either output lead to neutral/common or earth/safety ground
- The ballast case temperature must be less than the indicated Tc temperature
- Neutral line is required to be flawlessly connected when use AC power

## Economics eHID

Product Code	Description	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Ambient Temperature Range (°C)
64581	BLS/EE/35W/CMH	44	0.19	0.95	< 10%	A2	75	-20~55
64582	BLS/EE/70W/CMH	80	0.35	0.95	< 10%	A2	75	-20~55

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)			Carton Quantity (PCS)	Unit Weight (g)
						L	W	H		
64581	BLS/EE/35W/CMH	CMH/QMH	35W	1	220-240V/50-60Hz	110	70	31	10	300
64582	BLS/EE/70W/CMH	CMH/QMH	70W	1	220-240V/50-60Hz	110	70	31	10	310



Case

Wiring Diagram



**NOTE**  
Terminal Wire  
Cross-section: 0.75 to 1.5 mm<sup>2</sup>  
Strip Length: 8.5-9.5 mm

# 5. Electronic Ballast for T5 LFL

## 5.1 High Performance T5 Electronic Ballast

### Features:

- Pre-heated start ballasts increase lamp life significantly, especially when used in frequent on/off applications
- High power factor up to 0.98, low THD (<10%), ideally suitable for mega public buildings like airport, subway and railway stations
- 'Green' product, Energy Efficiency Index meets A2 class
- High frequency operation, Flicker-free to bring lighting comfort
- Working with T5 LFL to offer efficient and long life Linear lighting system solution
- Lamp EOL (End of Life) shutdown protection and re-lamp auto restarting
- Rated voltage 220~240V, 50/60Hz
- Design life 50,000 hours

### Applications:

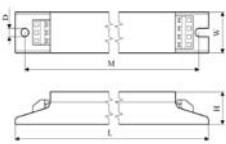
- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station

### Certifications & Regulations:

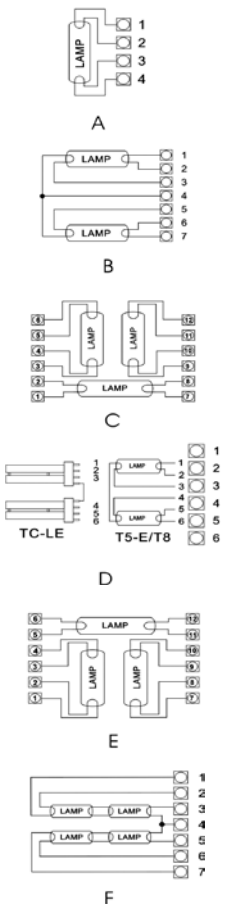
- CCC, CE, CB
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



Dimension (mm)



Wiring Diagram



High Performance T5 Electronic Ballast



Product Code	Description	Start Type	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Temperature Range (°C)	Wiring Diagram
61386	ELB114S	Preheat Start	16.5	0.07	0.98	< 10%	A2	70	-15~50	A
61387	ELB214S	Preheat Start	31.5	0.14	0.98	< 10%	A2	70	-15~50	B
61395	ELB314S	Preheat Start	48	0.21	0.98	< 10%	A2	70	-15~50	C
61396	ELB414S	Preheat Start	62	0.27	0.98	< 10%	A2	70	-15~50	F
61394	ELB121S	Preheat Start	24	0.11	0.98	< 10%	A2	70	-15~50	A
61388	ELB128S	Preheat Start	31.5	0.14	0.98	< 10%	A2	70	-15~50	A
61389	ELB228S	Preheat Start	62	0.27	0.98	< 10%	A2	70	-15~50	B
61390	ELB328S	Program Start	92	0.41	0.98	< 10%	A2	70	-15~50	E
61391	ELB135S	Preheat Start	38	0.17	0.98	< 10%	A2	70	-15~50	A
61392	ELB235S	Program Start	77	0.34	0.98	< 10%	A2	70	-15~50	B
62107	ELB149S	Preheat Start	53	0.23	0.98	< 10%	A2	70	-15~50	A
62108	ELB249S	Program Start	106	0.46	0.98	< 10%	A2	70	-15~50	D
61393	ELB154S	Preheat Start	57	0.25	0.98	< 10%	A2	70	-15~50	A
61385	ELB254/258S	Program Start	105	0.45	0.98	< 10%	A2	70	-15~50	D

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)					Carton Quantity (PCS)	Unit Weight (g)
						L	M	W	H	D		
61386	ELB114S	T5	14W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61387	ELB214S	T5	14W	2	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61395	ELB314S	T5	14W	3	220-240V/50-60Hz	360	348.5	30	27	4.5	30	350
61396	ELB414S	T5	14W	4	220-240V/50-60Hz	288	276.5	30	27	4.5	30	290
61394	ELB121S	T5	21W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61388	ELB128S	T5	28W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61389	ELB228S	T5	28W	2	220-240V/50-60Hz	288	276.5	30	27	4.5	30	290
61390	ELB328S	T5	28W	3	220-240V/50-60Hz	425	413.5	30	26	4.5	20	420
61391	ELB135S	T5	35W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61392	ELB235S	T5	35W	2	220-240V/50-60Hz	359	347.5	30	21	4.5	30	320
62107	ELB149S	T5	49W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	280
62108	ELB249S	T5	49W	2	220-240V/50-60Hz	359	347.5	30	27	4.5	30	340
61393	ELB154S	T5	54W	1	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61385	ELB254/258S	T5	54/58W*	2	220-240V/50-60Hz	359	347.5	30	27	4.5	30	330

\* Work with both T5 54W and T8 58W lamp

## 5.2 Economic Electronic T5 Ballast

### Features:

- Metal case design with good thermal performance and high reliability
- High power factor 0.98
- Lamp EOL (End of Life) shutdown protection and re-lamp auto restarting
- Working with T5 LFL to offer efficient and stable Linear lighting system solution
- High frequency operation, Flicker-free to bring lighting comfort
- Rated voltage 220~240Vac, 50/60Hz
- Design life 20,000 hours

### Applications:

- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station

### Certifications & Regulations:

- CCC, CE, CB
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



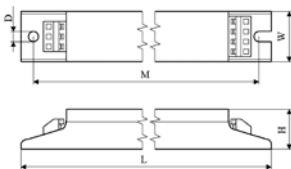
### Economic Electronic T5 Ballast



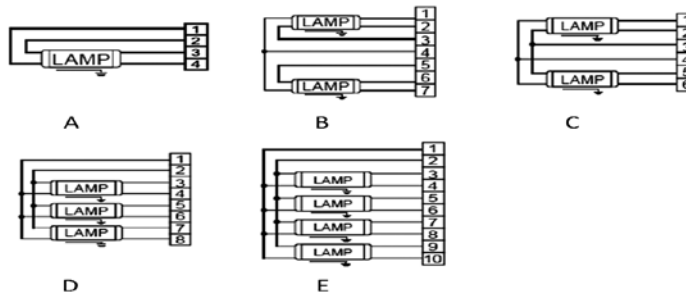
Product Code	Description	Start Type	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Ambient Temperature Range (°C)	Wiring Diagram
62623	ELB114E	Instant Start	15.5	0.07	0.98	< 15%	A3	70	-10-50	A
62624	ELB214E	Instant Start	32	0.14	0.98	< 15%	A3	70	-10-50	B
62625	ELB314E	Instant Start	46	0.21	0.98	< 15%	A3	70	-10-50	D
62626	ELB414E	Instant Start	64	0.29	0.98	< 15%	A3	70	-10-50	E
62627	ELB121E	Instant Start	24	0.11	0.98	< 15%	A3	70	-10-50	A
62630	ELB224E	Instant Start	52	0.23	0.98	< 15%	A3	70	-10-50	C
62628	ELB128E	Instant Start	31	0.14	0.98	< 15%	A3	70	-10-50	A
62629	ELB228E	Instant Start	61	0.27	0.98	< 15%	A3	70	-10-50	B

Product Code	Description	Lamp Type	Lamp Wattage	Number of Lamps	Voltage/Frequency	Dimensions (mm)					Corton Quantity (PCS)	Unit Weight (g)
						L	M	W	H	D		
62623	ELB114E	T5	14W	1	220-240V/50-60Hz	265	254	30.5	29	4.5	20	260
62624	ELB214E	T5	14W	2	220-240V/50-60Hz	280	270	38	29	4.5	20	350
62625	ELB314E	T5	14W	3	220-240V/50-60Hz	280	270	38	29	4.5	20	350
62626	ELB414E	T5	14W	4	220-240V/50-60Hz	280	270	42	29	4.5	20	380
62627	ELB121E	T5	21W	1	220-240V/50-60Hz	264	254	30.5	29	4.5	20	260
62630	ELB224E	T5	24W	2	220-240V/50-60Hz	280	270	38	29	4.5	20	350
62628	ELB128E	T5	28W	1	220-240V/50-60Hz	264	254	30.5	29	4.5	20	260
62629	ELB228E	T5	28W	2	220-240V/50-60Hz	362	352	30.5	30	4.5	20	320

Dimension (mm)



Wiring Diagram



# 6. Ballast for T8/T10 LFL

## 6.1 High Performance T8/T10 Electronic Ballast

### Features:

- Pre-heated start ballasts increase lamp life significantly, especially when used in frequent on/off applications
- High power factor , low THD
- High frequency operation, Flicker-free to bring lighting comfort
- Working with T8/T10 LFL to offer efficient and long life Linear lighting system solution
- Lamp EOL (End of Life) shutdown protection and re-lamp auto restarting
- Rated voltage 220~240V, 50/60Hz
- Design life 30,000 hours

### Certifications & Regulations:

- CCC, CE, CB
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



### Applications:

- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station

### High Performance T8/T10 Electronic Ballast CCC CE CB

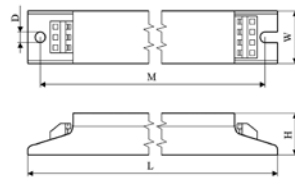
Product Code	Description	Start Type	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Temperature Range (°C)	Wiring Diagram
61378	ELB118S	Preheat Start	18	0.08	0.98	< 10%	A3	70	-10~50	A
61379	ELB218S	Preheat Start	36	0.16	0.98	< 10%	A3	70	-10~50	B
61380	ELB318S	Instant Start	54	0.24	0.98	< 10%	A3	70	-10~50	C
61381	ELB136S	Preheat Start	36	0.16	0.98	< 10%	A3	70	-10~50	A
61382	ELB236S	Preheat Start	72	0.32	0.98	< 10%	A3	70	-10~50	B
61383	ELB336S	Instant Start	108	0.48	0.98	< 10%	A3	70	-10~50	C
61384	ELB158S	Preheat Start	57	0.26	0.98	< 10%	A3	70	-10~50	A
61385	ELB254/258S	Program Start	105	0.45	0.98	< 10%	A3	70	-10~50	D

Product Code	Description	Lamp Type	Lamp Wattage*	Lamp Quantity	Voltage/Frequency	Dimensions (mm)					Carton Quantity (PCS)	Unit Weight (g)
						L	M	W	H	D		
61378	ELB118S	T8/T10	18W	1	220-240V/50-60Hz	251	239.5	30	27	4.5	30	200
61379	ELB218S	T8/T10	18W	2	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61380	ELB318S	T8/T10	18W	3	220-240V/50-60Hz	360	348.5	30	27	4.5	30	330
61381	ELB136S	T8/T10	36W	1	220-240V/50-60Hz	251	239.5	30	27	4.5	30	200
61382	ELB236S	T8/T10	36W	2	220-240V/50-60Hz	288	276.5	30	27	4.5	30	250
61383	ELB336S	T8/T10	36W	3	220-240V/50-60Hz	360	348.5	30	27	4.5	30	380
61384	ELB158S	T8/T10	58W	1	220-240V/50-60Hz	251	239.5	30	27	4.5	30	200
61385	ELB254/258S	T8/T10	54/58W**	2	220-240V/50-60Hz	359	347.5	30	27	4.5	30	330

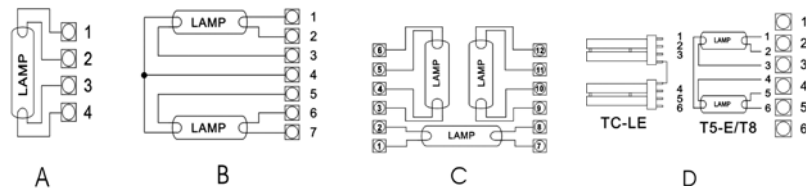
\*T8 lamp wattage

\*\*Work with both T5 54W and T8 58W lamp

Dimension (mm)



Wiring Diagram





## 6.2 Economic T8/T10 Electronic Ballast

### Features:

- Metal case design with good thermal performance and high reliability
- High power factor 0.98
- Lamp EOL (End of Life) shutdown protection and re-lamp auto restarting
- Working with T8/T10 LFL to offer efficient and stable Linear lighting system solution
- High frequency operation, Flicker-free to bring lighting comfort
- Rated voltage 220~240Vac, 50/60Hz
- Design life 20,000 hours

### Applications:

- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station

### Certifications & Regulations:

- CCC, CE, CB
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



### Economic Electronic Ballast For T8/T10 LFL

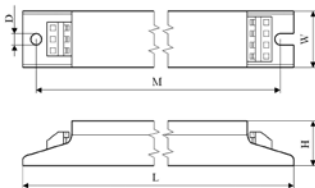


Product Code	Description	Start Type	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Temperature Range (°C)	Wiring Diagram
62640	ELB118E	Instant Start	18.5	0.08	0.98	< 15%	A3	70	-10~50	A
62641	ELB218E	Instant Start	36	0.16	0.98	< 15%	A3	70	-10~50	B
62642	ELB318E	Instant Start	54	0.24	0.98	< 15%	A3	70	-10~50	D
62643	ELB418E	Instant Start	70	0.31	0.98	< 15%	A3	70	-10~50	E
62644	ELB136E	Instant Start	36	0.16	0.98	< 15%	A3	70	-10~50	A
62645	ELB236E	Instant Start	72	0.32	0.98	< 15%	A3	70	-10~50	C

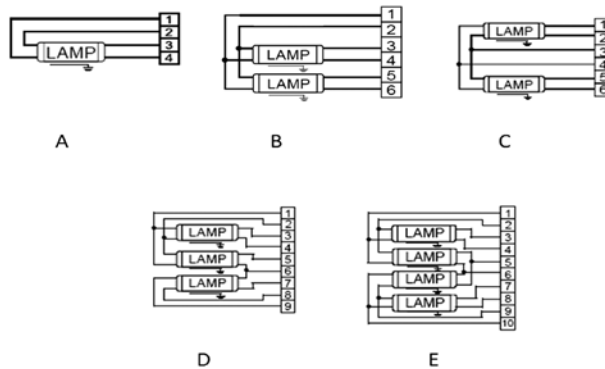
  

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)					Carton Quantity (PCS)	Unit Weight (g)
						L	M	W	H	D		
62640	ELB118E	T8/T10	18W	1	220-240V/50-60Hz	264	254	30.5	29	4.5	20	260
62641	ELB218E	T8/T10	18W	2	220-240V/50-60Hz	264	254	30.5	29	4.5	20	260
62642	ELB318E	T8/T10	18W	3	220-240V/50-60Hz	280	270	38	29	4.5	20	350
62643	ELB418E	T8/T10	18W	4	220-240V/50-60Hz	280	270	42	29	4.5	20	380
62644	ELB136E	T8/T10	36W	1	220-240V/50-60Hz	264	254	30.5	29	4.5	20	230
62645	ELB236E	T8/T10	36W	2	220-240V/50-60Hz	280	270	38	29	4.5	20	295

Dimension (mm)



Wiring Diagram



## 6. Ballast for T8/T10 LFL

### 6.3 High Performance T8/T10 Electromagnetic Ballast

#### Features:

- Stable power output , excellent choice for high line voltage fluctuation areas
- Fireproof materials ensures safe and reliable operation
- Low Loss, efficient
- Vacuum saturation technology, keep noise level within 25db
- Rated voltage 220,50Hz
- Temp rise:Δt55°C, Tw130°C

#### Certifications & Regulations:

- CCC
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



#### Applications:

- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station

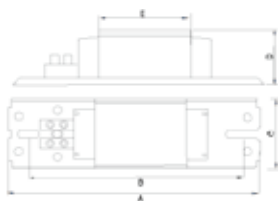
#### High Performance T8/T10 Electromagnetic Ballast



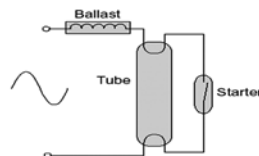
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Power Factor	Capacitor (μF)	Max Loss (W)	Temp Rise(K)
76509	MB15/220V/50Hz	220V/50Hz	T8/T10	15W	0.33	4	8	55
76510	MB18/20/220V/50Hz	220V/50Hz	T8/T10	18/20W	0.33	4	8	55
76511	MB30/220V/50Hz	220V/50Hz	T8/T10	30W	0.45	4	9	55
76512	MB36/40/220V/50Hz	220V/50Hz	T8/T10	36/40W	0.51	4.7	9	55
76514	MB58/65/220V/50Hz	220V/50Hz	T8/T10	58/65W	0.51	6	11	55
76515	MB22/220V/50Hz	220V/50Hz	T8/T10	22W	0.33	4	9	55
76516	MB32/220V/50Hz	220V/50Hz	T8/T10	32W	0.45	5	9	55

Product Code	Description	Max Operating Temp(°C)	Dimensions (mm)					Carton Quantity (PCS)	Carton Weight (Kg)	Net Weight (Kg)
			A	B	C	D	E			
76509	MB15/220V/50Hz	130	150	130	41	26.5	55	20	10.5	10.2
76510	MB18/20/220V/50Hz	130	150	130	41	26.5	55	20	10.22	9.92
76511	MB30/220V/50Hz	130	150	130	41	26.5	60	20	11.12	10.82
76512	MB36/40/220V/50Hz	130	150	130	41	26.5	65	20	12.08	11.78
76514	MB58/65/220V/50Hz	130	190	170	41	26.5	110	20	18.82	18.52
76515	MB22/220V/50Hz	130	150	130	41	26.5	62	20	11.38	11.08
76516	MB32/220V/50Hz	130	150	130	41	26.5	65	20	11.94	11.64

Dimension (mm)



Wiring Diagram



## 6.4 Standard Performance T8/T10 Electromagnetic Ballast

### Features:

- Fireproof materials ensures safe and reliable operation
- Stable power output , excellent choice for high line voltage fluctuation areas
- Vacuum saturation technology, keep noise level within 25db
- Rated voltage 220,50Hz
- Temp rise:Δt55°C, Tw130°C

### Certifications & Regulations:

- CCC
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1

### Applications:

- Commercial Ceiling: Office, Hospital, Supermarket
- Industrial: Factory, Warehouse
- Public Building: Airport, Subway, Railway Station



### Standard Performance T8/T10 Electromagnetic Ballast

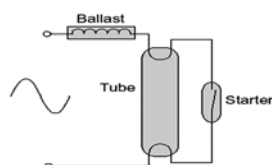


Product Code	Description	Voltage/ Frequency	Lamp Type	Lamp Wattage	Power Factor	Capacitor (μF)	Max Loss (W)	Temp Rise (K)									
									Max Operating Temp(°C)	Dimensions (mm)			Carton Quantity (PCS)	Carton Weight (Kg)	Net Weight (Kg)		
			A	B	C	D	E										
76517	EMB18/20/220V/50Hz	220V/50Hz	T8/T10	18/20W	0.33	4	8	60	120	150	130	41	26.5	55	20	10.32	10.02
76518	EMB30/220V/50Hz	220V/50Hz	T8/T10	30W	0.45	4	8.5	60	120	150	130	41	26.5	60	20	11.04	10.74
76519	EMB36/40/220V/50Hz	220V/50Hz	T8/T10	36/40W	0.51	4.7	9	60	120	150	130	41	26.5	65	20	12.02	11.72
76520	EMB22/220V/50Hz	220V/50Hz	T8/T10	22W	0.33	4	9	60	120	150	130	41	26.5	62	20	11.4	11.1
76521	EMB32/220V/50Hz	220V/50Hz	T8/T10	32W	0.45	4.4	9	60	120	150	130	41	26.5	65	20	11.9	11.6

Dimension (mm)



Wiring Diagram



## 6. Ballast for T8/T10 LFL

### 6.5 Starter

#### Features:

- Voltage: 220-240V
- Lamp wattage: 4-65W/4-22W
- Starters: 20,000



#### Certifications & Regulations:

- VDE, UL, CE

#### Starter



Product Code	Description	Voltage (V)	Wattage (W)	Case	Carton Quantity (PCS)	Carton Weight (Kg)	Avg. cycle life (switching cycles)	Package
24975	Starter FU 10 (155/500 4-65W 220-240V)	220-240	4-65	PP	1500	12	8000	color
81024	FU10 155/500 4W-65W 220-240V	220-240	4-65	PP	1500	12	8000	color
81850	STARTERS FU10 155/500 4-65W 220-240V PC	220-240	4-65	PC	1500	12	8000	Industrial
89698	STARTERS FU10 155/200 4-22W 220-240V Series RoHS	220-240	4-22	PC	1500	12	8000	color
89699	STARTERS FU10 155/200 4-22W 220-240V Series	220-240	4-22	PC	2000	15	8000	Industrial

Lamp type	Lamp Wattage (W)	Nominal Dimension (mm)
<b>155/500 (4-65W) Starter suitable for lamps</b>		
T5 Linear	4	16*150
	6	16*225
	8	16*300
	13	16*525
T8 Linear	15	26*450
	18	26*600
	30	26*900
	36	26*1200
	58	26*1500
T10 Linear	20	32*600
	40	32*1200
T12 Linear	20	38*600
	40	38*1200
	65	38*1500
Circular	22	28*210
	32	28*298
	40	28*400

Lamp type	Lamp Wattage (W)	Nominal Dimension (mm)
<b>155/500 (4-22W) Starter suitable for lamps</b>		
T5 Linear	4	16*150
	6	16*225
	8	16*300
T8 Linear	15	26*450
	18	26*600
T10 Linear	20	32*600
T12 Linear	20	38*600
Circular	22	28*210

# 7. Ballast for Plug-in CFL

## 7.1 Plug-in CFL Electromagnetic Ballast

### Features:

- Stable power output , excellent choice for high line voltage fluctuation areas
- Low temperate rise, long life design
- Low Loss, efficient
- Working with plug-in CFL 2 pin
- Vacuum saturation technology, keep noise level within 25db
- Fireproof materials ensures safe and reliable operation
- Compact size, easy for installation

### Certifications & Regulations:

- CCC
- Harmonic: IEC 61000-3-2
- EMI: CISPR15
- Safety: IEC 61347-2-3, IEC 61347-1



### Applications:

- Office, Hospital
- Shop, Hotel, Supermarket
- Airport, Subway, Railway Station

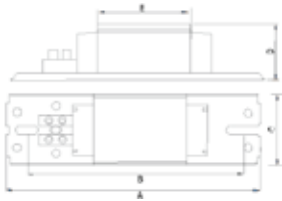
### Plug-in CFL Electromagnetic Ballast



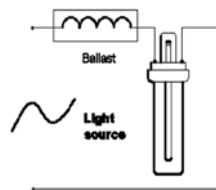
Product Code	Description	Voltage/Frequency	Lamp Type	Lamp Wattage	Power Factor	Capacitor (μF)	Loss (W)	Temp Rise (K)
76522	EMB10/220V/50Hz	220V/50Hz	Plug-in CFL 2Pin	10W	0.35	2	5	60
76523	EMB13/220V/50Hz	220V/50Hz	Plug-in CFL 2Pin	13W	0.48	2	6	60
76524	EMB18/220V/50Hz	220V/50Hz	Plug-in CFL 2Pin	18W	0.40	2	7	60

Product Code	Description	Max Operating Temp(°C)	Dimensions (mm)					Carton Quantity (PCS)	Carton Weight (Kg)	Net Weight (Kg)
			A	B	C	D	E			
76522	EMB10/220V/50Hz	120	86	66	41	26.5	33	40	13.26	12.96
76523	EMB13/220V/50Hz	120	86	66	41	26.5	33	40	13.22	12.92
76524	EMB18/220V/50Hz	120	86	66	41	26.5	33	40	16.5	16.2

Dimension (mm)



Wiring Diagram



# 7. Ballast for Plug-in CFL

## 7.2 Plug-in CFL Electronic Ballast

### Features:

- High power factor 0.98
- Working with plug-in CFL to offer efficient and stable Linear lighting system solution
- High frequency operation, Flicker-free to bring lighting comfort
- Lamp EOL (End of Life) shutdown protection and re-lamp auto restarting
- Rated voltage 220~240V, 50/60Hz
- Design life 20,000 hours

### Applications:

- Office, Hospital
- Shop, Hotel, Supermarket
- Airport, Subway, Railway Station

### Certifications & Regulations:

- CCC
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-1, IEC 61347-2-3



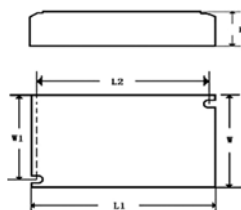
### Plug-in CFL Electronic Ballast



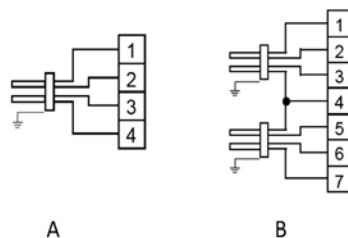
Product Code	Description	Start Type	Input Power (W)	Input Current (A)	Power Factor (PF)	THD	EEL	Tc Point (°C)	Temperature Range (°C)	Wiring Diagram
62660	CEB110E	Instant Start	11	0.05	0.98	< 15%	A3	70	-10~50	A
62662	CEB111E	Instant Start	12.5	0.06	0.98	< 15%	A3	70	-10~50	A
62663	CEB211E	Instant Start	24	0.11	0.98	< 15%	A3	70	-10~50	B
79050	CEB113E	Instant Start	14	0.07	0.98	< 15%	A3	70	-10~50	A
79051	CEB213E	Instant Start	28	0.13	0.98	< 15%	A3	70	-10~50	B
79052	CEB118E	Instant Start	18	0.09	0.98	< 15%	A3	70	-10~50	A
79053	CEB218E	Instant Start	36	0.17	0.98	< 15%	A3	70	-10~50	B
62661	CEB210E	Instant Start	23	0.11	0.98	< 15%	A3	70	-10~50	B
62666	CEB126E	Instant Start	27	0.13	0.98	< 15%	A3	70	-10~50	A
62667	CEB226E	Instant Start	52	0.24	0.98	< 15%	A3	70	-10~50	B
62668	CEB132E	Instant Start	32	0.15	0.98	< 15%	A3	70	-10~50	A
62669	CEB232E	Instant Start	64	0.3	0.98	< 15%	A3	70	-10~50	B

Product Code	Description	Lamp Type	Lamp Wattage	Lamp Quantity	Voltage/Frequency	Dimensions (mm)					Carton Quantity (PCS)	Unit Weight (g)
						L1	L2	W	W1	H		
62660	CEB110E	Plug-in CFL 4pin	10W	1	220V/50-60Hz	103	91	80	74	33	30	140
62662	CEB111E	Plug-in CFL 4pin	11W	1	220V/50-60Hz	103	91	80	74	33	30	140
62663	CEB211E	Plug-in CFL 4pin	11W	2	220V/50-60Hz	103	91	80	74	33	30	180
79050	CEB113E	Plug-in CFL 4pin	13W	1	220V/50-60Hz	103	91	80	74	33	30	150
79051	CEB213E	Plug-in CFL 4pin	13W	2	220V/50-60Hz	103	91	80	74	33	30	150
79052	CEB118E	Plug-in CFL 4pin	18W	1	220V/50-60Hz	103	91	80	74	33	30	140
79053	CEB218E	Plug-in CFL 4pin	18W	2	220V/50-60Hz	103	91	80	74	33	30	160
62661	CEB210E	Plug-in CFL 4pin	20W	2	220V/50-60Hz	103	91	80	74	33	20	180
62666	CEB126E	Plug-in CFL 4pin	26W	1	220V/50-60Hz	103	91	80	74	33	30	150
62667	CEB226E	Plug-in CFL 4pin	26W	2	220V/50-60Hz	103	91	80	74	33	30	190
62668	CEB132E	Plug-in CFL 4pin	32W	1	220V/50-60Hz	103	91	80	74	33	30	135
62669	CEB232E	Plug-in CFL 4pin	32W	2	220V/50-60Hz	103	91	80	74	33	30	290

Dimension (mm)



Wiring Diagram



## 8. 12V Electronic Transformer

### Features:

- Terminal connector to shorten operation lead time
- Brand new design of compact size, idea selection for delicate lighting fixture
- High efficiency, high reliability
- High power factor, low THD
- Design life 20,000 hours

### Applications:

- Office, Hospital
- Shop, Hotel, Supermarket
- Airport, Subway, Railway Station

### Certifications & Regulations:

- CE, CB
- Harmonic: IEC 61000-3-2
- EMC: IEC 61547
- EMI: CISPR15
- Safety: IEC 61347-1, IEC 61347-2-3



### 12V Electronic Transformer

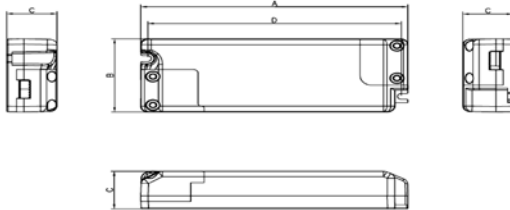


Product Code	Description	Load Range (W)	THD	Input Voltage Range for Safety Operation (V)	Input Power (W)	Max Power loss (W)	Power Factor	Operating Frequency (KHz)	Dimmer	Dimming range
65631	SET60LV	20-60	< 15%	176-264	58.5	4	0.97	40-55	Trailing edge	20-60W
65632	SET60LTD	20-60	< 15%	176-264	58.5	4	0.97	40-55	Trailing&Leading edge	20-60W

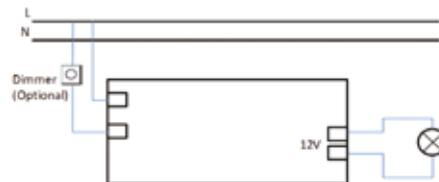
  

Product Code	Description	Lamp Type	Lamp Wattage (W)	Voltage/Frequency	Dimensions (mm)				Carton Quantity (PCS)	Unit Weight (g)
					A	B	C	D		
65631	SET60LV	Halogen	20W-60W	220V-240V 50/60Hz	109	40	20.5	103.6	50	76
65632	SET60LTD	Halogen	20W-60W	220V-240V 50/60Hz	109	40	20.5	103.6	126	76

Dimension (mm)



Wiring Diagram



Max distance between transformer and the lamp is: 2m  
Terminal wire cross section: 0.75-1.5mm<sup>2</sup>

# Index By Product Description

## Halogen Lamps

Product Code	Product Description	Page No.
19626	M62/FTD	13
19635	M66/FTF	13
19634	M199/FTH	13
19639	M264/FTA/CG	13
19636	M251/FTC/CG	13
19625	M262/FTD/CG	13
19627	M266/FTF/CG	13
17200	FTD/M262/CG	13
17201	FTF/M199/CG	13
77900	Q20MR16HIR/CCG10	13
77901	Q20MR16HIR/CCG24	13
77902	Q20MR16HIR/CCG36	13
79584	Q30MR16HIR/CCG10	13
79585	Q30MR16HIR/CCG24	13
79586	Q30MR16HIR/CCG36	13
77904	Q35MR16HIR/CCG10	13
77905	Q35MR16HIR/CCG24	13
77906	Q35MR16HIR/CCG36	13
77907	Q45MR16HIR/CCG10	13
77908	Q45MR16HIR/CCG24	13
77909	Q45MR16HIR/CCG36	13
77657	MR16 IR 20W 12V WFL	13
77658	MR16 IR 35W 12V WFL	13
20841	EYJ/CC	13
20840	EYC/CC	13
20858	ESX/CG	13
20857	BAB/CG	13
20864	FRB/CG	13
20860	FRA/CG	13
20859	FMW/CG	13
20872	EXT/CG	13
20871	EXZ/CG	13
20867	EXN/CG	13
20865	FNW/CG	13
20876	EYF/CG	13
20874	EYJ/CG	13
20873	EYC/CG	13
88231	M69/BAB	14
88229	M81/FMW	14
88234	M58/EXN	14
88232	M80/FNV	14
71624	MR16 12V 20W 8D /open 5000 hours	14
71625	MR16 12V 20W 36D /BAB /open 5000 hours	14
71618	MR16 12V 50W 8D /open 5000 hours	14
71619	MR16 12V 50W 18D /open 5000 hours	14
71620	MR16 12V 50W 36D /ENX /open 5000 hours	14
71621	MR16 12V 50W 60D /FNV /open 5000 hours	14
71616	MR16 12V 20W 8D /CG 5000 hours	14
71617	MR16 12V 20W 36D /BAB /CG 5000 hours	14
71610	MR16 12V 50W 8D /CG 5000 hours	14
71611	MR16 12V 50W 18D /CG 5000 hours	14
71612	MR16 12V 50W 36D /ENX /CG 5000 hours	14
71613	MR16 12V 50W 60D /FNV /CG 5000 hours	14
88235	M269/BAB/CG	14
88236	M281/FMW/CG	14
88237	M250/EXZ/CG	14
88239	M258/EXN/CG	14
88238	M280/FNV/CG	14
38000	M69/BAB/EC	14
38001	M81/FMW/EC	14
38002	M58/EXN/EC	14
89677	Q20MR16/FL	14
89678	Q20MR16/SP	14
89679	Q35MR16/FL	14
89680	Q35MR16/MIFMVI	14
89681	Q50MR16/FL	14
89682	Q50MR16/M	14
38012	M268/ESX/CG/EC	14
38006	M269/BAB/CG/EC	14
38013	FRB/CG/EC	14
38007	M281/FMW/CG/EC	14
38014	M249/EXT/CG/EC	14
39611	M250/EXZ/CG/EC	14

Product Code	Product Description	Page No.
38011	M258/EXN/CG/EC	14
39236	M280/FNV/CG/EC	14
89683	Q20MR16/FL/CG	14
89684	Q20MR16/SP/CG	14
89685	Q35MR16/FL/CG	14
89686	Q35MR16/MIFMVI CG	14
89687	Q50MR16/FL/CG	14
89688	Q50MR16/M/CG	14
88216	M269/BAB/CG/AL	14
88217	M281/FMW/CG/AL	14
88215	M258/EXN/CG/AL	14
88214	M280/FNV/CG/AL	14
10774	AR111 35W12V SP	15
10775	AR111 35W12V FL	15
10766	AR111 50W12V SP	15
10767	AR111 50W12V FL	15
10768	AR111 75W12V SP	15
10769	AR111 75W12V FL	15
10771	AR111 75W12V WFL	15
41915	AR111 100W12V SP	15
41922	AR111 100W12V FL	15
41923	AR111 100W12V WFL	15
25152	AR111 50W 12V SP	15
25154	AR111 50W 12V FL	15
25155	AR111 75W 12V SP	15
25156	AR111 75W 12V FL	15
25157	AR111 75W 12V WFL	15
40402	Q50MR16/230/25°	15
40403	Q50MR16/230/36°	15
40404	Q50MR16/240/25°	15
40405	Q50MR16/240/36°	15
10898	Q20MR16/230/FL	15
10896	Q35MR16/230/FL	15
92729	Q50MR16/230/FL	15
10859	Q20MR16/240/FL	15
10857	Q35MR16/240/FL	15
92730	Q50MR16/240/FL	15
12988	Q50MR16/240/FL START	15
12995	Q50MR16/240/FL START	15
13003	Q50MR16/240/FL START	15
45692	SHORTG9 25W CL 230V	16
22504	SHORTG9 40W CL 230V	16
88941	SHORTG9 25W CL 240V	16
22498	SHORTG9 40W CL 240V	16
75979	OT SHORTG9 25W CL 240V GE HFBL2/20 TRAY	16
88305	OT SHORTG9 40W CL 240V GE HFBL2/20 TRAY	16
75980	OT SHORTG9 60W CL 240V GE HFBL2/20 TRAY	16
75983	OT SHORTG9 75W CL 240V GE HFBL2/20 TRAY	16
88311	OT SHORTG9 25W FR 240V GE HFBL2/20 TRAY	16
88307	OT SHORTG9 40W FR 240V GE HFBL2/20 TRAY	16
75982	OT SHORTG9 60W FR 240V GE HFBL2/20 TRAY	16
75984	OT SHORTG9 75W FR 240V GE HFBL2/20 TRAY	16
34720	M29/Q10 G4	16
34718	M30/ESB/Q20 G4	16
34719	M34/FHE/Q20 G4	16
42959	M9/H5 G4	16
34674	M11/H10 G4	16
34714	M35/Q20 G4	16
34715	M47/Q20 G4	16
34708	M95/Q35/GY6.35	16
34702	M32/Q50 GY6.35	16
34682	M313/Q75/GY6.35	16
34676	M28/Q100 GY6.35	16
34663	M67/Q100 GY6.35 24V	16
34728	M42/Q10 G4	16
34712	M76/Q20/GY6.35	16
34710	M75/Q35/GY6.35	16
34703	M74/Q50/GY6.35	16
34683	M73/Q75/GY6.35	16
34664	M180/Q100/GY6.35	16
35705	Q10T2.5/12V G4	16
35710	Q20T2.5/12V G4	16
35696	Q20T3/12V GY6.35	16

Product Code	Product Description	Page No.
35699	Q35T3/12V GY6.35	16
35700	Q50T3/12V GY6.35	16
35701	Q75T3/12V GY6.35	16
12708	M11/Q10/G4 ST	16
12711	M47/Q20/G4 ST	16
12712	M95/Q35/GY6.35 ST	16
12713	M32/Q50/GY6.35 ST	16
12718	Q100/GY6.35 ST	16
76210	K12 C100W 230V R7S	17
76209	K11 C130W 230V R7S	17
76208	K9 C200W 230V R7S	17
76207	K1 C330W 230V R7S	17
76530	K12 C100W 240V R7S	17
76529	K11 C130W 240V R7S	17
76528	K9 C200W 240V R7S	17
76527	K1 C330W 240V R7S	17
91515	K9/Q225 T3/230V HIR	17
31598	K1/Q375 T3/230V HIR	17
43299	K9/Q225 T3/240V HIR	17
31612	K1/Q375 T3/240V HIR	17
29161	K1/Q500 T2.5/CL	17
29165	K1/Q500 T2.5/CL	17
29180	K4/Q1000 T3/CL	17
29184	K5/Q1500 T3/CL	17
30886	K8/Q2000 T3/CL	17
29168	K1/Q500 T2.5/CL	17
29181	K4/Q1000 T3/CL	17
43712	K10/1000 T3/CL	17
23830	K5/Q1500 T3/CL	17
29187	K5/Q1500 T3/CL	17
23832	K5/Q1500 T3/CL	17
32108	Halo T38/1000W/E40/230	18
32109	Halo T38/1000W/E40/240	18
27826	40PAR16/230/FL	18
27845	40PAR16/240/FL	18
40363	50PAR20/230/SP	18
40362	50PAR20/230/FL	18
40364	50PAR20/240/SP	18
40365	50PAR20/240/FL	18
95700	50PAR20 FL-230V	18
95701	50PAR20 SP-230V	18
95775	50PAR20/240/SP	18
95776	50PAR20/240/FL	18
91775	75PAR25/230/FL	18
92165	75PAR25/240/FL	18
40366	75PAR30/230/SP	18
40349	75PAR30/230/FL	18
32484	100PAR30/230/FL	18
40367	75PAR30/240/SP	18
40361	75PAR30/240/FL	18
32482	100PAR30/240/FL	18
95702	75PAR30 FL-230V	18
95703	75PAR30 SP-230V	18
95777	75PAR30/240/SP	18
95778	75PAR30/240/FL	18
95779	100PAR30/240/SP	18
95780	100PAR30/240/FL	18
10302	50PAR30/110/K9N	18
10301	50PAR30/110/K9N	18
76957	28W HALO A CL E27 230V	18
76953	42W HALO A CL E27 230V	18
76948	70W HALO A CL E27 230V	18
76944	100W HALO A CL E27 230V	18
76954	28W HALO A CL E27 240V	18
76950	42W HALO A CL E27 240V	18
76945	70W HALO A CL E27 240V	18
76941	100W HALO A CL E27 240V	18
76955	28W HALO A CL B22 240V	18
76951	42W HALO A CL B22 240V	18
76946	70W HALO A CL B22 240V	18
76942	100W HALO A CL B22 240V	18
78795	29A/CL/H-2PK	19
78796	43A/CL/H-2PK	19



Product Code	Product Description	Page No.
78797	53A/CL/H-2PK	19
82137	60A/CL/H/RVL-CD	19
72373	60A/CRY/H/RVL-CD	19
78798	72A/CL/H-2PK	19
82138	75A/CL/H/RVL-CD	19
82139	100A/CL/H/RVL-CD	19
72374	100A/CRY/H/RVL-CD	19
76940	18W HALO C CL E14 230V	19
76936	28W HALO C CL E14 230V	19
76575	42W HALO C CL E14 230V	19
76934	28W HALO C CL E27 230V	19
76573	42W HALO C CL E27 230V	19
76937	18W HALO C CL E14 240V	19
76930	28W HALO C CL E14 240V	19
76569	42W HALO C CL E14 240V	19
76929	28W HALO C CL E27 240V	19
76568	42W HALO C CL E27 240V	19
76932	28W HALO C CL B15 240V	19
76571	42W HALO C CL B15 240V	19
76938	18W HALO C CL B22 240V	19
76931	28W HALO C CL B22 240V	19
76570	42W HALO C CL B22 240V	19
76567	18W HALO S CL E14 230V	19
76561	28W HALO S CL E14 230V	19
76553	42W HALO S CL E14 230V	19
76565	18W HALO S CL E27 230V	19
76559	28W HALO S CL E27 230V	19
76551	42W HALO S CL E27 230V	19
76562	18W HALO S CL E14 240V	19
76555	28W HALO S CL E14 240V	19
76548	42W HALOS CL E14 240V	19
76554	28W HALO S CL E27 240V	19
76547	42W HALOS CL E27 240V	19
76557	28W HALO S CL B15 240V	19
76563	18W HALO S CL B22 240V	19
76556	28W HALO S CL B22 240V	19
76549	42W HALOS CL B22 240V	19
76546	28W HALO R50 E14 230V	19
76543	42W HALO R63 E27 230V	19
76540	42W HALO R80 E27 230V	19
76537	70W HALO R80 E27 230V	19
76544	28W HALO R50 E14 240V	19
76541	42W HALO R63 E27 240V	19
76538	42W HALO R80 E27 240V	19

## Linear Fluorescent Lamps

Product Code	Product Description	Page No.
71632	F14T5/830/MM/ECO	23
71633	F14T5/835/MM/ECO	23
71634	F14T5/841/MM/ECO	23
71636	F14T5/865/MM/ECO	23
71637	F21T5/830/MM/ECO	23
71638	F21T5/835/MM/ECO	23
71639	F21T5/841/MM/ECO	23
71641	F21T5/865/MM/ECO	23
71642	F28T5/830/MM/ECO	23
71643	F28T5/835/MM/ECO	23
71644	F28T5/841/MM/ECO	23
71646	F28T5/865/MM/ECO	23
71627	F54T5/830/MM/ECO	23
71628	F54T5/835/MM/ECO	23
71629	F54T5/841/MM/ECO	23
71631	F54T5/865/MM/ECO	23
71647	F35T5/830/MM/ECO	23
71648	F35T5/835/MM/ECO	23
71649	F35T5/841/MM/ECO	23
71657	F35T5/865/MM/ECO	23
71632	F14W/T5/830/Starcoat/40	23
71633	F14W/T5/840/Starcoat/40	23
71634	F14W/T5/865/Starcoat/40	23

Product Code	Product Description	Page No.
71636	F21W/T5/830/Starcoat/40	23
71637	F21W/T5/840/Starcoat/40	23
71638	F21W/T5/865/Starcoat/40	23
71639	F28W/T5/830/Starcoat/40	23
71641	F28W/T5/840/Starcoat/40	23
71642	F28W/T5/865/Starcoat/40	23
71643	F35W/T5/830/Starcoat/40	23
71644	F35W/T5/840/Starcoat/40	23
71646	F35W/T5/865/Starcoat/40	23
72420	F24W/T5/830/Starcoat/40	23
72421	F24W/T5/840/Starcoat/40	23
72422	F24W/T5/865/Starcoat/40	23
72423	F39W/T5/830/Starcoat/40	23
72424	F39W/T5/840/Starcoat/40	23
72425	F39W/T5/865/Starcoat/40	23
72429	F54W/T5/830/Starcoat/40	23
72430	F54W/T5/840/Starcoat/40	23
72431	F54W/T5/865/Starcoat/40	23
72426	F49W/T5/830/Starcoat/40	23
72427	F49W/T5/840/Starcoat/40	23
72428	F49W/T5/865/Starcoat/40	23
72432	F80W/T5/830/Starcoat/40	23
72433	F80W/T5/840/Starcoat/40	23
72434	F80W/T5/865/Starcoat/40	23
62694E	F14W/830 T5/StarV/SL30	24
62695E	F14W/840 T5/StarV/SL30	24
62696E	F14W/865 T5/StarV/SL30	24
62697E	F21W/830 T5/StarV/SL30	24
62698E	F21W/840 T5/StarV/SL30	24
62699E	F21W/865 T5/StarV/SL30	24
62700E	F28W/830 T5/StarV/SL30	24
62701E	F28W/840 T5/StarV/SL30	24
62702E	F28W/865 T5/StarV/SL30	24
37008	F8W/T5/827/IND	24
37009	F8W/T5/840/IND	24
39447	F13W/T5/827/SL	24
39446	F4W/T5/35/SL	24
10004	F4W/T5/CW	24
39442	F6W/T5/35/SL	24
39445	F6W/T5/33/SL	24
10028	F6W/T5/D	24
37754	F8W/T5/29/SL	24
37756	F8W/T5/35/SL	24
10059	F8W/T5/CW	24
10055	F8W/T5/D	24
10089	F13W/T5/MM	24
10086	F13W/T5/CW	24
79462/F	F18W/T8/MM/Tri-Tech plus	24
79463/F	F18W/T8/CW/Tri-Tech plus	24
79464/F	F18W/T8/DL/Tri-Tech plus	24
79465/F	F30W/T8/MM/Tri-Tech plus	24
79466/F	F30W/T8/CW/Tri-Tech plus	24
79469/F	F30W/T8/DL/Tri-Tech plus	24
79470/F	F36W/T8/MM/Tri-Tech plus	24
79471/F	F36W/T8/CW/Tri-Tech plus	24
79472/F	F36W/T8/DL/Tri-Tech plus	24
66410	F58W/T8/830/Tri-Tech	24
66411	F58W/T8/840/Tri-Tech	24
66412	F58W/T8/865/Tri-Tech	24
23248	F15W/T8/830/POLYLUX	25
78133	F15W/T8/835/POLYLUX	25
23249	F15W/T8/840/POLYLUX	25
78131	F15W/T8/860/POLYLUX	25
62560	F18W/T8/827/POLYLUX	25
62559	F18W/T8/830/POLYLUX	25
62534	F18W/T8/835/POLYLUX	25
62558	F18W/T8/840/POLYLUX	25
62557	F18W/T8/860/POLYLUX	25
18141	F30W/T8/830/POLYLUX	25
78132	F30W/T8/835/POLYLUX	25
18142	F30W/T8/840/POLYLUX	25
62554	F36W/T8/827/POLYLUX	25
62553	F36W/T8/830/POLYLUX	25

Product Code	Product Description	Page No.
62532	F36W/T8/835/POLYLUX	25
62551	F36W/T8/840/POLYLUX	25
62552	F36W/T8/860/POLYLUX	25
93330	F58W/T8/827/POLYLUX	25
93334	F58W/T8/830/POLYLUX	25
93331	F58W/T8/835/POLYLUX	25
93333	F58W/T8/840/POLYLUX	25
12943	F58W/T8/860/POLYLUX	25
62572	F70W/T8/835/POLYLUX	25
62573	F70W/T8/840/POLYLUX	25
62567	F18T8/830/POLYLUX/LL	25
62566	F18T8/840/POLYLUX/LL	25
62565	F36T8/830/POLYLUX/LL	25
62564	F36T8/840/POLYLUX/LL	25
62563	F58T8/830/POLYLUX/LL	25
62562	F58T8/840/POLYLUX/LL	25
81412	F10T8/33	25
17272	F10T8/54	25
61516	F15W/33	25
61517	F15W/54	25
65152	F18T8/MM	25
73335	F18T8/CW	25
73336	F18T8/DL	25
65153	F36T8/MM	25
73337	F36T8/CW	25
73338	F36T8/DL	25
79462	F10W/DL XL	26
79463	F18W/MM XL	26
79464	F18W/CW XL	26
79465	F18W/DL XL	26
79466	F36W/MM XL	26
79469	F36W/CW XL	26
79470	F36W/DL XL	26
61535	F18T8/MM	26
61536	F18T8/CW	26
61537	F18T8/DL	26
61538	F30T8/MM	26
61539	F30T8/CW	26
61540	F30T8/DL	26
61541	F36T8/MM	26
61542	F36T8/CW	26
61543	F36T8/DL	26
717085	F20W/T12/DL	26
717095	F40W/T12/DL	26
95543	Edison FCL22/DL	26
95544	Edison FCL32/DL	26
95545	Edison FCL40/DL	26
61607	FCL22W/827	26
61608	FCL22W/840	26
61609	FCL22W/850	26
24847	FCL22/HO/DL/860	26
61610	FCL32W/827	26
61611	FCL32W/840	26
61612	FCL32W/850	26
24848	FCL32/HO/DL/860	26
61613	FCL40W/827	26
61614	FCL40W/840	26
61615	FCL40W/850	26
24849	FCL40/HO/DL/860	26
75709	FC22W/T5/830	26
75720	FC22W/T5/840	26
75712	FC40W/T5/830	26
75713	FC40W/T5/840	26
75717	FC55W/T5/830	26
75718	FC55W/T5/840	26

# Index By Product Description

## Compact Fluorescent Lamps Non-Integrated

Product Code	Product Description	Page No.
47201E	F7BX/NC0/840/2P/STD	35
47231E	F9BX/NC0/827/2P/STD	35
47232E	F9BX/NC0/840/2P/STD	35
47285E	F11BX/NC0/827/2P/STD	35
47286E	F11BX/NC0/840/2P/STD	35
47200N	F7BX/827/2P	35
47201N	F7BX/840/2P	35
47202N	F7BX/865/2P	35
47231N	F9BX/827/2P	35
47232N	F9BX/840/2P	35
47284N	F9BX/865/2P	35
47285N	F11BX/827/2P	35
47286N	F11BX/840/2P	35
47287N	F11BX/865/2P	35
85182E	F10DBX/827/2P/STD	35
85183E	F10DBX/840/2P/STD	35
85185E	F13DBX/827/2P/STD	35
85186E	F13DBX/840/2P/STD	35
85194E	F18DBX/827/2P/STD	35
85195E	F18DBX/840/2P/STD	35
65396E	F26DBX/827/2P/G24d-3	35
65397E	F26DBX/830/2P/G24d-3	35
65398E	F26DBX/835/2P/G24d-3	35
65399E	F26DBX/840/2P/G24d-3	35
65405E	F26DBX/865/2P/G24d-3	35
47288	F10DBX/827/2P	35
47290	F10DBX/840/2P	35
47291	F10DBX/865/2P	35
47296	F13DBX/827/2P	35
47300	F13DBX/840/2P	35
47303	F13DBX/865/2P	35
47306	F18DBX/827/2P	35
47318	F18DBX/840/2P	35
47319	F18DBX/865/2P	35
85194N	F18DBX/827/2P	35
85195N	F18DBX/840/2P	35
85196N	F18DBX/865/2P	35
85182N	F10DBX/827/2P	36
72838N	F10DBX/830/2P	36
85183N	F10DBX/840/2P	36
85184N	F10DBX/865/2P	36
85185N	F13DBX/827/2P	36
72840N	F13DBX/830/2P	36
85186N	F13DBX/840/2P	36
85191N	F13DBX/865/2P	36
85194N	F18DBX/827/2P	36
72842N	F18DBX/830/2P	36
85195N	F18DBX/840/2P	36
85196N	F18DBX/865/2P	36
95824EN	F10DBX/827/2P	36
95825EN	F10DBX/840/2P	36
95826EN	F10DBX/865/2P	36
95827EN	F13DBX/827/2P	36
95828EN	F13DBX/840/2P	36
95829EN	F13DBX/865/2P	36
95830EN	F18DBX/827/2P	36
95831EN	F18DBX/840/2P	36
95832EN	F18DBX/865/2P	36
85216E	F13DBX/865/4P/STD	36
85214E	F13DBX/840/4P/STD	36
72848E	F18DBX/830/4P/STD	36
85232E	F18DBX/840/4P/STD	36
85236E	F18DBX/865/4P/STD	36
65407E	F26DBX/827/4P/G24q-3	36
65409E	F26DBX/830/4P/G24q-3	36
65411E	F26DBX/835/4P/G24q-3	36
65413E	F26DBX/840/4P/G24q-3	36
65415E	F26DBX/865/4P/G24q-3	36
85197N	GE F10DBX/827/4P	36
72844N	GE F10DBX/830/4P	36
85198N	GE F10DBX/840/4P	36
85199N	GE F10DBX/865/4P	36
85211N	GE F13DBX/827/4P	36

Product Code	Product Description	Page No.
72846N	GE F13DBX/830/4P	36
85214N	GE F13DBX/840/4P	36
85216N	GE F13DBX/865/4P	36
85221N	GE F18DBX/827/4P	36
72848N	GE F18DBX/830/4P	36
85232N	GE F18DBX/840/4P	36
85236N	GE F18DBX/865/4P	36
86354N	F16DDT4/827/2P	37
86361N	F16DDT4/840/2P	37
86376N	F16DDT4/865/2P	37
86391N	F16DDT4/827/4P	37
86406N	F16DDT4/865/4P	37
86421N	F28DDT6/827/4P	37
86436N	F28DDT6/840/4P	37
86451N	F28DDT6/865/4P	37
86466N	F38DDT6/827/4P	37
86481N	F38DDT6/840/4P	37
86496N	F38DDT6/865/4P	37
37654	F5BX/SPX27/827	38
37661	F5BX/SPX41/840	38
37846	F7BX/SPX27/827	38
38930	F7BX/830	38
37659	F7BX/SPX35/835	38
37660	F7BX/SPX41/840	38
38984	F7BX/865	38
37651	F9BX/827	38
38929	F9BX/830	38
37652	F9BX/SPX35/835	38
37653	F9BX/SPX41/840	38
38985	F9BX/865	38
37663	F11BX/827	38
38928	F11BX/830	38
37666	F11BX/835	38
37664	F11BX/840	38
38986	F11BX/840	38
37714	F5BX/827/4P	38
37715	F5BX/840/4P	38
37658	F7BX/827/4P	38
37716	F7BX/840/4P	38
37710	F9BX/827/4P	38
37711	F9BX/840/4P	38
37717	F11BX/827/4P	38
37713	F11BX/840/4P	38
12603	F11BX/865/4P	38
78211	F10DBX/T3/827/2P	38
78212	F10DBX/T3/830/2P	38
78213	F10DBX/T3/835/2P	38
78214	F10DBX/T3/840/2P	38
78215	F10DBX/T3/865/2P	38
78221	F13DBX/T3/827/2P	38
78222	F13DBX/T3/830/2P	38
78223	F13DBX/T3/835/2P	38
78224	F13DBX/T3/840/2P	38
78225	F13DBX/T3/865/2P	38
12860	F18DBXT4/SPX27/827	38
12861	F18DBXT4/SPX30/830	38
12863	F18DBXT4/SPX35/835	38
12864	F18DBXT4/SPX41/840	38
13017	F18DBXT4/SPX65/865	38
35250	F26DBXT4/SPX27/827	38
35251	F26DBXT4/SPX30/830	38
35252	F26DBXT4/SPX35/835	38
35253	F26DBXT4/SPX41/840	38
35305	F26DBXT4/SPX65/865	38
78217	F10DBX/T3/827/4P	39
78218	F10DBX/T3/830/4P	39
78219	F10DBX/T3/835/4P	39
78220	F10DBX/T3/840/4P	39
78231	F10DBX/T3/865/4P	39
78226	F13DBX/T3/827/4P	39
78227	F13DBX/T3/830/4P	39
78228	F13DBX/T3/835/4P	39
78229	F13DBX/T3/840/4P	39

Product Code	Product Description	Page No.
78232	F13DBX/T3/865/4P	39
12865	F18DBX/SPX27/827/4P	39
12866	F18DBX/SPX30/830/4P	39
12869	F18DBX/SPX35/835/4P	39
12870	F18DBX/SPX41/840/4P	39
35247	F26DBX/SPX27/827/4P	39
35235	F26DBX/SPX30/830/4P	39
35248	F26DBX/SPX35/835/4P	39
35236	F26DBX/SPX41/840/4P	39
42798	F26DBX/SPX65/865/4P	39
35940	F13TBX/827/A/2P	39
35966	F13TBX/SPX30/830/A/2P	39
35941	F13TBX/SPX41/A/2P	39
35945	F18TBX/SPX27/827/A/2P	39
35944	F18TBX/SPX30/830/A/2P	39
35937	F18TBX/SPX35/835/A/2P	39
35939	F18TBX/SPX41/840/A/2P	39
35959	F26TBX/SPX27/827/A/2P	39
35952	F26TBX/SPX30/830/A/2P	39
35963	F26TBX/SPX35/835/A/2P	39
35964	F26TBX/SPX41/840/A/2P	39
34391	F13TBX/SPX27/827/A/4P	39
34395	F13TBX/SPX30/830/A/4P	39
34400	F13TBX/SPX35/835/A/4P	39
34387	F13TBX/SPX41/840/A/4P	39
34392	F18TBX/SPX27/827/A/4P	39
34396	F18TBX/SPX30/830/A/4P	39
34405	F18TBX/SPX35/835/A/4P	39
34385	F18TBX/SPX41/840/A/4P	39
34393	F26TBX/SPX27/827/A/4P	39
34397	F26TBX/SPX30/830/A/4P	39
34406	F26TBX/SPX35/835/A/4P	39
34381	F26TBX/SPX41/840/A/4P	39
39377	F32TBX/SPX27/827/AP4P	40
39378	F32TBX/SPX30/830/AP4P	40
39379	F32TBX/SPX35/835/AP4P	40
39380	F32TBX/SPX41/840/AP4P	40
46312	F42TBX/827/A/4P	40
46313	F42TBX/830/A/4P	40
46314	F42TBX/835/A/4P	40
46315	F42TBX/840/A/4P	40
46316	F42TBX/865/A/4P	40
45213	F57QBX/827/A/4P/LL	40
45204	F57QBX/830/A/4P/LL	40
45202	F57QBX/835/A/4P/LL	40
45201	F57QBX/840/A/4P/LL	40
45208	F70QBX/830/A/4P/LL	40
45219	F70QBX/835/A/4P/LL	40
45218	F70QBX/840/A/4P/LL	40
41087	F18BX/827	40
41088	F18BX/830	40
41089	F18BX/835	40
41090	F18BX/840	40
41128	F24BX/827	40
41134	F24BX/830	40
41145	F24BX/835	40
41155	F24BX/840	40
41163	F34BX/830	40
41166	F34BX/835	40
41167	F34BX/840	40
41307	F36BX/827	40
41168	F36BX/830	40
41169	F36BX/835	40
41170	F36BX/840	40
75694	F36BX/865	40
41171	F40BX/830	40
41172	F40BX/835	40
41173	F40BX/840	40
41174	F55BX/830	40
41260	F55BX/835	40
41298	F55BX/840	40
75695	F55BX/865	40
41744	F162D/827	41
41745	F162D/835	41

Product Code	Product Description	Page No.
41746	F162D/827/4P	41
75066	F162D/830/4P	41
41747	F162D/835/4P	41
41749	F162D/860	41
41794	F212D/827/4P	41
41806	F212D/835/4P	41
41808	F212D/860/4P	41
10546	F282DT5/827/2P	41
10547	F282DT5/827/4P	41
75068	F282DT5/830/4P	41
10567	F282DT5/835/4P	41
10548	F282DT5/840/4P	41
10550	F382DT5/827/4P	41
75067	F382DT5/830/4P	41
10566	F382DT5/835/4P	41
88105	F10W/2D/827/4P	41
88106	F10W/2D/835/4P	41
18122	FLE18W2D/827 GRZ10D	41
18123	FLE18W2D/835 GRZ10D	41
18120	FLE18W2D/840 GRZ10D	41

## Compact Fluorescent Lamps Integrated

Product Code	Product Description	Page No.
11241	FLE9TBX/827/B22/T3 BP1	47
74663	FLE9TBX/827/E27/T3 BX	47
74699	FLE9TBX/827/B22/T3 BX2	47
74700	FLE9TBX/827/E27/T3 BX2	47
95836	FLE9TBX/840/B22/T3	47
95837	FLE9TBX/840/E27/T3	47
74671	FLE12TBX/827/B22/T3 BX	47
74672	FLE12TBX/827/E27/T3 BX	47
48191	FLE12TBX/840/E27/T3	47
48192	FLE12TBX/840/B22/T3	47
95761P	FLE15TBX/827/B22/T3 BP1	47
74680	FLE15TBX/827/E27/T3 BX	47
74701	FLE15TBX/827/B22/T3 BX2	47
74702	FLE15TBX/827/E27/T3 BX2	47
95800P	FLE15TBX/840/B22/T3	47
95804P	FLE15TBX/840/E27/T3	47
74705	FLE15TBX/840/B22/T3 BX2	47
74706	FLE15TBX/840/E27/T3 BX2	47
81025	FLE15TBX/865/B22/T3	47
81026	FLE15TBX/865/E27/T3	47
74681	FLE18TBX/827/B22/T3 BX	47
74684	FLE18TBX/827/E27/T3 BX	47
95802P	FLE18TBX/840/B22/T3	47
95805P	FLE18TBX/840/E27/T3	47
74703	FLE20TBX/827/B22/T3 BX2	47
74704	FLE20TBX/827/E27/T3 BX2	47
74707	FLE20TBX/840/B22/T3 BX2	47
74708	FLE20TBX/840/E27/T3 BX2	47
24879E	FLE9TBX/865/E27/T3	47
24880E	FLE9TBX/827/E27/T3	47
95414E	FLE6DBX/827/E27/T3	47
95416E	FLE6DBX/864/E27/T3	47
89584E	FLE9DBX/827/E27/T3	47
89587E	FLE9DBX/864/E27/T3	47
11236E	FLE9TBX/827/E27	47
11238E	FLE9TBX/865/E27	47
11349E	FLE9TBX/827/E14	47
11350E	FLE9TBX/865/E14	47
89588E	FLE11DBX/827/E27	47
89590E	FLE11DBX/864/E27	47
48189EP	FLE12TBX/827/E27	47
48191EP	FLE12TBX/840/E27	47
48193EP	FLE12TBX/865/E27	47
89591E	FLE15TBX/827/E27	47
89593E	FLE15TBX/865/E27	47

Product Code	Product Description	Page No.
89594E	FLE18TBX/827/E27	47
89596E	FLE18TBX/864/E27	47
95414EN	FLE6DBX/827/E27	48
95416EN	FLE6DBX/865/E27	48
89637EN	FLE6DBX/827/E14	48
89639EN	FLE6DBX/865/E14	48
89584EN	FLE9DBX/827/E27	48
89585EN	FLE9DBX/840/E27	48
89587EN	FLE9DBX/865/E27	48
11236EN	FLE9TBX/827/E27	48
11238EN	FLE9TBX/865/E27	48
11349EN	FLE9TBX/827/E14	48
11350EN	FLE9TBX/865/E14	48
89588EN	FLE11DBX/827/E27	48
89589EN	FLE11DBX/840/E27	48
89590EN	FLE11DBX/865/E27	48
89591EN	FLE15TBX/827/E27	48
89592EN	FLE15TBX/840/E27	48
89593EN	FLE15TBX/865/E27	48
89594EN	FLE18TBX/827/E27	48
89595EN	FLE18TBX/840/E27	48
89596EN	FLE18TBX/865/E27	48
95414ET	FLE6DBX/827/E27	48
95416ET	FLE6DBX/864/E27	48
89637ET	FLE6DBX/827/E14	48
89639ET	FLE6DBX/865/E14	48
11236ET	FLE9TBX/827/E27	48
11237ET	FLE9TBX/840/E27	48
11238ET	FLE9TBX/865/E27	48
89584ET	FLE9DBX/827/E27	48
89585EN	FLE9DBX/840/E27	48
89587EN	FLE9DBX/865/E27	48
89588ET	FLE11DBX/827/E27	48
89589ET	FLE11DBX/840/E27	48
89590ET	FLE11DBX/865/E27	48
89591ET	FLE15TBX/827/E27	48
89592ET	FLE15TBX/840/E27	48
89593ET	FLE15TBX/865/E27	48
89594ET	FLE18TBX/827/E27	48
89595ET	FLE18TBX/840/E27	48
89596ET	FLE18TBX/865/E27	48
24875E	FLE9DBX/827/E27/220-240V	48
95595EID	FLE9DBX/865/E27/220-240V	48
24876E	FLE15DBX/827/E27/220-240V	48
95596EID	FLE15DBX/865/E27/220-240V	48
95600EID	FLE20TBX/827/E27/220-240V	48
95597EID	FLE20TBX/865/E27/220-240V	48
24877E	FLE23W/QBX/865/E27	48
24878E	FLE23W/QBX/827/E27	48
11305ET	FLE9DBX/827/E27/Gk	48
11321ET	FLE9DBX/864/E27/Gk	48
11324ET	FLE11DBX/827/E27/Gk	48
11328ET	FLE11DBX/865/E27/Gk	48
11332ET	FLE15TBX/827/E27/Gk	48
11335ET	FLE15TBX/864/E27/Gk	48
11336ET	FLE20TBX/827/E27	48
11342ET	FLE20TBX/865/E27	48
95600ET	FLE23QBX/827/E27	48
95602ET	FLE23QBX/865/E27	48
78168E	FLE5DBX/827/E27/T3 220-240V	49
78169E	FLE5DBX/865/E27/T3 220-240V	49
78170E	FLE8DBX/827/E27/T3 220-240V	49
78171E	FLE8DBX/865/E27/T3 220-240V	49
78172E	FLE11DBX/827/E27/T3 220-240V	49
78173E	FLE11DBX/865/E27/T3 220-240V	49
78174E	FLE14TBX/827/E27/T4 220-240V	49
78175E	FLE14TBX/865/E27/T4 220-240V	49
78176E	FLE20TBX/827/E27/T4 220-240V	49
78177E	FLE20TBX/865/E27/T4 220-240V	49
78178E	FLE23TBX/827/E27/T4 220-240V	49
78179E	FLE23TBX/865/E27/T4 220-240V	49
64556E	FLE6DBX/827/E27/T3	49
64557E	FLE6DBX/865/E27/T3	49

Product Code	Product Description	Page No.
64558E	FLE8DBX/827/E27/T3	49
64559E	FLE8DBX/865/E27/T3	49
64560E	FLE11DBX/827/E27/T3	49
64561E	FLE11DBX/865/E27/T3	49
64562E	FLE14TBX/827/E27/T3	49
64563E	FLE14TBX/865/E27/T3	49
64564E	FLE20TBX/827/E27/T3	49
64565E	FLE20TBX/865/E27/T3	49
64566E	FLE23TBX/827/E27/T3	49
64567E	FLE23TBX/865/E27/T3	49
95600EN	FLE23QBX/827/E27	49
95601EN	FLE23QBX/840/E27	49
95602EN	FLE23QBX/865/E27	49
65031E	FLE6DBX/827/E14/T3	49
65032E	FLE6DBX/865/E14/T3	49
65033E	FLE8DBX/827/E14/T3	49
65034E	FLE8DBX/865/E14/T3	49
65035E	FLE11DBX/827/E14/T3	49
65036E	FLE11DBX/865/E14/T3	49
78168T	FLEBX/827/E27/T3 220-240V	49
78169T	FLEBX/865/E27/T3 220-240V	49
78170T	FLE8DBX/827/E27/T3 220-240V	49
78171T	FLE8DBX/865/E27/T3 220-240V	49
78172T	FLE11DBX/827/E27/T3 220-240V	49
78173T	FLE11DBX/865/E27/T3 220-240V	49
78174T	FLE14TBX/827/E27/T3 220-240V	49
78175T	FLE14TBX/865/E27/T3 220-240V	49
78176T	FLE20TBX/827/E27/T3 220-240V	49
78177T	FLE20TBX/865/E27/T3 220-240V	49
78178T	FLE23TBX/827/E27/T3 220-240V	49
78179T	FLE23TBX/865/E27/T3 220-240V	49
66839TH	FLE15TBX/827/E27 SENSOR	49
66841TH	FLE15TBX/865/E27 SENSOR	49
88697	FLE9TBX/T3/827/E14	50
88695	FLE9TBX/T3/827/E27	50
88696	FLE9TBX/T3/827/B22	50
88700	FLE9TBX/T3/840/E14	50
88698	FLE9TBX/T3/840/E27	50
88703	FLE9TBX/T3/865/E14	50
88701	FLE9TBX/T3/865/E27	50
78690	FLE11TBX/T3/827/E14	50
72689	FLE11TBX/T3/827/E27	50
72690	FLE11TBX/T3/827/B22	50
88709	FLE11TBX/T3/840/E14	50
88712	FLE11TBX/T3/865/E14	50
75730	FLE11TBX/T3/865/E27	50
72688	FLE15TBX/T3/827/E27	50
88713	FLE15TBX/T3/827/B22	50
88714	FLE15TBX/T3/840/E27	50
88716	FLE15TBX/T3/865/E27	50
88718	FLE20TBX/T3/827/E27	50
88719	FLE20TBX/T3/827/B22	50
88720	FLE20TBX/T3/840/E27	50
88722	FLE20TBX/T3/865/E27	50
88723	FLE20TBX/T3/865/B22	50
75039	FLE23QBX/T3/827/B22	50
75268	FLE23QBX/T3/827/E27	50
97000	FLE23QBX/T3/840/E27	50
97006	FLE23QBX/T3/865/E27	50
89514	FLE10HLX/827/E27/ML	50
89517	FLE10HLX/827/B22/ML	50
89520	FLE15HLX/827/E27/ML	50
89523	FLE15HLX/827/B22/ML	50
89526	FLE20HLX/827/E27/ML	50
89529	FLE20HLX/827/B22/ML	50
74658	FLE8HLX/827/B15/T2	51
74659	FLE8HLX/827/B22/T2	51
74660	FLE8HLX/827/E14/T2	51
74661	FLE8HLX/827/E27/T2	51
47375	FLE8HLX/840/E27/T2	51
47382	FLE8HLX/840/E14/T2	51
47385	FLE8HLX/840/B22/T2	51
47386	FLE8HLX/840/B15/T2	51

# Index By Product Description

Product Code	Product Description	Page No.
74668	FLE12HLX/827/B15/T2	51
74669	FLE12HLX/827/E14/T2	51
30472	FLE12HLX/827/E27/T2	51
30490	FLE12HLX/827/B22/T2	51
47389	FLE12HLX/840/E27/T2	51
47392	FLE12HLX/840/E14/T2	51
47393	FLE12HLX/840/B22/T2	51
47394	FLE12HLX/840/B15/T2	51
30474	FLE12HLX/865/E27/T2	51
30492	FLE12HLX/865/B22/T2	51
74677	FLE15HLX/827/B22/T2	51
74678	FLE15HLX/827/E27/T2	51
71040	FLE15HLX/840/E27/T2	51
71308	FLE15HLX/840/B22/T2	51
61414	FLE15HLX/865/T2/B22	51
61415	FLE15HLX/865/T2/E27	51
74687	FLE20HLX/827/B22/T2	51
74689	FLE20HLX/827/E27/T2	51
71043	FLE20HLX/840/E27/T2	51
71311	FLE20HLX/840/B22/T2	51
61412	FLE20HLX/865/T2/B22	51
61413	FLE20HLX/865/T2/E27	51
30431ID	FLE8HLX/827/E27/T2	51
30433ID	FLE8HLX/865/E27/T2	51
30472ID	FLE12HLX/827/E27/T2	51
30474ID	FLE12HLX/865/E27/T2	51
30431EP	FLE8HLX/827E27/T2	51
30433EP	FLE8HLX865E27/T2	51
47738EP	FLE8HLX/827/E14/T2	51
47740EP	FLE8HLX/865/E14/T2	51
30472EP	FLE12HLX/827/E27/T2	51
30474EP	FLE12HLX/865/E27/T2	51
47742EP	FLE12HLX/827/E14/T2	51
47755EP	FLE12HLX/865/E14/T2	51
71039EN	FLE15HLX/827/T2/E27	51
71040EN	FLE15HLX/840/T2/E27	51
71041EN	FLE15HLX/865/T2/E27	51
71042EN	FLE20HLX/827/T2/E27	51
71043EN	FLE20HLX/840/T2/E27	51
71044EN	FLE20HLX/865/T2/E27	51
30431EN	FLE8HLX/827/E27/T2	52
47735EN	FLE8HLX/840/E27/T2	52
30433EN	FLE8HLX/865/E27/T2	52
47738EN	FLE8HLX/827/E14/T2	52
477382EN	FLE8HLX/840/E14/T2	52
47740EN	FLE8HLX/865/E14/T2	52
30472EN	FLE12HLX/827/E27/T2	52
477389EN	FLE12HLX/840/E27/T2	52
30474EN	FLE12HLX/865/E27/T2	52
47742EN	FLE12HLX/827/E14/T2	52
477392EN	FLE12HLX/840/E14/T2	52
47755EN	FLE12HLX/865/E14/T2	52
30431ET	FLE8HLX/827/E27/T2	52
30433ET	FLE8HLX/865/E27/T2	52
47738ET	FLE8HLX/827/E14/T2	52
47740ET	FLE8HLX/865/E14/T2	52
30472ET	FLE12HLX/827/E27/T2	52
30474ET	FLE12HLX/865/E27/T2	52
47742ET	FLE12HLX/827/E14/T2	52
47755ET	FLE12HLX/865/E14/T2	52
71039T	FLE15HLX/827/E27/T2	52
71040T	FLE15HLX/840/E27/T2	52
71041T	FLE15HLX/865/E27/T2	52
71042T	FLE20HLX/827/E27/T2	52
71043T	FLE20HLX/840/E27/T2	52
71044T	FLE20HLX/865/E27/T2	52
76153	FLE8HLX/T2/827/E14	52
76154	FLE8HLX/T2/827/E27	52
78156	FLE8HLX/T2/827/B22	52
78157	FLE8HLX/T2/840/E14	52
78188	FLE8HLX/T2/840/E27	52
78189	FLE8HLX/T2/865/E27	52
76155	FLE12HLX/T2/827/E14	52

Product Code	Product Description	Page No.
76157	FLE12HLX/T2/827/E27	52
78190	FLE12HLX/T2/827/B22	52
78191	FLE12HLX/T2/840/E14	52
78192	FLE12HLX/T2/840/E27	52
78193	FLE12HLX/T2/865/E14	52
78194	FLE12HLX/T2/865/E27	52
76156	FLE15HLX/T2/827/E27	52
78195	FLE15HLX/T2/827/B22	52
78196	FLE15HLX/T2/840/E27	52
78197	FLE15HLX/T2/865/E27	52
76158	FLE20HLX/T2/827/E27	52
78198	FLE20HLX/T2/827/B22	52
78199	FLE20HLX/T2/840/E27	52
78200	FLE20HLX/T2/865/E27	52
76159	FLE23HLX/T2/827/E27	52
78202	FLE23HLX/T2/840/E27	52
78203	FLE23HLX/T2/865/E27	52
85940	FLE14HLX/827/B22/T3	53
85942	FLE14HLX/827/E27/T3	53
74709	FLE14HLX/827/B22/T3 BX2	53
74710	FLE14HLX/827/E27/T3 BX2	53
90147	FLE14HLX/840/E27/T3	53
90148	FLE14HLX/840/B22/T3	53
74715	FLE14HLX/840/B22/T3 BX2	53
74716	FLE14HLX/840/E27/T3 BX2	53
85956	FLE20HLX/827/B22/T3	53
85966	FLE20HLX/827/E27/T3	53
74711	FLE20HLX/827/B22/T3 BX2	53
74712	FLE20HLX/827/E27/T3 BX2	53
90146	FLE20HLX/840/B22/T3	53
90145	FLE20HLX/840/E27/T3	53
74717	FLE20HLX/840/B22/T3 BX2	53
74718	FLE20HLX/840/E27/T3 BX2	53
76598	FLE23HLX/827/B22/T2 BX2	53
76599	FLE23HLX/827/T2 BX2	53
76600	FLE23HLX/840/B22/T2 BX2	53
76601	FLE23HLX/840/E27/T2 BX2	53
81262	FLE14HLX/827/E27/T3 220-240V	53
81263	FLE14HLX/865/E27/T3 220-240V	53
81264	FLE20HLX/827/E27/T3 220-240V	53
81265	FLE20HLX/865/E27/T3 220-240V	53
81266	FLE24HLX/827/E27/T3 220-240V	53
81267	FLE24HLX/865/E27/T3 220-240V	53
24172E	FLE14HLX/827/T3	53
24173E	FLE14HLX/865/E27/T3	53
24174E	FLE20HLX/827/T3	53
24175E	FLE20HLX/865/E27/T3	53
24176E	FLE24HLX/827/T3	53
24177E	FLE24HLX/E27/T3	53
24172EN	FLE14HLX/827/E27/T3 220-240V	53
71402EN	FLE14HLX/840/E27/T3 220-240V	53
24173EN	FLE14HLX/865/E27/T3 220-240V	53
24174EN	FLE20HLX/827/E27/T3 220-240V	53
80961EN	FLE20HLX/840/E27/T3 220-240V	53
24175EN	FLE20HLX/865/E27/T3 220-240V	53
24176EN	FLE24HLX/827/E27/T3 220-240V	53
71400EN	FLE24HLX/840/E27/T3 220-240V	53
24177EN	FLE24HLX/865/E27/T3 220-240V	53
24172ET	FLE14HLX/827/E27/T3 EDIS	53
24173ET	FLE14HLX/865/E27/T3 EDIS	53
24174ET	FLE20HLX/827/E27/T3 EDIS	53
24175ET	FLE20HLX/865/E27/T3 EDIS	53
24176ET	FLE24HLX/827/E27/T3 EDIS	53
24177ET	FLE24HLX/865/E27/T3 EDIS	53
64568E	FLE9HLX/827/E27/T3	54
64569E	FLE9HLX/865/E27/T3	54
64570E	FLE14HLX/827/E27/T3	54
64571E	FLE14HLX/865/E27/T3	54
64572E	FLE20HLX/827/E27/T3	54
64573E	FLE20HLX/865/E27/T3	54
64574E	FLE23HLX/827/E27/T3	54
64575E	FLE23HLX/865/E27/T3	54
78180E	FLE9HLX/827/E27/T3 220-240V	54

Product Code	Product Description	Page No.
78181E	FLE9HLX/865/E27/T3 220-240V	54
78182E	FLE15HLX/827/E27/T3 220-240V	54
78183E	FLE15HLX/865/E27/T3 220-240V	54
78184E	FLE20HLX/827/E27/T3 220-240V	54
78185E	FLE20HLX/865/E27/T3 220-240V	54
78186E	FLE23HLX/827/E27/T3 220-240V	54
78187E	FLE23HLX/865/E27/T3 220-240V	54
65037E	FLE9HLX/827/E14/T3	54
65038E	FLE9HLX/865/E14/T3	54
78180T	FLE9HLX/827/E27/T3 220-240V	54
78181T	FLE9HLX/865/E27/T3 220-240V	54
78182T	FLE14HLX/827/E27/T3 220-240V	54
78183T	FLE14HLX/865/E27/T3 220-240V	54
78184T	FLE20HLX/827/E27/T3 220-240V	54
78185T	FLE20HLX/865/E27/T3 220-240V	54
78186T	FLE23HLX/827/E27/T3 220-240V	54
78187T	FLE23HLX/865/E27/T3 220-240V	54
30606a	FLE13HLX/827/B22/DIM BP1	54
74674	FLE13HLX/827/E27/DIM BP1	54
74675	FLE13HLX/865/B22/DIM	54
74676	FLE13HLX/865/E27/DIM	54
30608a	FLE20HLX/827/E27/DIM BP1	54
30616A	FLE20HLX/827/B22/DIM BP1	54
30544A	FLE20HLX/865/B22/DIM	54
30540A	FLE20HLX/865/E27/DIM	54
30493N	FLE13HLX/827/E27/T3DIM*	54
30494N	FLE13HLX/865/E27/T3DIM*	54
30523N	FLE20HLX/827/E27/T3DIM*	54
30540N	FLE20HLX/865/E27/T3DIM*	54
24666EN	FLE45HLX/864/E27/220-240V	54
95495EN	FLE60HLX/864/E27/220-240V	54
24666E	FLE45HLX/864/E27	54
24668E	FLE60HLX/864/E27	54
95520	FLE60HLX/827/E27 220-240V	54
95495	FLE60HLX/865/E27 220-240V	54
61429T	FLE45HLX/827/E27 220V	54
61430T	FLE45HLX/865/E27 220V	54
61431T	FLE60HLX/827/E27 220V	54
61432T	FLE60HLX/865/E27 220V	54
61001E	FLE9AG/T2/830/E27	55
61002E	FLE9AG/T2/840/E27	55
61003E	FLE9AG/T2/865/E27	55
61004E	FLE11AG/T2/830/E27	55
61005E	FLE11AG/T2/840/E27	55
61006E	FLE11AG/T2/865/E27	55
61007E	FLE15AG/T2/830/E27	55
61008E	FLE15AG/T2/840/E27	55
61009E	FLE15AG/T2/865/E27	55
61010E	FLE20AG/T3/830/E27	55
61011E	FLE20AG/T3/840/E27	55
61012E	FLE20AG/T3/865/E27	55
61013E	FLE9AG/T2/830/B22	55
61014E	FLE9AG/T2/840/B22	55
61015E	FLE9AG/T2/865/B22	55
61016E	FLE11AG/T2/830/B22	55
61017E	FLE11AG/T2/840/B22	55
61018E	FLE11AG/T2/865/B22	55
61019E	FLE15AG/T2/830/B22	55
61020E	FLE15AG/T2/840/B22	55
61021E	FLE15AG/T2/865/B22	55
61022E	FLE20AG/T3/830/B22	55
61023E	FLE20AG/T3/840/B22	55
61024E	FLE20AG/T3/865/B22	55
61001T	FLE9AG/T2/830/E27	55
61002T	FLE9AG/T2/840/E27	55
61003T	FLE9AG/T2/865/E27	55
61004T	FLE11AG/T2/830/E27	55
61005T	FLE11AG/T2/840/E27	55
61006T	FLE11AG/T2/865/E27	55
61007T	FLE15AG/T2/830/E27	55
61008T	FLE15AG/T2/840/E27	55
61009T	FLE15AG/T2/865/E27	55
61010T	FLE20AG/T3/830/E27	55

Product Code	Product Description	Page No.
61011T	FLE20AG/T3/840/E27	55
61012T	FLE20AG/T3/865/E27	55
61013T	FLE9AG/T2/830/B22	55
61014T	FLE9AG/T2/840/B22	55
61015T	FLE9AG/T2/865/B22	55
61016T	FLE11AG/T2/830/B22	55
61017T	FLE11AG/T2/840/B22	55
61018T	FLE11AG/T2/865/B22	55
61019T	FLE15AG/T2/830/B22	55
61020T	FLE15AG/T2/840/B22	55
61021T	FLE15AG/T2/865/B22	55
61022T	FLE20AG/T3/830/B22	55
61023T	FLE20AG/T3/840/B22	55
61024T	FLE20AG/T3/865/B22	55
88852A	FLE5CDL/827/E27/T2	56
88853A	FLE5CDL/827/B22/T2	56
73406A	FLE5CDL/827/E14/T2	56
78005A	FLE5CDL/827/B15/T2	56
73411A	FLE7CDL/827/E14/T2	56
88855A	FLE7CDL/827/E27/T2	56
88856A	FLE7CDL/827/B22/T2	56
78006A	FLE7CDL/827/B15/T2	56
79935E	FLE5CDL/827/E14	56
79936E	FLE5CDL/827/840/E14	56
79937E	FLE5CDL/827/E27	56
79938E	FLE5CDL/827/840/E27	56
79939E	FLE5CDL/827/B22	56
79940E	FLE7CDL/827/E14	56
79941E	FLE7CDL/827/840/E14	56
79942E	FLE7CDL/827/E27	56
79943E	FLE7CDL/827/840/E27	56
79944E	FLE7CDL/827/B22	56
88839A	FLE5SPH/827/E14/T2	56
88841A	FLE5SPH/827/B22/T2	56
73386A	FLE5SPH/827/E27/T2	56
78012A	FLE5SPH/827/B15/T2	56
88842A	FLE7SPH/827/E14/T2	56
88844A	FLE7SPH/827/B22/T2	56
73396A	FLE7SPH/827/E27/T2	56
78013A	FLE7SPH/827/B15/T2	56
79945E	FLE5SPH/827/E14	56
79946E	FLE5SPH/827/840/E14	56
79947E	FLE5SPH/827/E27	56
79948E	FLE5SPH/827/840/E27	56
79949E	FLE5SPH/827/865/E27	56
79950E	FLE5SPH/827/B22	56
79951E	FLE7SPH/827/E27/E14	56
79952E	FLE7SPH/827/840/E14	56
79953E	FLE7SPH/827/E27	56
79954E	FLE7SPH/827/840/E27	56
79955E	FLE7SPH/827/B22	56
45850A	FLE8GLS/827/E27/T2	57
45849A	FLE8GLS/827/B22/T2	57
45848A	FLE8GLS/827/E14/T2	57
45837A	FLE12GLS/827/E27/T2	57
45836A	FLE12GLS/827/B22/T2	57
45835A	FLE12GLS/827/E14/T2	57
45830A	FLE15GLS/827/B22/T3	57
45831A	FLE15GLS/827/E27/T3	57
80375	FLE11GLS/O/822 BP1	57
80376	FLE11GLS/O/E27 BP1	57
80389	FLE20GLS/O/822 BP1	57
80390	FLE20GLS/O/E27 BP1	57
79972E	FLE8GLS/T2/827/E14	57
79973E	FLE8GLS/T2/840/E14	57
79974E	FLE8GLS/T2/827/E27	57
79975E	FLE8GLS/T2/840/E27	57
79976E	FLE8GLS/T2/827/B22	57
79977E	FLE12GLS/T2/827/E27	57
79978E	FLE12GLS/T2/827/E14	57
79979E	FLE12GLS/T2/840/E14	57
79980E	FLE12GLS/T2/840/E27	57
79981E	FLE12GLS/T2/827/B22	57

Product Code	Product Description	Page No.
79982E	FLE15GLS/T3/827/E27	57
79983E	FLE15GLS/T3/840/E27	57
79984E	FLE15GLS/T3/827/B22	57
79956E	FLE7R50/T2/827/E14	57
79957E	FLE7R50/T2/840/E14	57
79958E	FLE7R50/T2/827/E27	57
79959E	FLE7R50/T2/827/B22	57
79960E	FLE11R63/T2/827/E14	57
79961E	FLE11R63/T2/840/E14	57
79962E	FLE11R63/T2/827/E27	57
79963E	FLE11R63/T2/827/B22	57
79964E	FLE8SOFT/T2/827/E14	57
79965E	FLE8SOFT/T2/827/E27	57
79966E	FLE8SOFT/T2/827/B22	57
79967E	FLE12SOFT/T2/827/E14	57
79968E	FLE12SOFT/T2/827/E27	57
79969E	FLE12SOFT/T2/827/B22	57
79970E	FLE15SOFT/T3/827/E27	57
79971E	FLE15SOFT/T3/827/B22	57
79985E	FLE7GU10/T2/827	58
79986E	FLE7GU10/T2/840	58
79987E	FLE9GU10/T2/827	58
79988E	FLE9GU10/T2/840	58
74667	FLE11GLS/O/822/BUG BX	58
74666	FLE11GLS/O/E27/BUG BX	58
11368EN	FLE20HLX/GG/827/E27 Edison	58
11371EN	FLE20HLX/GG/865/E27 Edison	58
72480	FLE23PAR38/827/E27	58
72481	FLE23PAR38/827/B22	58
61742T	FLE23/827/E27/PAR38 220-240V	58
61744T	FLE23/865/E27/PAR38 220-240V	58
72478	FLE15R80/827/E27	58
72479	FLE15R80/827/B22	58

## High Intensity Discharge Lamps

Product Code	Product Description	Page No.
40399	CMH20/TC/UVC/U/830/GU6.5	71
88656	CMH35/T/UVC/930/GU6.5	71
88657	CMH35/T/UVC/942/GU6.5	71
40400	CMH20/MR16/UVC/830/GX10/SP	71
40401	CMH20/MR16/UVC/830/GX10/FL	71
42691	CMH20/MR16/UVC/830/GX10/WFL	71
88658	CMH35/MR16/UVC/930/GX10/SP	71
88659	CMH35/MR16/UVC/930/GX10/FL	71
88660	CMH35/MR16/UVC/930/GX10/WFL	71
88661	CMH35/MR16/UVC/942/GX10/SP	71
88662	CMH35/MR16/UVC/942/GX10/FL	71
88663	CMH35/MR16/UVC/942/GX10/WFL	71
39858	CMH20/T/UVC/U/830/G8.5 PLUS	71
43273	CMH35/TC/UVC/U/830/G8.5 PLUS	71
26348	CMH35/TC/UVC/U/942/G8.5	71
43274	CMH70/TC/UVC/U/830/G8.5 PLUS	71
26349	CMH70/TC/UVC/U/942/G8.5	71
42708	CMH20/T/UVC/U/830/G12 PLUS	71
92141	CMH35/T/UVC/U/942/G12	71
43272	CMH35/T/UVC/U/830/G12 PLUS	71
20005	CMH70/T/UVC/U/830/G12	71
20013	CMH70/T/UVC/U/942/G12	71
20012	CMH150/T/UVC/U/830/G12	71
20014	CMH150/T/UVC/U/942/G12	71
76120	CMH35/TC/UVC/U/930/G8.5 Ultra	71
76121	CMH35/T/UVC/U/930/G12 Ultra	71
76122	CMH35/T/UVC/U/930/G12 Ultra	71
76123	CMH35/MR16/UVC/930/GX10/SP Ultra	71
76124	CMH35/MR16/UVC/930/GX10/FL Ultra	71
76125	CMH35/MR16/UVC/930/GX10/WFL Ultra	71
96751	CMH70/TC/UVC/U/930/G8.5 Ultra	71
96752	CMH70/TC/UVC/U/930/G12 Ultra	71
63595	CMH70/TC/UVC/U/930/G8.5 Ultra White	71

Product Code	Product Description	Page No.
63596	CMH70/TC/UVC/U/930/G12 Ultra White	71
26478	CMH20/PAR20/UVC/830/E27/SP	72
26481	CMH20/PAR20/UVC/830/E27/FL	72
21684	CMH35/PAR20/UVC/830/E27/SP	72
21685	CMH35/PAR20/UVC/830/E27/FL	72
44890	CMH35/PAR20/UVC/942/E27/SP10	72
44919	CMH35/PAR20/UVC/942/E27/FL25	72
26497	CMH20/PAR30/UVC/830/E27/SP10	72
26518	CMH20/PAR30/UVC/830/E27/FL25	72
21689	CMH35/PAR30/UVC/830/E27/SP	72
21690	CMH35/PAR30/UVC/830/E27/FL	72
44939	CMH35/PAR30/UVC/942/E27/SP10	72
44942	CMH35/PAR30/UVC/942/E27/FL25	72
21683	CMH70/PAR30/UVC/830/E27/SP	72
21682	CMH70/PAR30/UVC/830/E27/FL	72
74620	CMH70/PAR30/UVC/942/E27/SP	72
74619	CMH70/PAR30/UVC/942/E27/FL	72
45675	CMH70/PAR38/830/SP15	72
45677	CMH70/PAR38/830/FL15	72
45679	CMH70/PAR38/830/WFL	72
45680	CMH100/PAR38/830/SP15	72
45681	CMH100/PAR38/830/FL15	72
45682	CMH100/PAR38/830/WFL	72
43278	CMH35/TD/UVC/830/RX7s	72
36910	CMH70/TD/UVC/830/RX7s	72
38698	CMH70/TD/UVC/942/RX7s	72
36912	CMH150/TD/UVC/830/RX7s-24	72
38692	CMH150/TD/UVC/942/RX7s-24	72
38752	CMH70/TT/UVC/830/E27	72
92478	CMH100/TT/UVC/830/E40	72
38749	CMH150/TT/UVC/830/E40	72
20302	KRC250/CMH/830/T/H/E40	72
10589	CMH250/TT/U/830/E40	72
62356	CMH250/T/U/942/E40	72
13067	CMH400/TT/UVC/U/830/E40	72
46189	CMH70/E/UVC/U/830/E27/C	73
46187	CMH70/E/UVC/U/830/E27/D	73
46194	CMH100/E/UVC/U/830/E27/D	73
46191	CMH100/E/UVC/U/830/E27/C	73
10591	CMH250/E/UVC/U/830/E40/D	73
13087	CMH400/E/UVC/U/830/E40/D	73
21514	CMH150/UVC/TT/U/842/E40	73
64982	CMH50/TT/UVC/730/E27/ECG STREETWISE	73
77400	CMH50/TT/UVC/730/E27/EM STREETWISE	73
77401	CMH70/TT/UVC/730/E27 STREETWISE	73
77399	CMH100/TT/UVC/730/E40 STREETWISE	73
77402	CMH150/TT/UVC/730/E40 STREETWISE	73
43282	CMH70/UVC/O/U/940/E27/D	73
21516	CMH150/UVC/O/T/U/830/E40	73
43286	CMH150/UVC/O/U/940/E27/D	73
43285	CMH150/UVC/O/U/942/E27/C	73
21517	CMH150/UVC/O/T/U/942/E40	73
73685E	CMH20/TC/UVC/830/G8.5	74
73686E	CMH35/TC/UVC/U/830/G8.5	74
63434E	CMH35/TC/UVC/U/942/G8.5	74
73687E	CMH70/TC/UVC/U/830/G8.5	74
63433E	CMH70/TC/UVC/U/942/G8.5	74
63437E	CMH35/T/UVC/U/830/G12 Plus	74
63438E	CMH35/T/UVC/U/942/G12	74
63435E	CMH70/T/UVC/U/830/G12	74
63436E	CMH70/T/UVC/U/942/G12	74
63441E	CMH35/PAR30/UVC/830/E27/SP10	74
63442E	CMH35/PAR30/UVC/830/E27/FL25	74
64950E	CMH35/PAR30/UVC/835/E27/SP10	74
64951E	CMH35/PAR30/UVC/835/E27/FL25	74
63443E	CMH35/PAR30/UVC/942/E27/SP10	74
63444E	CMH35/PAR30/UVC/942/E27/FL25	74
73683E	CMH70/PAR30/UVC/830/E27/FL15	74
73684E	CMH70/PAR30/UVC/830/E27/SP40	74
64952E	CMH70/PAR30/UVC/835/E27/SP15	74
64953E	CMH70/PAR30/UVC/835/E27/FL40	74
64939E	CMH70/PAR30/UVC/942/E27/SP15	74
63440E	CMH70/PAR30/UVC/942/E27/FL40	74

# Index By Product Description

Product Code	Product Description	Page No.
73033	ARC250/T/H/960/E40	75
32665	ARC250/T/VBU/960/E40	75
30052	KRC400/T/H/960/E40	75
30704	KRC400/T/VBU/960/E40	75
30047	ARC250/D/H/960/E40	75
32666	ARC250/D/VBU/960/E40	75
10834	KRC400/D/H/960/E40	75
10837	KRC400/D/VBU/960/E40	75
42357	ARC250/T/H/742/E40	75
42369	ARC400/T/H/742/E40	75
16871	KRC400/E/VBU/645/E40	75
16870	ARC250/D/H/740/E40	75
16872	KRC400/D/VBU/740/E40	75
16875	KRC400/D/H/740/E40	75
65117E	ARC70/E/U/740/E27	75
65114E	ARC100/E/U/740/E27	75
65118E	ARC150/E/U/740/E27	75
65115E	ARC150/T/U/740/E40	75
65116E	ARC250/T/U/740/E40	75
65119E	ARC400/T/U/740/E40	75
65120E	KRC250/T/U/740/E40	75
65121E	KRC250/D/U/740/E40	75
65122E	KRC400/T/U/740/E40	75
65123E	KRC400/D/U/740/E40	75
25218	MVR175/PAR38/FL1	76
18902	MVR175/U/MED	76
19976	MVR175/C/U/MED	76
47760	MVR175/U	76
47761	MVR175/C/U	76
17634	MVR175/SP30/U	76
47762	MVR175/U/40	76
47763	MVR175/C/U/40	76
42729	MVR250/U	76
42731	MVR250/C/U	76
17633	MVR250/SP30/U	76
44542	MVR250/U/40	76
44543	MVR250/C/U/40	76
43828	MVR400/U	76
43829	MVR400/C/U	76
17632	MVR400/SP30/U	76
18904	MVR400/U/ED28	76
19979	MVR400/C/U/ED28	76
43907	MVR400/U/40	76
43908	MVR400/C/U/40	76
49860	MVR400/VBU/40	76
49857	MVR400/C/VBU/40	76
41826	MVR1000/U	76
41827	MVR1000/C/U	76
18205	MVR1000/U/BT37	76
41828	MVR1000/U/40	76
41829	MVR1000/C/U/40	76
47326	MVR1500/U	76
37405	MVR1500/HBU	76
18104	MVR175/HOR	76
18105	MVR175/C/HOR	76
18101	MVR250/HOR	76
18103	MVR250/C/HOR	76
49657	MVR400/VBU/HO	76
13923	MVR400/VBU/XHO	76
13924	MVR400/C/VBU/XHO	76
49655	MVR400/VBD	76
20931	MVR400/SP30/VBU/HO	76
40335	MVR400/VBU/ED28/HO	76
40201	MVR400/HOR/BT28	76
26218	MVR400/HOR/MOG	76
26219	MVR400/C/HOR/MOG	76
44835	MVR1000/VBU/HO	76
13137	MVR1000/C/VBU/HO	76
13481	MVR150/U/WM	77
13490	MVR150/C/U/WM	77
13495	MVR360/U/WM/HO	77
40053	MVR360/VBU/WM/XHO	77
40055	MVR360/C/VBU/WM/XHO	77

Product Code	Product Description	Page No.
40056	MPR360/VBU/WM/HO/O	77
11685	MPR360/C/VBU/WM/HO/O	77
18709	MPR400/VBU/O/40	77
27738	MPR400/C/VBU/O/40	77
18708	MPR400/VBU/HO/O	77
13582	MPR400/C/VBU/HO/O	77
41433	MPR1000/VBU/HO/O	77
10687	MVR325/U/WM	77
10688	MVR325/C/U/WM	77
43817	MVR400/U	77
43818	MVR400/C/U	77
39097	MVR950/U/VBU/WM	77
34530	ARC70/TD/UVC/730/Rx7s	77
34536	ARC70/TD/UVC/742/Rx7s	77
34527	ARC150/TD/UVC/732/Rx7s-24	77
34535	ARC150/TD/UVC/742/Rx7s-24	77
93772	ARC150/TD/952/Rx7s-24	77
35284	ARC150/UVC/AQUA/TD/865/Rx7s-24	77
30099	ARC250/TD/832/Fc2	77
73032	ARC250/TD/842/Fc2	77
12181	ARC150/UVC/TD/GREEN/Rx7s-24	77
12182	ARC150/UVC/TD/BLUE/Rx7s-24	77
12183	ARC150/UVC/TD/ORANGE/Rx7s-24	77
12184	ARC150/UVC/TD/MAGENTA/Rx7s-24	77
89133E	ARC70/UVC/TD/730/Rx7s	78
89136E	ARC70/UVC/TD/742/Rx7s	78
71170E	ARC70/UVC/TD/760/Rx7s	78
89137E	ARC150/UVC/TD/730/Rx7s-24	78
89138E	ARC150/UVC/TD/742/Rx7s-24	78
71175E	ARC150/UVC/TD/960/Rx7s-24	78
16920	SPL1500/L/H/652/Rx75M	78
88882	SPL1000/T/H/960/E40	78
16922	SPL2000/L/H/654/spec	78
30102	SPL2000/T/H/960/E40	78
33148	SPL2000/I/T/H/640/E40	78
30103	SPL2000/I/T/H/960/E40	78
36078	SPL2000/220V/T/H/640/E40	78
88553*	LU50/85/MO/T/E27 1/25	79
46221	LU70/90/MO/T/E27 1/25	79
93767	LU100/100/MO/T/40	79
44244	LU150/100/T/40	79
22453	LU250/T/40	79
11678	LU400/T/40	79
45751	LU1000/110/T/40	79
88554*	LU50/85/MO/D/E27 1/12	79
46217	LU70/90/MO/D/E27 1/12	79
93766	LU100/100/MO/40	79
44245	LU150/100/D/40	79
44052	LU250/D/40	79
44057	LU400/D/40	79
13252	LU150/MED/ECO	79
13253	LU150/D/MED/ECO	79
85371	LU150/55/H/ECO	79
85380	LU150/55/D/H/ECO	79
72607	LU150/55/40/ECO	79
85377	LU250/H/ECO	79
85381	LU250/D/H/ECO	79
76204	LU250/40/H/ECO	79
85379	LU400/H/ECO	79
76205	LU400/40/ECO	79
76998	LU400/D/H/ECO	79
14682	LU750	79
44058	LU1000/ECO	79
44059	LU1000/40	79
10979E	LU70T/E27	79
10980E	LU100T/E27	79
10982E	LU100T/E40	79
74041E	LU150/100/T/E40	79
74042E	LU150/100/D/E40	79
74043E	LU250/T/E40	79
74044E	LU250/D/E40	79
74045E	LU400/T/E40	79
74046E	LU400/D/E40	79

Product Code	Product Description	Page No.
78659E	LU150/100/HO/T/E40	79
78660E	LU250/HO/T/E40	79
78661E	LU400/HO/T/E40	79
78663E	LU600/HO/T/E40	79
93373	LU50/85/XO/T/27	80
45696	LU50/85/XO/D/27	80
93375	LU70/90/XO/T/27	80
45697	LU70/90/XO/D/27	80
93376	LU100/100/XO/T/40	80
93379	LU100/100/XO/D/40	80
93377	LU150/100/XO/T/40	80
93380	LU150/100/XO/D/40	80
93378	LU250/XO/T/40	80
93381	LU250/XO/D/40	80
93269	LU400/XO/T/40	80
93296	LU400/XO/D/40	80
93270	LU600/XO/T/40	80
88558*	LU50/85/MO/SBY/T/E27 1/25	80
88557*	LU50/85/MO/SBY/D/E27 1/12	80
88268*	LU70/90/MO/SBY/T/E27 GE 1/25	80
88269*	LU70/90/MO/SBY/D/E27 GE 1/12	80
88257	LU70/XO/SBY/D/E27	80
88258	LU70/XO/SBY/T/E27	80
17899*	LU100/100/MO/SBY/T/40	80
88255	LU100/XO/SBY/D/E40	80
88256	LU100/XO/SBY/T/E40	80
35594*	LU150/100/SBY/T/40	80
35589*	LU150/100/SBY/D/40	80
78737	LU150/XO/SBY/T/40	80
35586*	LU250/SBY/T/40	80
35590	LU250/SBY/D/40	80
78738	LU250/XO/SBY/T/40	80
35582*	LU400/SBY/T/40	80
35591	LU400/SBY/D/40	80
78739	LU400/XO/SBY/T/40	80
88556*	LU50/85/MO/D/E27 1/12	80
46186	LU70/90/MO/D/E27 1/12	80
46209	LU70/90/MO/I/E27 1/12	80
71053	LU70/90/I/E27	80
39512	LUH110/D/27-SHx	80
76987E	H50/27	81
76985E	H80/27	81
74781E	H125/27	81
74782E	H250/40	81
76986E	H400/40	81
77042E	H50NDX/27	81
77043E	H80NDX/27	81
77044E	H125NDX/27	81
77045E	H250NDX/40	81
77046E	H400NDX/40	81
78021E	HR100A38	81
78022E	HR175A39	81
78025E	HR250A37	81
78030E	HR400A33	81
78035E	HR1000X38	81
78039E	HR1000X38MED	81
78040E	HR175DX39	81
78061E	HR250DX37	81
78062E	HR400DX33	81
76468E	ML160W/220-230V/E27	81
76470E	ML250W/220-230V/E27	81
76471E	ML250W/220-230V/E40	81
76472E	ML500W/220-230V/E40	81

## SHOWBIZ Lamps

Product Code	Product Description	Page No.
48461	CSR125/SE/HR	89
48462	CSR200/SE/HR/UV-C	89
21853	CSR400/SE/HR/UV-C	89
45238	CSR400/SE/HR/75	89
48463	CSR575/SE/HR	89
40460	CSR575/SE/HR/UV-C	89
22495	CSR800/SE/HR/UV-C	89
48464	CSR1200/SE/HR	89
27764	CSR1200/SE/HR/UV-C	89
77390	CSR1800/SE/HR/UV-C	89
48465	CSR2500/SE/HR	89
40482	CSR2500/SE/HR/UV-C	89
48466	CSR4000/SE/HR	89
27765	CSR4000/SE/HR/UV-C	89
48467	CSR6000/SE/HR	89
40492	CSR6000/SE/HR/UV-C	89
48468	CSR12000/SE/HR	89
22496	CSR18000/SE/HR	89
27817	CSD250/2/SE	89
21328	CSD250/2/SE BULK	89
49492	CSR575/2/T/SE	89
15378	CSR575/2/SE	89
49491	CSR700/2/SE	89
49490	CSR1200/2/SE	89
76160	CSR300/2/TAL	89
76161	CSR700/TAL/60/P.G.JX50	89
78718	CSR700/TAL/60/P.G.JX28	89
74873	CSR1500/TAL/60/S	89
48450	CSR200/DE	89
45232	CSR400/S/DE/90	89
22478	CSR400/S/DE/70	89
70979	CSR575/DE	89
70978	CSR575/DE/70 BULK	89
45231	CSR575/S/DE/75	89
22493	CSR700/S/DE/60	89
41357	CSR700/S/DE/72	89
22494	CSR1200S/DE/60	89
96802	CSR1200/S/DE/60/STB	89
96800	CSR1500/S/DE/STB	89
48453	CSR1200/DE	89
48454	CSR2500/DE	89
48455	CSR4000/DE	89
48456	CSR6000/DE	89
48457	CSR12000/DE	89
48459	CSR18000/DE	89
78710	CSR24000/DE	89
15380	CSR700SA	90
45234	CSR700SA/72	90
21849	CSR1200SA	90
21801	CSR2000SA	90
73579	CMH400/932/GX9.5	90
73580	CMH400/941/GX9.5	90
88545	CMH150/PAR64/830/GX16d/SP	90
88537	CMH150/PAR64/830/GX16d/MFL	90
16960	CMH150/PAR64/830/GX16d/WFL	90
88543	CMH150/PAR64/942/GX16d/SP	90
88542	CMH150/PAR64/942/GX16d/MFL	90
88541	CMH150/PAR64/942/GX16d/WFL	90
88485	CSS150/850/GY9.5	90
88495	99-0201 CSI	90
88494	99-0221 CSI	90
88514	99-1222 CSI CS	90
88513	99-1422 CSI HR	90
88493	99-0222 CID	90
41869	F558X/StudioBiox32	90
41873	F558X/StudioBiox56	90
41903	F558X/CINPLUS/32	90
41911	F558X/CINPLUS/55	90
72658	F24T8CINEMA32/COVG	91
72659	F24T8CINEMA55/COVG	91
81207	F48T8/Cinema32/COVG	91
81208	F48T8/Cinema55/COVG	91
15775	F20T12/CINEMA32/HO/COVG	91

Product Code	Product Description	Page No.
15776	F20T12/CINEMA55/HO/COVG	91
15782	F40T12/CINEMA32/HO/COVG	91
15783	F40T12/CINEMA55/HO/COVG	91
34747	F20T12/BLB	91
25618	F40T12/BLB	91
88832	F18T8/BLB	91
88833	F36T8/BLB	91
41673	FCX	91
14553	25PAR36	91
14555	25PAR36/WFL	91
24425	4405	91
24663	4511	91
15133	H4515	91
24673	4515	91
43576	H7604	91
12892	50PAR36/VNSP	91
16540	50PAR36/NSP	91
16541	50PAR36/WFL	91
19880	50PAR36/WFL/H	91
16542	50PAR36/WFL	91
24627	4502	91
24640	4505	91
24650	4509	91
41503	4509X	91
24887	4593	91
24891	4594	91
24964	4626	91
24966	4627	91
24867	4587	91
24898	4596	91
41667	DWE	91
41671	FBO	91
43591	H7635	92
40822	4537-2	92
24799	4553	92
24859	4580	92
24862	4581	92
37706	Q4554	92
36271	Q4681	92
24768	4545	92
19024	120PAR56/MFL	92
19025	120PAR56/WFL	92
20122	200PAR	92
20575	240PAR56/VNSP	92
20577	240PAR56/WFL	92
23427	300PAR56/WFL	92
20803	300PAR56/NSP	92
20836	300PAR56/MFL	92
20849	300PAR56/WFL	92
20853	300PAR56/NSP	92
20852	300PAR56/MFL	92
20854	300PAR56/WFL	92
18676	300PAR56/NSP	92
18677	300PAR56/MFL	92
18678	300PAR56/WFL	92
43494	Q500PAR56/NSP	92
43495	Q500PAR56/MFL	92
43496	Q500PAR56/WFL	92
40576	4552	93
40578	4559	93
40579	Q4559	93
42552	Q4559X	93
73581	CP86 PAR64/VNSP	93
99944	CP86 PAR64/VNSP	93
25504/99945	CP87 PAR64/NSP	93
99946	CP87 PAR64/NSP	93
99947	CP88 PAR64/MFL	93
99948	CP88 PAR64/MFL	93
39411	500/PAR64/MFL	93
39414	500/PAR64/W FL	93
88425	CP60 EXC SUPER	93
88551	CP60 EXC SUPER	93
88535	CP61 EXD SUPER	93

Product Code	Product Description	Page No.
88550	CP61 EXD SUPER	93
88549	CP62 EXE SUPER	93
88536	CP62 EXE SUPER	93
88511	CP95	93
88510	CP95	93
88480	EXG/PAR64/WFL	93
88479	EXG/PAR64/WFL	93
39409	500PAR64/MFL	93
13233	FFN	93
13229	FFP	93
13228	FFR	93
13227	FFS	93
43497	Q1000PAR64/NSP	93
43498	Q1000PAR64/MFL	93
43499	Q1000PAR64/WFL	93
88478	HPL 575	93
88477	HPL 575	93
88436	HPL 575-C	93
88438	HPL 575-C	93
88476	HPL 575-X LL	93
88475	HPL 575-X LL	93
88434	HPL 575-C LL-X	93
88435	HPL 575-C LL-X	93
88474	HPL 750	93
88473	HPL 750	93
88437	HPL 750-C	93
88428	HPL 750-C-XLL	93
88430	HPL 750-X-LL	93
88429	HPL 750-X-LL	93
88624	EHD	94
88548	FLK	94
88452	FLK-LL	94
88448	GKV	94
88447	GKV	94
88446	GKV/LL	94
88445	GKV/LL	94
88450	FKR	94
88627	EHF	94
88626	EHG	94
88432	HX800	94
88625	FEL	94
88449	CP77 FEP	94
88443	CP81 FKW	94
88433	CP81 FSL	94
88444	CP81 FSK	94
88467	CP82 FRG	94
88466	CP82 FRH	94
88464	CP82 FRJ	94
88465	T18 GCW	94
88470	T25 GCW	94
88469	T27 GCS	94
88463	T26 GCS	94
88462	CP89 FRK	94
88461	CP89 FRM	94
88504	FMR	94
88431	T12	95
72680	CP23	95
88455	CP23	95
88459	CP24	95
88515	T11 Q1000T8/CL	95
88456	T11	95
88457	T19 FWR	95
88472	CP70 FVA	95
88471	CP70 FVA	95
88454	T29 FWT	95
88453	CP90	95
96735	CP43 FTL	95
88533	CP43 FTL	95
88503	CP79	95
88439	CP110 OC1200	95
88509	EGN	95
88511	CP39 FKH	95
88622	EGT	95

# Index By Product Description

Product Code	Product Description	Page No.
88458	CP40 FKJ	95
88538	CP40 FKJ	95
88508	CP93	95
88507	CP92	95
88506	CP92	95
88505	CP91	95
88617	EGE	95
88546	BTM	95
88498	T17 FKF	95
88451	T28	95
88497	T13 FKB	95
88530	CP51 FKM	95
88615	EGJ	95
88529	T14 FKD	95
88499	FKE	95
88496	CP52 FKN	95
88610	CYX	95
88489	CP41 FKK	95
88488	CP41 FKK	95
88502	CP94	95
88874	HX48	95
88875	CP29	95
88876	CP29	95
12036	CP83	95
12037	CP83	95
48771	Q12MT26/4CL	95
48779	Q12MT26/4CL	95
48773	BCM-Q20MT324CL	95
48774	BCM-Q20MT324CL	95
48777	Q24MT32/4CL	95
88880	CP105	96
88877	CP30	96
88878	CP58	96
88879	CP32	96
88512	CP59	96
19926	DKZ/DSE	96
88500	T16	96
88532	CP53	96
30325	FAD	96
36952	DXX	96
36953	DXX	96
30157	DXW	96
30374	FBY	96
23756	EJG	96
23760	P2/11 EME/Clear	96
23761	P2/11 EMF/Frosted	96
23797	P2/28 FCM	96
88482	P2/27 FEK	96
88481	P2/27 FEK	96
88629	FEY	96
19697	P2/10	96
19698	P2/10	96
20249	P2/7 EKM	96
20253	P2/7 EKM	96
19695	P2/12	96
19696	P2/12	96
37346	DZA	96
18234	BRJ A1/220	96
14876	FCR A1/215	96
18235	BRJ/EVB A1/234	96
37695	DZE/FDS A1/262	96
13598	FCS A1/216	96
14874	EHJ A1/223	96
18241	FNT	96
41164	EVD A1/239	96
26895	DYR A1/233	96
88484	HX185	96
88492	A1/248	96
88491	A1/249	96
88460	A1/244	96
34720	M29/ESA	97
34718	M30/ESB	97
34702	M32	97

Product Code	Product Description	Page No.
34676	M28/EVA	97
34768	M33	97
88516	M36	97
88442	M38	97
78343	M38	97
88468	M40	97
36902	EKZ	97
43988	DDS	97
43950	DED	97
43537	DDL	97
38306	ELD/EJN	97
35200	EKE	97
29150	EJL A1/252	97
37462	ELC A1/259	97
15377	ELC500	97
38686	ENH	97
38476	ELH	97
32882	EJA	97
41729	EPT	97
25475	ENL	97
41882	EPV	97
42614	EPX	97
41874	ERV	97
41705	ENX	97
21613	FXL	97
25261	FLT	97
12097	EXY	97
12092	EXR	97

## Specialty Lamps

Product Code	Product Description	Page No.
39882	F4W/T5/BLB	103
39883	F6W/T5/BLB	103
39884	F8W/T5/BLB	103
88832	F18/T8/BLB	103
88833	F36/T8/BLB	103
34747	F20W/T12/BLB	103
25618	F40W/T12/BLB	103
16941	F15WBL 350	103
72939	F15WBLCVG	103
42935	F9BX BL G23	103
42936	F11BX BL G23	103
42937	F13BX BL GX23	103
42939	F24BX BL 2G11	103
42940	F36BX BL 2G11	103
42941	F55BX BL 2G11	103
15872	G4T5	103
15873	G6T5	103
11077	G8T5	103
29495	G11T5	103
16494	G16T5	103
15874	G36T5	103
15864	G64T5	103
29504	G64T5/4P/SE	103
11078	G15T8	104
11082	G25T8	104
11080	G30T8	104
15875	G55T8HO	104
40695	GBX5/UVC G23	104
40696	GBX9/UVC G23	104
40700	GBX11/UVC G23	104
40703	GBX13/UVC GX23	104
40704	GBX18/UVC/2G11	104
40705	GBX36/UVC/2G11	104
40706	GBX55/UVC/2G11	104
72761	G15T8/CVG	104
72762	G25T8/CVG	104
72763	G30T8/CVG	104
72764	G55T8/CVG	104

Product Code	Product Description	Page No.
17203	F18W/830CVG	104
17204	F18W/835CVG	104
17205	F18W/840CVG	104
17208	F36W/830CVG	104
17202	F36W/835CVG	104
17209	F36W/840CVG	104
12403	F58W/830CVG	104
12405	F58W/835CVG	104
12407	F58W/840CVG	104
12423	F70W/835CVG	104
12424	F70W/840CVG	104
71000	F24W/T5/830/ECO/CVG	105
70998	F24W/T5/835/ECO/CVG	105
70997	F24W/T5/841/ECO/CVG	105
70999	F24W/T5/850/ECO/CVG	105
70996	F24W/T5/865/ECO/CVG	105
70995	F39W/T5/830/ECO/CVG	105
70994	F39W/T5/835/ECO/CVG	105
70993	F39W/T5/841/ECO/CVG	105
70991	F39W/T5/850/ECO/CVG	105
70990	F39W/T5/865/ECO/CVG	105
48433	F54T5/830/HO/ECO/CVG	105
48436	F54T5/835/HO/ECO/CVG	105
48458	F54T5/841/HO/ECO/CVG	105
80311	F54T5/850/HO/ECO/CVG	105
48469	F54T5/865/HO/ECO/CVG	105
72985	F54T5/830/ECO/WM/CVG	105
72986	F54T5/835/ECO/WM/CVG	105
72987	F54T5/841/ECO/WM/CVG	105
72988	F54T5/850/ECO/WM/CVG	105
72989	F54T5/865/ECO/WM/CVG	105
44212	F15T8 F6SA	105
16987/44230	F15T8 SW	105
44239	F15T8 REP	105
44213	F18T8 F6SA	105
44231	F18T8 SW	105
44240	F18T8 REP	105
16968	F25T8 F6SA	105
16991	F25T8 SW	105
16969/44218	F30T8 F6SA	105
16992/44235	F30T8 SW	105
44241	F30T8 REP	105
16970/44219	F36T8 F6SA	105
16995/44236	F36T8 SW	105
44242	F36T8 REP	105
44220	F38T8 F6SA	105
16984	F38T8 FA	105
16999	F38T8 SW	105
21788	QH500T3/CL	106
21787	QH500T3/CL/7	106
22355	QH1000T3/CL	106
22357	QH1000T3/CL	106
21377	QH1MT3/CL/R/MS-235V	106
22357	QH1000T3/CL	106
22531	QH1200T3/CL	106
22532	QH1200T3/CL/HT	106
22691	QH1600T3/CL/7	106
22688	QH1600T3/CL	106
22789	QH2M/T3/1CL/HT	106
15551	QH2M/T3/1CL/HT/VB	106
18668	QH2MT3/CL/VB	106
22790	QH2M/T3/CL/HT	106
12716	QH2MT3/CL/HT/R	106
22838	QH2500T3/CL	106
10872	QH3650/CL/5	106
22875	QH3800/CL	106
22900	QH5M/T3/1CL/HT	106
20092	HH 451 1500W RUBY 230-240V	106
20093	HH 804 2000W RUBY 230-240V	106
40723	QH 750W 230-240V Ruby Slim	106
42740	QH 1300W 230-240V Ruby Slim	106
11478	EXL	106
11482	EXM	106



Product Code	Product Description	Page No.
80583	Q6.6A45PK30d male	106
88420	AF6/2 6.6A 45W	106
32917	Q65T2 1/2/1/CL	106
88417	AF 6/5T 6.6A 100W	106
80584	Q6.6A100PK30d male	106
80588	Q6.6A100PK30d female	106
80585	Q6.6A150PK30d male	106
80589	Q6.6A150PK30d female	106
80586	Q6.6A200PK30d male	106
80590	Q6.6A200PK30d female	106
23857	Q6.6A/T4/5CL	106
23860	Q6.6AT4/DCR	106
33279	Q6.6A/PAR56/3	106
88413	AF7/2 6.6A 200W	106
15482	Q20A/PAR56/C	106
23863	Q20A/PAR56/3	106
88525	IM T20BP	106
88523	1200T20	106

Product Code	Product Description	Page No.
99723	MHB2000/380V/60Hz/T	112
99724	MHB2000/400V/50Hz/T	112
99725	MHB2000/415V/50Hz/T	112
70981	MSB35/220V/50Hz	113
70982	MSB50/220V/50Hz	113
70983	MSB70/220V/50Hz	113
70986	MSB100/220V/50Hz	113
70987	MSB150/220V/50Hz	113
70988	MSB250/220V/50Hz	113
70989	MSB400/220V/50Hz	113
70991	MSB600/220V/50Hz	113
70992	MSB1000/220V/50Hz	113
25816	MHB80/220V/50Hz	113
25817	MHB125/220V/50Hz	113
25818	MHB250/220V/50Hz	113
70990	MHB400/220V/50Hz	113
78669	MSB35/220V/60Hz	114
11212	MSB70/220V/60Hz	114
78670	MSB100/220V/60Hz	114
11215	MSB150/220V/60Hz	114
11221	MSB250/220V/60Hz	114
11222	MSB400/220V/60Hz	114
25827	MHB400/220V/60Hz	114
95858	MSB35/230V/50Hz	114
95859	MSB50/230V/50Hz	114
95860	MSB70/230V/50Hz	114
95861	MSB100/230V/50Hz	114
95862	MSB150/230V/50Hz	114
95863	MSB250/230V/50Hz	114
95864	MSB400/230V/50Hz	114
95866	MSB600/230V/50Hz	114
95867	MSB1000/230V/50Hz	114
25819	MHB80/230V/50Hz	114
25822	MHB125/230V/50Hz	114
25823	MHB250/230V/50Hz	114
95865	MHB400/230V/50Hz	114
11049	MSB70/230V/60Hz	115
11050	MSB150/230V/60Hz	115
11053	MSB250/230V/60Hz	115
11223	MSB400/230V/60Hz	115
25828	MHB400/230V/60Hz	115
95868	MSB35/240V/50Hz	115
95869	MSB50/240V/50Hz	115
95870	MSB70/240V/50Hz	115
95871	MSB100/240V/50Hz	115
95872	MSB150/240V/50Hz	115
95873	MSB250/240V/50Hz	115
95874	MSB400/240V/50Hz	115
95876	MSB600/240V/50Hz	115
95877	MSB1000/240V/50Hz	115
25824	MHB80/240V/50Hz	115
25825	MHB125/240V/50Hz	115
25826	MHB250/240V/50Hz	115
95875	MHB400/240V/50Hz	115
11224	MSB70/240V/60Hz	116
11225	MSB150/240V/60Hz	116
11226	MSB250/240V/60Hz	116
11227	MSB400/240V/60Hz	116
25839	MHB400/240V/60Hz	116
89192	MHB1000/380V/50Hz	116
89191	MHB1500/380V/50Hz	116
89190	MHB2000/380V/50Hz	116
99664	CSI 1000/220V/50Hz	117
89186	CSI 1000/220V/60Hz	117
89187	CSI 1000/230V/50Hz	117
89188	CSI 1000/230V/60Hz	117
89189	CSI 1000/240V/50Hz	117
65869	MSB35/220V/50Hz/A/T	118
65870	MSB50/220V/50Hz/A/T	118
65871	MSB70/220V/50Hz/A/T	118
65872	MSB100/220V/50Hz/A/T	118
65873	MSB150/220V/50Hz/A/T	118
65874	MSB250/220V/50Hz/A/T	118

Product Code	Product Description	Page No.
65875	MSB400/220V/50Hz/A/T	118
65876	MSB600/220V/50Hz/A/T	118
65877	MHB50/220V/50Hz/A/T	118
65878	MHB80/220V/50Hz/A/T	118
65879	MHB125/220V/50Hz/A/T	118
65880	MHB175/220V/50Hz/A/T	118
65881	MHB250/220V/50Hz/A/T	118
65882	MHB400/220V/50Hz/A/T	118
65883	MSB100/70/220V/50Hz/A/T	118
65884	MSB150/100/220V/50Hz/A/T	118
65885	MSB250/150/220V/50Hz/A/T	118
65886	MSB400/250/220V/50Hz/A/T	118
65890	MSB35/230V/50Hz/A/T	119
65891	MSB50/230V/50Hz/A/T	119
65892	MSB70/230V/50Hz/A/T	119
65893	MSB100/230V/50Hz/A/T	119
65894	MSB150/230V/50Hz/A/T	119
65895	MSB250/230V/50Hz/A/T	119
65896	MSB400/230V/50Hz/A/T	119
65897	MSB600/230V/50Hz/A/T	119
65898	MHB50/230V/50Hz/A/T	119
65899	MHB80/230V/50Hz/A/T	119
65900	MHB125/230V/50Hz/A/T	119
65901	MHB175/230V/50Hz/A/T	119
65902	MHB250/230V/50Hz/A/T	119
65904	MHB400/230V/50Hz/A/T	119
65905	MSB100/70/230V/50Hz/A/T	119
65906	MSB150/100/230V/50Hz/A/T	119
65907	MSB250/150/230V/50Hz/A/T	119
65908	MSB400/250/230V/50Hz/A/T	119
70993	6µF/250V	120
70994	8µF/250V	120
82017	10µF/250V	120
70995	12µF/250V	120
70996	18µF/250V	120
71009	25µF/250V	120
70997	32µF/250V	120
72090	36µF/250V	120
70998	50µF/250V	120
89197	25µF/540V	120
89200	35µF/540V	120
28243	6µF/250V/C	120
28244	8µF/250V/C	120
28246	10µF/250V/C	120
28253	12µF/250V/C	120
28255	18µF/250V/C	120
28256	25µF/250V/C	120
28257	32µF/250V/C	120
28258	50µF/250V/C	120
65954	MSI/150	121
11233	MSI/400	121
11234	MSI/1000	121
11235	MSI/400/L	121
95883	MSI/1000/L	121
81303*	MSIA1000	121
89193	MSI/1000/CSI/Aluminum	121
89195	MSI/2000	121
89165	MSB100/70/220V/50Hz/T	122
89160	MSB150/100/220V/50Hz/T	122
89155	MSB250/150/220V/50Hz/T	122
89144	MSB400/250/220V/50Hz/T	122
89168	MSB100/70/220V/60Hz/T	122
89163	MSB150/100/220V/60Hz/T	122
99658	MSB250/150/220V/60Hz/T	122
89153	MSB400/250/220V/60Hz/T	122
89166	MSB100/70/230V/50Hz/T	122
89161	MSB150/100/230V/50Hz/T	122
89156	MSB250/150/230V/50Hz/T	122
89151	MSB400/250/230V/50Hz/T	122
89169	MSB100/70/230V/60Hz/T	122
89164	MSB150/100/230V/60Hz/T	122
99659	MSB250/150/230V/60Hz/T	122
89154	MSB400/250/230V/60Hz/T	122

## Ballast

Product Code	Product Description	Page No.
70981C	MSB35/220V/50Hz/T	109
70982C	MSB50/220V/50Hz/T	109
70983C	MSB70/220V/50Hz/T	109
70986C	MSB100/220V/50Hz/T	109
70987C	MSB150/220V/50Hz/T	109
70988C	MSB250/220V/50Hz/T	109
70989C	MSB400/220V/50Hz/T	109
70991C	MSB600/220V/50Hz/T	109
70992C	MSB1000/220V/50Hz/T	109
25816C	MHB80/220V/50Hz/T	109
25817C	MHB125/220V/50Hz/T	109
25818C	MHB250/220V/50Hz/T	109
70990C	MHB400/220V/50Hz/T	109
78671	MSB35/220V/60Hz/T	110
28810	MSB70/220V/60Hz/T	110
78672	MSB100/220V/60Hz/T	110
28812	MSB150/220V/60Hz/T	110
28814	MSB250/220V/60Hz/T	110
78673	MSB400/220V/60Hz/T	110
99720	MSB1000/220V/60Hz/T	110
28789	MSB35/230V/50Hz/T	110
95859T	MSB50/230V/50Hz/T	110
28790	MSB70/230V/50Hz/T	110
28796	MSB100/230V/50Hz/T	110
28797	MSB150/230V/50Hz/T	110
28798	MSB250/230V/50Hz/T	110
95864C	MSB400/230V/50Hz/T	110
95866T	MSB600/230V/50Hz/T	110
99721	MSB1000/230V/50Hz/T	110
25819T	MHB80/230V/50Hz/T	110
25822T	MHB125/230V/50Hz/T	110
25823T	MHB250/230V/50Hz/T	110
95865C	MHB400/230V/50Hz/T	110
28815	MSB70/230V/60Hz/T	111
28817	MSB150/230V/60Hz/T	111
28818	MSB250/230V/60Hz/T	111
28800	MSB35/240V/50Hz/T	111
28801	MSB70/240V/50Hz/T	111
28807	MSB100/240V/50Hz/T	111
28808	MSB150/240V/50Hz/T	111
28809	MSB250/240V/50Hz/T	111
95874C	MSB400/240V/50Hz/T	111
99722	MSB1000/240V/50Hz/T	111
95875C	MHB400/240V/50Hz/T	111
28819	MSB70/240V/60Hz/T	111
28821	MSB150/240V/60Hz/T	111
28823	MSB250/240V/60Hz/T	111
99719	MHB2000/380V/50Hz/T	112

# Index By Product Description

Product Code	Product Description	Page No.
89167	MSB100/70/240V/50Hz/T	122
99660	MSB150/100/240V/50Hz/T	122
89157	MSB250/150/240V/50Hz/T	122
89152	MSB400/250/240V/50Hz/T	122
89170	MSB/Dual/PS	123
75251	MSB/Dual/PS/Timer	123
89176	Timer/PS	123
10987	CWA175/220V/50Hz	124
10988	CWA250/220V/50Hz	124
10989	CWA400/220V/50Hz	124
10991	CWA1000/220V/50Hz	124
10992	CWA1500/220V/50Hz	124
95878	CWA175/230V/50Hz	124
95879	CWA250/230V/50Hz	124
95880	CWA400/230V/50Hz	124
95881	CWA1000/230V/50Hz	124
95882	CWA1500/230V/50Hz	124
11228	CWA175/240V/50Hz	125
11229	CWA250/240V/50Hz	125
11230	CWA400/240V/50Hz	125
11231	CWA1000/240V/50Hz	125
11232	CWA1500/240V/50Hz	125
81302	CWA1000/S52/220V/50Hz	125
85922	CWA1000/S52/220V/60Hz	125
85923	CWA1000/S52/230V/50Hz	125
85926	CWA1000/S52/230V/60Hz	125
85921	CWA1000/S52/240V/50Hz	125
10993	13µF/540V	126
10994	19µF/540V	126
10995	28µF/540V	126
10996	30µF/540V	126
10997	41µF/540V	126
89625	26µF/540V	126
31599	13µF/540V/C	126
31614	19µF/540V/C	126
31625	28µF/540V/C	126
31638	30µF/540V/C	126
31647	41µF/540V/C	126
78711	BLS/E/20W/CMH	127
78712	BLS/E/20W/CMH/R CC	127

Product Code	Product Description	Page No.
78713	BLS/E/20W/CMH/R LP	127
78714	BLS/E/35W/CMH	127
78715	BLS/E/35W/CMH/R CC	127
78716	BLS/E/35W/CMH/R LP	127
61487	BLS/ES/35W/CMH	128
61488	BLS/ES/35W/CMH/R CC	128
61376	BLS/ES/70W/CMH	128
61569	BLS/ES/70W/CMH/R CC	128
64581	BLS/EE/35W/CMH	129
64582	BLS/EE/70W/CMH	129
61386	ELB114S	130
61387	ELB214S	130
61395	ELB314S	130
61396	ELB414S	130
61394	ELB121S	130
61388	ELB128S	130
61389	ELB228S	130
61390	ELB328S	130
61391	ELB135S	130
61392	ELB235S	130
62107	ELB149S	130
62108	ELB249S	130
61393	ELB154S	130
61385	ELB254/258S	130
62623	ELB114E	131
62624	ELB214E	131
62625	ELB314E	131
62626	ELB414E	131
62627	ELB121E	131
62630	ELB224E	131
62628	ELB128E	131
62629	ELB228E	131
61378	ELB118S	132
61379	ELB218S	132
61380	ELB318S	132
61381	ELB136S	132
61382	ELB236S	132
61383	ELB336S	132
61384	ELB158S	132
61385	ELB254/258S	132

Product Code	Product Description	Page No.
62640	ELB118E	133
62641	ELB218E	133
62642	ELB318E	133
62643	ELB418E	133
62644	ELB136E	133
62645	ELB236E	133
76509	MB15/220V/50Hz	134
76510	MB18/20/220V/50Hz	134
76511	MB30/220V/50Hz	134
76512	MB36/40/220V/50Hz	134
76514	MB58/65/220V/50Hz	134
76515	MB22/220V/50Hz	134
76516	MB32/220V/50Hz	134
76517	EMB18/20/220V/50Hz	135
76518	EMB30/220V/50Hz	135
76519	EMB36/40/220V/50Hz	135
76520	EMB22/220V/50Hz	135
76521	EMB32/220V/50Hz	135
24975	Starter FU 10 (155/500 4-65W 220-240V)	136
81024	FU10 155/500 4W-65W 220-240V	136
81850	STARTERS FU10 155/500 4-65W 220-240V PC	136
89698	STARTERS FU10 155/200 4-22W 220-240V Series RoHS	136
89699	STARTERS FU10 155/200 4-22W 220-240V Series	136
76522	EMB10/220V/50Hz	137
76523	EMB13/220V/50Hz	137
76524	EMB18/220V/50Hz	137
62660	CEB110E	138
62662	CEB111E	138
62663	CEB211E	138
79050	CEB113E	138
79051	CEB213E	138
79052	CEB118E	138
79053	CEB218E	138
62661	CEB210E	138
62666	CEB126E	138
62667	CEB226E	138
62668	CEB132E	138
62669	CEB232E	138
65631	SET60LV	139
65632	SET60LTD	139

# Glossary

## A

### Accent Lighting

Directional lighting to emphasize a particular object or draw attention to a display item.

### Adaptation

The process by which the human eye adjusts to a change in light level.

### Ambient Lighting

The general lighting present in an area -excluding task lighting and accent lighting but including general lighting and daylight streaming in.

### Ambient Temperature

The surrounding temperature within an environment.

### Amperes ("Amps.")

A measure of electrical current. In incandescent lamps, the current is related to voltage and power as follows: Watts (power) = Volts x Amps (current).

### American National Standards Institute (ANSI)

A consensus-based organization which coordinates voluntary standards for the physical, electrical and performance characteristics of lamps, ballasts, luminaires and other lighting and electrical equipment.

### Anode

The "positive" terminal of a diode.

### ANSI Ballast Type

Ballast type used to operate lamp in accordance with ANSI standard.

### ANSI Codes

These are 3-letter codes assigned by the American National Standards Institute. They provide a system of assuring mechanical and electrical interchangeability among similarly coded lamps from various manufacturers. General Electric uses the assigned ANSI Codes as Lamp Ordering Codes for most Projection Lamps.

### Application

Also called "lighting application," it refers to the particular use the lamp is being put to. (e.g. high-bay industrial application or retail lighting application.) The term can also refer in a general way to "application engineering" which deals with specific parameters and usage of light sources. (e.g. how to do a lighting layout, where to place fixtures and so on.)

### Arc

A general term for a high intensity electrical discharge occurring between two electrodes in a gaseous medium, usually accompanied by the generation of heat and the emission of light (See ELECTRICAL DISCHARGE).

### Arc Lamp

A light source containing an arc (see above). Also called a discharge lamp, or an arc discharge lamp (See ELECTRICAL DISCHARGE).

### Arc Length

In High Intensity Discharge lamps this is the distance between the electrode tips, which represents the physical length of the electrical discharge.

### Atmosphere

This field designates the type of gas or vacuum filling a volume or chamber of the lamp. This chamber might contain a filament or it might refer to the bulb which contains the arc tube.

### Auto Reset Shutdown Circuit

Circuit senses lamp end life and will automatically shut off power to the lamp(s). When a new lamp is inserted in the socket, the ballast resets, and turns on the lamp automatically. Some shutdown circuits require the power to be cycled before a new lamp will re-light.

## B

### Ballast

An auxiliary piece of equipment required to start and to properly control the flow of current to gas discharge light sources such as fluorescent and high intensity discharge (HID) lamps.

### Ballast Efficacy Factor (BEF)

Defined as ballast factor x 100 divided by input watts. The value is used to evaluate various lighting systems based on light output and power input. The BEF can only be used to compare systems operating the same type and quantity of lamps.

### Ballast Factor (BF)

This is the percentage of a lamp's rated lumen output that can be expected when operated on a specific, commercially available ballast. For example, a ballast with a ballast factor of 0.93 will result in the lamp's emitting 93% of its rated lumen output. A ballast with a lower BF results in less light output and also generally consumes less power.

### Ballast Hum

Sound generated by the vibration of laminations in the iron core of the transformer or inductor present in the ballast.

### Ballast Losses

Power or energy dissipated in the ballast as heat and not converted to lamp energy.

### Base or Socket

The socket is the receptacle connected to the electrical supply; the base is the end of the lamp that fits into the socket. There are many types of bases used in lamps, screw bases being the most common for incandescent and HID lamps, while bipin bases are common for linear fluorescent lamps.

### Base Temperature (Maximum)

The maximum operating temperature permitted for the base in Celsius. Fixture manufacturers need to ensure that these conditions are satisfied in their fixture.

### Bayonet

A style of bulb base which uses keyways instead of threads to connect the bulb to the fixture base. The bulb is locked in place by pushing it down and turning it clockwise.

### Beam Angle

The angular dimension of the cone of light from reflectorized lamps (such as R and PAR types) encompassing the central part of the beam out to

the angle where the intensity is 50% of maximum. The beam angle sometimes called "beam spread" is often part of the ordering code for the reflectorized lamps. Example: The 50PAR30/HIR/NFL25 is a 50 watt PAR30 narrow flood lamp with a beam angle of 25 degrees (See FIELD ANGLE).

### Beam Lumens

The total lumens present within the portion of the beam contained in the beam angle.

### Beam Spread (Approximate)

For reflector type lamps. The total angle of the directed beam (in degrees horizontal or vertical) to where the intensity of the beam falls to 50% or 10% of the maximum candlepower value as indicated.

### Bi-Pin

Any base with two metal pins for electrical contact. This is the typical base for a fluorescent tube of 1 to 4 feet in length. It consists of 2 prong contacts which connect into the fixture. Medium bi-pins are used with type T-8 and T-12 tubular fluorescent lamps, and miniature bi-pins are used for tubular T-5 fluorescent lamps.

### Biax

GE trademark for its biaxial family of high-efficiency and long-life compact fluorescent lamps. DBX (Double Biax), TBX (Triple Biax) and QBX (Quad Biax) refer to the number of U-shaped legs present in the lamp.

### Blackbody

A hot body with an incandescent black surface at a certain temperature used as a standard for comparison. Note that a black surface is the best radiator possible. A tungsten filament will emit slightly less radiation than a blackbody at the same temperature.

### Black Light

A popular term referring to a light source emitting mostly near UV (320 to 400 nm) and very little visible light.

### Blacktop

Whether or not the top of the miniature lamp has a blacktop coating. The coating is used to control unwanted brightness or glare.

### Bollard

A short, thick post with a light at its top, used for grounds and outdoor walkway lighting.

### Bottom Exit Studs (BES)

(LFL plug-in ballasts) A configuration with screw studs mounted on the base plate or bottom of the ballast. The screws are 3/8" inches long with a #8-32 thread size (#8-32 nut). They are mounted on a two-inch center. The studs are usually used to mount the ballast directly onto a junction box plate.

### Bulb

A loose way of referring to a lamp. "Bulb" refers to the outer glass bulb containing the light source.

### Bulb Material or Coating

The type of glass (or quartz) used in the glass envelope surrounding the light source. The material can also have coatings applied to achieve particular performances.

# Glossary

## Bulb Size

Bulb shape followed by its size (the maximum diameter of the bulb expressed in eighths of an inch). For Compact Fluorescent products, "S", "D", "T", and "Q" are used to represent Single, Double, Triple and Quad Biax sizes. The code also includes a reference such as T4 to represent the size of the tube. Rectangular headlamps are designated as "Rect" and the number of millimeters horizontally.

## C

### Canadian Energy Standards

Indicates ballast complies with Canadian Energy Standards and meets the requirements of CAN/CSA C654-M91.

### Canadian Standards Association (CSA)

An organization that writes standards and tests lighting equipment for performance as well as electrical and fire safety. Canadian provincial laws generally require that all products sold for consumer use in Canada must have CSA or equivalent approval.

### Candela [cd]

The measure of luminous intensity of a source in a given direction. The term has been retained from the early days of lighting when a standard candle of a fixed size and composition was defined as producing one candela in every direction. A plot of intensity versus direction is called a candela distribution curve and is often provided for reflectorized lamps and for luminaires with a lamp operating in them.

### Candlepower

An obsolete term for luminous intensity; current practice is to refer to this simply as candelas (see CANDELA).

### Candlepower (Mean Spherical)

Initial mean spherical candlepower at the design voltage. Mean spherical candlepower is the generally accepted method of rating the total light output of miniature lamps. To convert this rating to lumens, multiply it by 12.57 (4 pi).

### Candlepower Distribution Curve

A graphical presentation of the distribution of light intensity of a light source, usually a reflector lamp or luminaire.

### Capacitor

Device in an electronic circuit (part of ballast or a separate element) that stores electrical energy. Often used for power factor correction and lamp regulation.

### Cathode

The "negative" terminal of a diode/arc.

### Cathode Resistance

Resistance of the cathode in a Fluorescent lamp. It is measured "cold" before the lamp is turned on (Rc) or "hot" after the lamp is turned on (Rh). The ratio of the hot resistance to the cold resistance is also measured (Rh/Rc).

### Center Beam Candlepower (CBCP)

Refers to the luminous intensity at the center of the beam of a blown or pressed reflector lamp (such as a PAR lamp). Measured in candelas.

### Ceramic Metal Halide (CMH)

A type of metal halide lamp that uses a ceramic material for the arc tube instead of glass quartz, resulting in better colour rendering (>80 CRI) and improved lumen maintenance. GE ConstantColor CMH lamps feature a 3-piece arc tube design that delivers excellent colour consistency and lamp reliability.

### Chip

A very small square of semi-conducting material. Also known as a "die," it is the "active" light-emitting component of an LED.

### Chromaticity

Measure to identify the colour of a light source, typically expressed as (x,y) coordinates on a chromaticity chart (See COLOUR TEMPERATURE).

### Chromaticity Coordinates

A system for measuring the colour of the light emitted from a light source—either a primary source like a lamp or a secondary source like an illuminated object. Usually two numbers, x and y coordinates ranging from 0 to 1 specify the chromaticity.

### Class P Thermal Protector

A switching device sensitive to current and heat that automatically disconnects ballast if the temperature exceeds UL temperature limitations.

### Coefficient of Utilization (CU)

In general lighting calculations, the fraction of initial lamp lumens that reach the work plane. CU is a function of luminaire efficiency, room surface reflectances and room shape.

### Coil

Windings of copper or aluminum wire surrounding the steel core in ballast. Also refers to the entire assembly comprising the inductor or transformer.

### Colour Bin

LEDs are often sorted according to their CIE chromaticity coordinates into different groupings or "bins."

### Colour Rendering Index (CRI)

An international system used to rate a lamp's ability to render object colours. The higher the CRI (based upon a 0-100 scale) the richer colours generally appear. CRI ratings of various lamps may be compared, but a numerical comparison is only valid if the lamps are close in colour temperature. CRI differences among lamps are not usually significant (visible to the eye) unless the difference is more than 3-5 points.

### Colour Rendering Indicator

Draws attention to the fact that this is a lamp with high colour rendering, which helps objects and persons illuminated to appear more true to life.

### Colour Temperature (Correlated Colour Temperature - CCT)

A number indicating the degree of "yellowness" or "blueness" of a white light source. Measured in Kelvins, CCT represents the temperature an incandescent object (like a filament) must reach to mimic the colour of the lamp. Yellowish-white ("warm") sources, like incandescent lamps, have lower colour temperatures in the 2700K-3000K range; white and bluish-white ("cool") sources, such

as cool white (4100K) and natural daylight (6000K), have higher colour temperatures. The higher the colour temperature the whiter, or bluer, the light will be (See CHROMATICITY).

### Compact Fluorescent Lamp (CFL)

The general term applied to fluorescent lamps that are single-ended and that have smaller diameter tubes that are bent to form a compact shape. Some CFLs have integral ballasts and medium or candelabra screw bases for easy replacement of incandescent lamps.

### ConstantColor

A GE registered name for lamp families that show very little colour shift over life, such as GE's Precise MR16 lamps and GE's ceramic metal halide (CMH) lamps.

### Coolbeam

(See DICHROIC REFLECTOR)

### Cool White

A term loosely used to denote a colour temperature of around 4100 K or higher. The Cool White (CW) designation is used specifically for T12 and other fluorescent lamps using halophosphors and having a CRI of 62.

### Core

Component of electromagnetic ballast that is surrounded by the coil. Core is comprised of steel laminations or solid ferrite material.

### Core & Coil Ballast

A ballast that uses a "Core & Coil" assembly to operate fluorescent or HID lamps. Refers to copper or aluminum windings on a steel core.

### Cosine-Corrected

An illuminance meter that measures the light level correctly irrespective of the angle the light is coming from. (See ILLUMINANCE METER)

### Cost of Light

Usually refers to the cost of operating and maintaining a lighting system on an ongoing basis. The 88-8-4 rule states that (typically) 88% is the cost of electricity, 8% is labor and only 4% is the cost of lamps.

### covRguard

A lamp enclosed by a plastic sleeve or coating to help contain glass fragments if the lamp breaks.

### Crest Factor (Max Current)

The ratio of the peak lamp current to average lamp operating current (RMS). The lower the current crest factor is, the gentler the ballast is on the lamp.

### Current Type (AC/DC)

Whether the operational voltage is based on Alternating Current or Direct Current.

## D

### Daylight Harvesting

Lighting design for building interiors that makes of daylight as a way of reducing energy consumption.

### Daylight Lamp

A lamp resembling the colour of daylight, typically with a colour temperature of 5500 K to 6500K.

### **Declaration of Conformity (DoC)**

A self-declaration of a product on its compliance to the Electromagnetic Compatibility Directive and the Low Voltage Directive and it can bare CE conformity marking (EU).

### **Dichroic Reflector (or Filter)**

A reflector (or filter) that reflects one region of the spectrum while allowing the other region(s) to pass through. A reflector lamp with a dichroic reflector will have a "cool beam" i.e. most of the heat has been removed from the beam by allowing it to pass through the reflector while the light has been reflected.

### **Die**

See Chip.

### **Dimmable**

Whether or not the lamp lumens can be varied while maintaining reliability.

### **Dimmer, Dimming Control**

A device used to lower the light output of a source, usually by reducing the wattage it is being operated at. Dimming controls are increasing in popularity as energy conserving devices.

### **Discharge Lamp**

A lamp where light is emitted from an electrical discharge between two electrodes as opposed to a filament lamp. Examples are: Fluorescent lamps and HID (High Intensity Discharge) lamps like Metal Halide, Mercury and High Pressure Sodium.

All discharge lamps require some kind of current limiting device, e.g. a ballast, to operate them.

### **Driver**

Control gear for LED-based products. Can be either constant current or constant voltage. For LED lamps the driver is often integral (see 'Self-Ballasted Lamps').

## **E**

### **Eccentricity (Maximum)**

In High Intensity Discharge lamps the Bulb to Arc Angle is the angle off of center between electrodes and bulb. The Bulb to Base Angle is the angle off of center that the bulb is from the base.

### **Edison Award**

An annual competition where lighting designers submit their best projects. The entries are judged by an international panel and awards are presented at a banquet accompanying Light Fair, the North American trade show for the lighting industry.

### **Efficacy**

A measurement of how effective the light source is in converting electrical energy to LUMENS of visible light. Expressed in LUMENS-PER-WATT (LPW) this measure gives more weight to the yellow region of the spectrum and less weight to the blue and red region where the eye is not as sensitive.

### **Efficiency**

The efficiency of a light source is simply the fraction of electrical energy converted to light, i.e. watts of visible light produced for each watt of electrical power with no concern about the wavelength where the energy is being radiated. For

example, a 100 watt incandescent lamp converts 7% of the electrical energy into light; discharge lamps convert 25% to 40% into light.

The efficiency of a luminaire or fixture is the percentage of the lamp lumens that actually comes out of the fixture (See LUMINOUS EFFICACY).

### **Efficiency of Ballast**

The ratio of output power divided by input power. A premium ballast would have an electrical efficiency greater than 90%. The efficiency of a luminaire or fixture is the percentage of the lamp lumens that actually comes out of the fixture.

### **e-HID ballast**

(see ELECTRONIC HID BALLAST).

### **ELC (European Lamp Companies Federation)**

Created in 1985, the European Lamp Companies Federation (ELC) is both the forum and the voice of the lamp industry in Europe. It represents the leading European lamp manufacturers, which collectively directly employ 50,000 people, and account for 95 percent of total European production, with an annual turnover in Europe of €5 billion. From the outset, ELC objectives have been to promote efficient lighting practice for a sustainable environment and the advancement of human comfort, health and safety. To this end, ELC monitors, advises and co-operates with legislative bodies in developing European Directives and Regulations relevant to the European lamp industry.

### **Electrical Discharge**

A condition under which a gas becomes electrically conducting and becomes capable of transmitting current, usually accompanied by the emission of visible and other radiation. An electric spark in air is an example of an electrical discharge, as is a welder's arc and a lightning bolt. (See ARC, ELECTRODELESS LAMPS)

### **Electrical Testing Laboratory (ETL)**

Independent testing laboratory that performs ballast tests and certifies accuracy of performance data.

### **Electrode**

Any metal terminal emitting or collecting charged particles, typically inside the chamber of a gas discharge lamp. In a fluorescent lamp, the electrodes are typically metal filaments coated with special powders called emission mix. Negatively charged free electrons emitted by one electrode are attracted to the positive electrode (anode), creating an electric current and arc between electrodes.

### **Electrodeless Lamps**

Light sources where the discharge occurs in a chamber with no electrodes (no metal). The energy for the discharge is supplied by radio frequency excitation, e.g. microwaves (See GENURA).

### **Electromagnetic Ballast**

(See MAGNETIC BALLASTS).

### **Electromagnetic Interference (EMI)**

High frequency electronic ballasts and other electronic devices can produce a small amount of radio waves which can interfere with radio and TV. Federal mandated requirements must be met for EMI levels before an electronic device is

considered FCC compliant (US). (FCC is the Federal Communications Commission).

### **Electromagnetic Spectrum**

A continuum of electric and magnetic radiation that can be characterized by wavelength or frequency. Visible light encompasses a small part of the electromagnetic spectrum in the region from about 380 nanometers (violet) to 770 nanometers (red) by wavelength.

### **Electronic Ballast**

A short name for a fluorescent high frequency electronic ballast. Electronic ballasts use solid state electronic components and typically operate fluorescent lamps at frequencies in the range of 25-35 kHz. The benefits are: increased lamp efficacy, reduced ballast losses and lighter, smaller ballasts compared to electromagnetic ballasts. Electronic ballasts may also be used with HID (high intensity discharge) lamps (See ELECTROMAGNETIC BALLAST).

### **Electronic HID Ballast**

An electronic ballast capable of operating an HID lamp. GE's UltraMax (electronic HID ballast) operates PulseArc (metal halide) and CMH (ceramic metal halide) lamps between 250W and 400W and provides higher efficiency and significantly improved lumen maintenance over magnetic ballasts.

### **Elliptical Reflector (ER) Lamp**

An incandescent lamp with a built-in elliptically-shaped reflecting surface. This shape produces a focal point directly in front of the lamp which reduces the light absorption in some types of luminaires. It is particularly effective at increasing the efficacy of baffled downlights.

### **Enclosed Fixtures**

(See OPEN FIXTURE RATED)

### **Energy Policy Act (EPACT)**

Comprehensive energy legislation passed by the U. S. Congress in 1992. The lighting portion includes lamp labeling and minimum energy efficacy (lumens/watt) requirements for many commonly used incandescent and fluorescent lamp types. Federal Canadian legislation sets similar minimum energy efficacy requirements for incandescent reflector lamps and common linear fluorescent lamps.

### **Energy Policy Act (EPACT) Indicator**

Means this lamp is Federally regulated for Energy Efficiency (US) (See ENERGY POLICY ACT).

### **EoL (End-of-Life Protection)**

A circuit that senses that a lamp has reached end of life (compact fluorescent lamps and small diameter linear fluorescent lamps) and turns off power to the lamp. Continuing to power the lamp beyond end of life can result in overheating of the lamp ends.

### **Energy-Using Products (EuP)**

The EuP Directive establishes a framework for the setting of eco-design requirements for energy-using products. It aims to improve the environmental performance of products throughout the life-cycle, by systematic integration of environmental aspects at a very early stage in the product design.

# Glossary

## Eye Sensitivity

A curve depicting the sensitivity of the human eye as a function of wavelength (or colour). The peak of human eye sensitivity is in the yellow-green region of the spectrum. The normal curve refers to photopic vision or the response of the cones. (See PHOTOPIC, SCOTOPIC, FOVEA, FOVEAL VISION)

## F

### Federal Communications Commission (FCC)

The U. S. Federal agency that regulates emissions in the radio frequency portion of the electromagnetic spectrum. Part 18 of the FCC rules specifies electromagnetic interference (EMI) from lighting devices operating at frequencies greater than 9 kilohertz (kHz). Typical electronically-ballasted compact fluorescent lamps operate in the 24 - 100 kHz frequency range.

### Field Angle

The angular dimension of the cone of light from reflectorized lamps (such as R and PAR types) encompassing the central part of the beam out to the angle where the intensity is 10% of maximum (See BEAM ANGLE).

### Filament Design

Filaments are designated by a letter combination in which C is a coiled wire filament, CC is a coiled wire that is itself wound into a larger coil, and SR is a straight ribbon filament. Numbers represent the type of filament-support arrangement.

### Fixture Requirements

Describes fixture requirements for HID lamps.  
O = Open or Enclosed Fixtures  
E = Enclosed Fixtures Only  
S = Lamps operated in a vertical position (Base Up or Down)  $\pm 15^\circ$ , can be used in an open fixture. Lamps burned in any other orientation must be used in "enclosed fixtures only".

### Flicker

The periodic variation in light level caused by AC operation that can lead to strobe effects.

### Flood

Used to refer to the beam pattern of a reflector lamp, which disperses the light over a wide beam angle, typically 20 degrees or more. ("Flood" as opposed to "Spot")

### Floodlight

A luminaire used to light a scene or object to a level much brighter than its surroundings. Usually floodlights can be aimed at the object or area of interest.

### Fluorescence

A physical phenomenon whereby an atom of a material absorbs a photon of light and immediately emits a photon of longer wavelength. If there is a significant delay the phenomenon is called phosphorescence rather than fluorescence. It is interesting that "phosphors" used in lamps exhibit "fluorescence," not "phosphorescence." (See PHOSPHOR).

### Fluorescent HO

Fluorescent HO and VHO lamps require special ballasts that generate higher currents than standard ballasts and operate the lamps at higher

wattage than standard lamps. These lamps are generally less efficient than the standard product. Metal Halide HO and XHO lamps operate on the same ballasts as standard lamps and at the same wattage but are more efficient and produce higher light output than standard lamps.

### Fluorescent Lamp

A high efficiency lamp utilizing an electric discharge through low pressure mercury vapour to produce ultraviolet (UV) energy. The UV excites phosphor materials applied as a thin layer on the inside of a glass tube which makes up the structure of the lamp. The phosphors transform the UV to visible light.

### Footcandle (fc)

A unit of illuminance or light falling onto a surface. It stands for the light level on a surface one foot from a standard candle. One footcandle is equal to one lumen per square foot. See also Lux.

### Footcandle Meter

(See ILLUMINANCE METER).

### Footlambert

An obsolete term referring to a luminance of 1/7 candelas per square foot.

### Forward Current

Current through an LED in the direction of its greatest conduction.

### Forward Voltage (VF)

The voltage across an LED for a given forward current.

### Four-Pin Compact Fluorescent Lamps

A "plug-in" compact fluorescent lamp with 4 pins in the base to make electrical contact with the ballast. Four-pin lamps can be dimmed on appropriate dimming ballasts while two-pin lamps cannot.

### Frequency

Rate of alternation in an AC current. Expressed in cycles per second or Hertz (Hz).

### Fovea, Foveal Vision

A small region of the retina corresponding to what an observer is looking straight at. This region is populated almost entirely with cones, while the peripheral region has increasing numbers of rods. Cones have a sensitivity peaking in the yellow and corresponding to the eye response curve (See PHOTOPIC, SCOTOPIC, EYE SENSITIVITY).

### Full Spectrum Lighting

A marketing term, typically associated with light sources that are similar to some forms of natural daylight (5000K and above, 90+ CRI), but sometimes more broadly used for lamps that have a smooth and continuous colour spectrum.

## G

### Genura

GE's electrodeless compact fluorescent lamp. Genura, uses induction to power the discharge. The chamber generates UV (just like a discharge in a regular fluorescent lamp) that is converted by phosphors to visible light. Because Genura uses no electrodes, the life of this unique reflector lamp is longer than typical

compact fluorescent products (see INDUCTION LIGHTING).

### Glare

Visual discomfort caused by excessive brightness is called discomfort glare. If task performance is affected it is called disability glare. Glare can be direct glare or indirect (reflected) glare (See VEILING REFLECTIONS and VISUAL COMFORT PROBABILITY).

### Group Relamping

The practice of replacing all the lamps at an installation at one time with new lamps when the lamps have operated for (typically) 65% to 70% of rated life. The two benefits of group relamping are: (1) reduced maintenance costs because of the expense and inconvenience of replacing failing lamps one at a time, and (2) improved appearance and performance since older lamps are often degrading in brightness and colour as they age.

## H

### Halogen Lamp

A halogen lamp is an incandescent lamp with a filament that is surrounded by halogen gases, such as iodine or bromine. Halogen gases allow the filaments to be operated at higher temperatures and higher efficacies. The halogen participates in a tungsten transport cycle, returning tungsten to the filament and prolonging lamp life.

### Halogen-IR (HIR) Lamp

GE designation for high-efficiency tungsten halogen lamps. HIR lamps utilize shaped filament tubes coated with numerous layers of materials that transmit light but reflect the heat (infrared) back into the filament. This reduces the power needed to keep the filament hot.

### High-Efficiency (Energy Saving) Electromagnetic Ballast

Ballast with core & coils, designed to minimize ballast losses compared to the "standard" ballast.

### High-Bay Lighting

Lighting designed for (typically) industrial locations with a ceiling height of 25 feet and above.

### High Intensity Discharge (HID) Lamp

A general term for mercury, metal halide and high-pressure sodium lamps. HID lamps contain compact arc tubes which enclose various gases and metal salts operating at relatively high pressures and temperatures.

### High Output/Very High Output (HO, VHO) Lamps

Designation for lamps generating more light than standard lamps.

### High Power Factor

A ballast or lamp with integral electronics whose power factor is corrected to 90% or greater.

### High-Pressure Sodium (HPS) Lamp

HPS lamps are high intensity discharge light sources that produce light by an electrical discharge through sodium vapor operating at relatively high pressures and temperatures. GE markets these lamps under the trade name of Lucalox.

### Hot Restart Time

Time it takes for a High Intensity Discharge lamp

to reach 90% of light output after going from on to off to on.

### I-Line

A GE designation for a family of metal halide lamps which will operate on a mercury ballast. Designed as a simple retrofit for mercury lamp.

### Ignitor

An electronic device providing a high voltage pulse to initiate an electrical discharge. Typically, the ignitor is paired with or is a part of the ballast (See STARTER).

### Illuminance

The "density" of light (lumens/area) incident on a surface; i.e. the light level on a surface. Illuminance is measured in footcandles or lux.

### Illuminance Meter

A device that measures the illuminance at a location calibrated either in footcandles or in lux. (Also know as a light meter - See COSINE CORRECTED).

### Incandescent Lamp

A light source that generates light utilizing a thin filament wire (usually of tungsten) heated to white heat by an electric current passing through it.

### Indirect Lighting

The method of lighting a space by directing the light from luminaires upwards towards the ceiling. The light scattered off the ceiling produces a soft, diffuse illumination for the entire area.

### Induction Lighting

Gases can be excited directly by radio-frequency or microwaves from a coil that creates induced electromagnetic fields. This is called induction lighting and it differs from a conventional discharge, which uses electrodes to carry current into the arc. Induction lamps have no electrodes inside the chamber and generally, therefore, have longer life than standard lamps.

### Infrared Radiation

Electromagnetic energy radiated in the wavelength range of about 770 to 1,000,000 nanometers. Energy in this range cannot be seen by the human eye, but can be sensed as heat by the skin.

### Input Voltage

Power supply voltage required for proper operation of fluorescent or HID ballast.

### Input Watts

The total power input to the ballast that includes lamp watts and ballast losses. The total power input to the fixture is the input watts to the ballast or ballasts and is the value to be used when calculating cost of energy and air conditioning loads. More than 90% of the input watts is wattage or power delivered to the lamp load with typical ballast.

### Instant Start

A type of ballast designed to start fluorescent lamps as soon as the power is applied. Most T8 fluorescent lamps are being operated on electronic instant-start ballasts. Slimline fluorescent lamps operate only on instant-

start circuits.

### Instant-Start Lamp

A fluorescent lamp, usually with a single pin at each end, approved to operate on instant-start ballasts. The lamp is ignited by a high voltage without any filament heating.

### Integral

A popular term for a lamp which includes a built-in ballast (CFL or HID), driver (LED) or transformer (halogen).

### Intensity Bin

LEDs are often sorted according to their luminous intensity values into different groupings or "bins".

### Inverse Square Law

Formula stating that if you double the distance from the light source, the light level goes down by a factor of 4, if you triple the distance, it goes down by a factor of 9, and so on.

### Isocandela Plot

A plot with lines connecting points of equal luminous intensity around a source.

### Isolux Plot (or Isofootcandle Plot)

A line plotted to show points of equal illuminance (lux or footcandles) on a surface illuminated by a source or sources.

## K

### Kelvin

A unit of temperature starting from absolute zero, parallel to the Celsius (or Centigrade) scale. 0C is 273K.

### Kilowatt [kW]

The measure of electrical power equal to 1000 watts.

### Kilowatt Hour [kWh]

The standard measure of electrical energy and the typical billing unit used by electrical utilities for electricity use. A 100-watt lamp operated for 10 hours consumes 1000 watt-hours (100 x 10) or one kilowatt-hour. If the utility charges \$.10/kWh, then the electricity cost for the 10 hours of operation would be 10 cents (1 x \$.10)

## L

### Laminations

Layers of steel, making up the "core" that is surrounded by the coils in a core & coil ballast.

### Lamp

The term used to refer to the complete light source package, including the inner parts as well as the outer bulb or tube. "Lamp", of course, is also commonly used to refer to a type of small light fixture such as a table lamp.

### Lamp Current Crest Factor

Ratio of peak lamp current to RMS or average lamp operating current.

### Lamp Height

Referenced by IEC as Dimension C. Also referred to as "Base Face to Top of Lamp".

### Lamp Types

Filament lamps: Incandescent, Halogen, Halogen-IR.

Discharge Lamps: Fluorescent, HID (High Intensity Discharge)

HID Lamps: Mercury, HPS (High Pressure Sodium), MH (Metal Halide) and CMH (Ceramic Metal Halide)  
LED Lamps

### Lamp Width

Referenced by IEC as Dimension A.

### Leadframe

A metallic frame used for mounting and connecting LED chips. The leadframe functions as the electrical leads of the device.

### Lens

A transparent or semi-transparent element which controls the distribution of light by redirecting individual rays. Luminaires often have lenses in addition to reflectors.

### Life

(See RATED LAMP LIFE).

### Light

Radiant energy that can be sensed or seen by the human eye. Visible light is measured in lumens.

### Light Center Length (L.C.L.)

The distance between the center of the filament, or arc tube, and a reference plane - usually the bottom of the lamp base. Refer to the following chart for reference plane locations.

Base type	L.C.L Reference Plane Location
All screw bases (except Mini-Can)	Bottom of base contact
Mini-Can	Where diameter of ceramic base insulator is .531 inches
3-Contact Medium	Bottom of base contact
Mogul Medium Prefocus	Top of base fins
Mogul Prefocus	Top of base fins
Medium BiPost	Base end of bulb (Glass lamps) Bottom of ceramic base (Quartz lamps)
Mogul BiPost	Shoulder of posts (Glass lamps) Bottom of ceramic base (Quartz lamps)
2-Pin Prefocus	Bottom of ceramic base
S.C. or D.C. Bayonet Candelabra	Top of base pins
Medium Bayonet	Top of base pins
S.C. or D.C. Prefocus	Plane of locating bases on prefocus collar
Medium 2-Pin	Bottom of metal base shell

### Light Emitting Diode (LED)

A solid that directly converts electrical impulses into light. Most white light LEDs incorporate phosphors to change the colour characteristics of the emitted light.

### Lighting Industry Federation (LIF) Code

For Stage & Studio lamps, these are assigned by

# Glossary

the Lighting Federation of London U.K. They ensure electrical and mechanical interchangeability of similarly coded lamps.

LIF codes are divided into groups according to the primary application of the lamps.

## Light Loss Factor

The product of all factors that contribute to lowering the illumination level including reflector degradation, dirt, lamp depreciation over time, voltage fluctuations, etc.

## Light Meter

(See ILLUMINANCE METER)

## Light Pollution

Light that is directed to areas where it is not needed, and thereby interferes with some visual act. Light pollution directed or reflected into the sky creates a "dome" of wasted light and makes it difficult to see stars above cities.

## Light Trespass (Spill Light)

Light that is not aimed properly or shielded effectively can spill out at into areas that don't want it: it can be directed towards drivers, pedestrians or neighbors. It is distracting and annoying and can sometimes be disabling.

## Lucalox

The GE brand name for high-pressure sodium lamps.

## Lumens

A measure of the luminous flux or quantity of light emitted by a source. For example, a dinner candle provides about 12 lumens. A 60-watt Soft White incandescent lamp provides about 840 lumens.

## Lumen Depreciation, Lumen Maintenance

A measure of how well a lamp maintains its light output over time. It may be expressed numerically or as a graph of light output vs. time. The "mean lumens" of a lamp is the lumens at 40% of rated life (50% for HPS lamp).

## Lumens Per Watt (LPW)

A ratio expressing the luminous efficacy of a light source.

Typical lamp efficacies:

Edison's first lamp	1.4 LPW
Incandescent lamps	10-20
Halogen lamps	15-30
Fluorescent lamps	35-105
Mercury lamps	50-60
Metal halide lamps	60-120
High-pressure sodium lamps	60-140

Note: The values above for discharge lamps do not include the effect of the ballasts, which must be used with those lamps. Taking ballast losses into account reduces "system" or lamp ballast efficacies typically by 10-20% depending upon the type of ballast used.

## Luminaire

A complete lighting unit consisting of a lamp (or lamps), ballast (or ballasts) as required together with the parts designed to distribute the light, position and protect the lamps and connect them to the power supply. A luminaire is often referred to as a fixture.

## Luminaire Efficiency

The ratio of total lumens emitted by a luminaire to those emitted by the lamp or lamps used in that luminaire. Also commonly referred to as 'Light Output Ratio' or LOR.

## Luminance

A measure of "surface brightness" when an observer is looking in the direction of the surface. It is measured in candelas per square meter (or per square foot) and was formerly referred to as "photometric brightness."

## Luminous Efficacy

The light output (lumens) of a light source divided by the total power input (watts) to that source. It is expressed in lumens per watt (see LUMENS PER WATT).

## Luminous Intensity

A measure of the visibility of a light source generally expressed in candelas. It is defined as luminous flux per unit solid angle (steradian) in a given direction.

## Lux (lx)

A unit of illuminance or light falling onto a surface. One lux is equal to one lumen per square meter. Ten lux approximately equals one footcandle. (See FOOTCANDLE)

## M

### Magnetic Ballast

A ballast used with discharge lamps that consists primarily of transformer-like copper or aluminum windings on a steel or iron core. Also called "Core & Coil" (see ELECTRONIC BALLASTS).

### Maximum Overall Length (M.O.L.)

The end-to-end measurement of a lamp, expressed in inches or millimeters.

### Mean Lumens

The average light output of a lamp over its rated life. Based on the shape of the lumen depreciation curve, for fluorescent and metal halide lamps, mean lumens are measured at 40% of rated lamp life. For mercury, high-pressure sodium and incandescent lamps, mean lumen ratings refer to lumens at 50% of rated lamp life (See LUMEN MAINTENANCE).

### Medium Base

Usually refers to the screw base typically used in household incandescent lamps. There is also the medium bipin base commonly used in T12 and T8 fluorescent lamps.

### Mercury Lamp

A high-intensity discharge light source operating at a relatively high pressure (about 1 atmosphere) and temperature in which most of the light is produced by radiation from excited mercury vapor. Phosphor coatings on some lamp types add additional light and improve colour rendering.

### Metal Cases

Case design used in both magnetic and electronic ballasts. These ballasts are grounded once they are mounted to the fixture. They meet all safety codes, some of which do not allow plastic in open plenum areas.

## Metal Halide Lamp

A high-intensity discharge light source in which the light is produced by the radiation from mercury, plus halides of metals such as sodium, scandium, indium and dysprosium. Some lamp types may also utilize phosphor coatings.

## Mesopic

Typically referring to nighttime outdoor lighting conditions, the region between PHOTOPIC and SCOTOPIC vision (See SCOTOPIC).

## Mogul Base

A screw base used on larger lamps, e.g. many HID lamps.

## Monochromatic Light

Light with only one wavelength (i.e. colour) present.

## Mortality Curve

Lamps have a rated or expected life but individual failures occur earlier and some lamps will last longer. The mortality curve depicts the expected percent surviving in a group of lamps at various points between zero hours and rated life or beyond. The curve starts with 100% at zero hours and goes to 50% surviving at the rated life (e.g. 3000 hours or 20,000 hours, etc.) However, the shape of the curve between these two end points can vary depending on the lamp type.

## Mounting Height

Distance from the bottom of the fixture to either the floor or work plane, depending on usage.

## Multi-Vapor

A GE brand name for metal halide lamps.

## N

### Nanometer

A unit of wavelength equal to one billionth of a meter.

### National Energy Standards for Fluorescent Ballasts

A federal law enacted in 1988 that sets energy standards for ballasts consistent throughout the United States.

### National Electric Code (NEC)

A nationally accepted electrical installation code to reduce the risk of fire, developed by the National Fire Protection Association (US).

### National Stock Number

The standardized part number used by the US Government for procurement.

### Non-PCB Capacitor

Capacitor used in ballasts to help provide power factor correction. Contains no polychlorinated biphenyls and meets EPA requirements.

### Normal Power Factor

Ballasts with power factor less than .90 and do not incorporate any means of Power Factor Correction.

## O

### Open Circuit Voltage (OCV)

Open Circuit Voltage measured across the socket the lamp screws into, with the ballast powered



on. It is dangerous to stick a voltmeter into such a socket without precise knowledge of the ballast because exceedingly high voltages could be present.

#### Open Fixture Rated

Lamps that are approved for burning in open fixtures (as opposed to enclosed fixtures which have an acrylic lens or plate glass enclosure).

#### Operating Position or Burn Position

Mercury and High Pressure Sodium lamps may be operated in any burn position and will still maintain their rated performance specifications. Metal Halide and Low Pressure Sodium lamps, however, are optimized for performance in specific burn positions, or may be restricted to certain burn positions for safety reasons.

U = Universal burning position

HBU = Horizontal -15° to Base Up

HBD = Horizontal +15° to Base Down

HOR = Horizontal ±15°

H45 = Horizontal to -45° only

VBU = Vertical Base Up ±15°

VBD = Vertical Base Down ±15°

If no special burn position is noted, the burn position is universal.

#### Operating Voltage

For electrical discharge lamps, this is the voltage measured across the discharge when the lamp is operating. It is governed by the contents of the chamber and is somewhat independent of the ballast and other external factors.

## P

#### PAR Lamp

PAR is an acronym for parabolic aluminized reflector. A PAR lamp, which may utilize either an incandescent filament, a halogen filament tube or a HID arc tube, is a precision pressed-glass reflector lamp. PAR lamps rely on both the internal reflector and prisms in the lens for control of the light beam.

#### Parallel Lamp Operation/Parallel Wiring

Refers to ballasts that employ multiple output current paths from a single ballast to allow lamps to operate independent of one another, allowing other lamps operated by the ballast to remain lit should companion lamp(s) fail (see SERIES LAMP OPERATION).

#### PCB (Polychlorinated Biphenyls)

Chemical pollutant formerly used in ballast capacitors that were part of ballasts. It is now illegal to use PCBs and most such ballasts have been replaced over time.

#### Peak Wavelength

The maximum wavelength of an LED.

#### Phosphor

An inorganic chemical compound processed into a powder and deposited on the inner glass surface of fluorescent tubes and some mercury and metal-halide lamp bulbs. Phosphors are designed to absorb short wavelength ultraviolet radiation and to transform and emit it as visible light (See FLUORESCENCE). Phosphors are also used in LED devices to create white light when used in combination with LEDs of certain wavelengths.

#### Photometry

The measurement of light and related quantities.

#### Photopic

Vision for which the cones in the eye are responsible; typically at high brightness and in the foveal or central region (See SCOTOPIC, FOVEA, FOVEAL VISION).

#### Plug-In

(See CFL).

#### Potting

Material used to completely surround and cover components of some magnetic and electronic ballasts. Potting compound fulfills functions of protecting components, dampening sound, and dissipating heat.

#### Power Factor (PF)

A measure of the phase difference between voltage and current drawn by an electrical device, such as a ballast or motor. Power factors can range from 0 to 1.0, with 1.0 being ideal. Power factor is sometimes expressed as a percent. Incandescent lamps have power factors close to 1.0 because they are simple "resistive" loads. The power factor of a fluorescent and HID lamp system is determined by the ballast used. "High" power factor usually means a rating of 0.9 or greater. Power companies may penalize users for using low power factor devices.

#### Power Factor Corrected

Ballasts that incorporate a means of Power Factor Correction yielding power factor of 90% or greater.

#### Precise

The GE trade name for the compact MR-16 and MR-11 low-voltage halogen dichroic cool beam reflectorized spot and flood lamps.

#### Preheat Circuit

A type of fluorescent lamp-ballast circuit used with the first commercial fluorescent lamp products. A push button or automatic switch is used to preheat the lamp cathodes to a glow state. Starting the lamp can then be accomplished using simple "choke" or reactor ballasts.

#### Product Code

It is important to use this five-digit code when ordering to ensure that you receive the exact product you require.

#### Programmed Rapid Start

Lamp starting method which preheats the lamp filaments while not allowing the lamp to ignite and then applies the open circuit voltage (OCV) to start the lamp. The user may experience a half- to one-second delay after turning on the lamps while the preheating takes place. This type of starting circuit keeps lamp end blackening to a minimum and improves lamp life performance, especially in applications where the lamps are frequently switched on and off.

#### Pulse Start

An HID ballast with a high voltage ignitor to start the lamp.

## Q

#### Quad

Generally refers to a compact fluorescent lamp containing 4 U-shaped tubes.

#### Quartz

A name for fused silica or melted sand from which many high-temperature containers are fashioned in the lighting industry. Quartz looks like glass but can withstand the high temperatures needed to contain high intensity arc discharges.

#### Quartz-Halogen Lamp

(See HALOGEN LAMPS).

#### Quartzline

A GE registered trademark term for some types of halogen lamps.

## R

#### Radiation

A general term for the release of energy in a "wave" or "ray" form. All light is radiant energy or radiation, as is heat, UV, microwaves, radio waves, etc.

#### Rapid Start

Lamp starting method in which lamp filaments are heated while open circuit voltage (OCV) is applied to facilitate lamp ignition. A Rapid Start fluorescent lamp has two pins at each end connected to the filament. Some rapid start lamps may be instant-started without filament heat, for example, the F32T8 lamp.

#### Rapid Start Circuit

A fluorescent lamp-ballast circuit that utilizes continuous cathode heating, while the system is energized, to start and maintain lamp light output at efficient levels. Rapid start ballasts may be either electromagnetic, electronic or of hybrid designs. Full-range fluorescent lamp dimming is only possible with rapid start systems (See INSTANT START).

#### Rated Lamp Life

For most lamp types, rated lamp life is the length of time of a statistically large sample between first use and the point when 50% of the lamps have died. It is possible to define "useful life" of a lamp based on practical considerations involving lumen depreciation and colour shift and also on the need to reduce lamp replacement costs (See GROUP RELAMPING).

For GE LED products, rated life is quoted (unless where indicated otherwise), as the 'L70' value. This refers to the time taken to reach 70% of initial lumen output. This is the emerging industry standard for LED products.

#### Reflectance

The ratio of light reflected from a surface to that incident upon it.

#### Reflector Lamp (R)

A light source with a built-in reflecting surface. Sometimes, the term is used to refer specifically to blown bulbs like the R and ER lamps; at other times, it includes all reflectorized lamps like PAR and MR. Most LED lamps are also replacements for reflector lamps, even if they do not physically have a reflector as part of their construction.

#### Reverse Voltage (VR)

# Glossary

Voltage across the diode for a given reverse current.

## RoHS (Restriction of Hazardous Substances)

The Restriction of Hazardous Substances (RoHS) Directive aims to minimise the environmental impact of waste electrical and electronic equipment by reducing the quantities of four heavy metals and two brominated flame retardants that it may contain.

## Room Cavity Ratio (RCR)

A shape factor (for a room, etc.) used in lighting calculations.

$RCR = 5H(L+W) / L \times W$ , or, alternately,

$RCR = (2.5) \text{ Total Wall Area} / \text{Floor Area}$ .

Where H = height, L = length and W = width of the room. A cubical room will have an RCR of 10; the flatter the room the lower the RCR.

## S

### State and County Code (SCC)

The full 14 digit case code used on GE's content label.

### Scotopic

Vision where the rods of the retina are exclusively responsible for seeing, typically like the light levels in the countryside on a moonless, starlit night (See also PHOTOPIC, FOVEA, FOVEAL VISION MESOPIC).

### Scotopic/Photopic (S/P) Ratio

This measurement accounts for the fact that of the two light sensors in the retina, rods are more sensitive to blue light (scotopic vision) and cones to yellow light (photopic vision). The scotopic/photopic (S/P) ratio is an attempt to capture the relative strengths of these two responses. S/P is calculated as the ration of scotopic lumens to photopic lumens for the light source on an ANSI reference ballast. Cooler sources (higher colour temperatures lamps) tend to have higher values of the S/P ratio compared to warm sources.

### Screw-In

(See CFL).

### Seal Temperature (Maximum)

The maximum operating temperature of the seal of the lamp in Celsius.

### Self-Ballasted Lamps

A lamp with an integral ballasting device allowing the lamp to be directly connected to a socket providing line voltage (See CFL).

### Series Lamp Operation

Refers to ballasts that employ a single current path passing through all lamps operated by the ballast. If one lamp should fail, companion lamps operated by the same ballasts will also extinguish or dim.

### Source Size

For Projection lamps, this is defined as the dimensions of the rectangular area, centered on the lamp axis, within which all luminous parts of the filament lie, when viewed perpendicular to the axis of the filament coil or to the plane of C-13 and C-13D filaments.

### Spacing to Mounting Height Ratio

Ratio of fixture spacing (distance apart) to

mounting height above the work plane; sometimes called spacing criterion. It is OK to have fixture spaced closer than the spacing criterion suggested by the manufacturer but not farther, or you will get dark spots in-between fixtures.

### Specification Series (SP) Colours

Energy-efficient, all-purpose, tri-phosphor fluorescent lamp colours that provide good colour rendering. The CRI for SP colours is 70 or above and varies by specific lamp type.

### Specification Series Deluxe (SPX) Colours

Energy-efficient, all-purpose, tri-phosphor fluorescent lamp colours that provide better colour rendering than Specification Series (SP) colours. The CRI for SPX colours is 80 or above and varies by specific lamp type. All GE CFL products use SPX phosphors.

### Specification Series Deluxe eXtreme (SPXX) Colours

A colour designation for GE ceramic metal halide lamps with superior colour rendering ~ 90.

### Spectral Power Distribution (SPD)

A graph of the radiant power emitted by a light source as a function of wavelength. SPDs provide a visual profile or "finger print" of the colour characteristics of the source throughout the visible part of the spectrum.

### Spectrum

See SPECTRAL POWER DISTRIBUTION (SPD).

### Specular Reflection

Reflection from a smooth, shiny surface, as opposed to diffuse reflection.

### Spiral Lamp

GE trademark for its helical family of high efficiency, long-life compact fluorescent lamps.

### Spot

A colloquial term referring to a reflector lamp with a tight beam of light, typically around 10 degrees or less. It comes from the fact that such a lamp produces a narrow spot of light as opposed to a wide flood of light.

### SPXX

A Colour Designation for GE Ceramic Metal Halide Lamps with superior Colour Rendering ~ 90.

### Starcoat

GE's special barrier coating applied on the inside of all GE T8 fluorescent lamps, as well as some other lamp types, to enhance lamp life and deliver superior lumen maintenance.

### Starter

An electronic module or device used to assist in starting a discharge lamp, typically by providing a high-voltage surge (See IGNITOR).

### Starting Temperature (Minimum)

The minimum ambient temperature at which the lamp will start reliably.

### Sunburn

Skin reddening and inflammation caused by overexposure to sources containing UV-B and/or UV-C.

### System

A term referring to the lamp and ballast combination, and sometimes to the entire lighting delivery system including the fixture, the optics, the thermal management system, the particular layout and the lighting controls.

## T

### T12, T8, T5

A designation for the diameter of a tubular bulb in eighths of an inch; T12 is 12 eighths of an inch, or 1-1/2 inches; T8 is 1 inch, and so on.

### Task Lighting

Supplemental lighting provided to assist in performing a localized task, e.g. a table lamp for reading or an inspection lamp for fabric inspection.

### Terminal-to-Terminal Starting Lamp Voltage (VRMS) (Minimum or Maximum)

The minimum or maximum voltage allowed into lamp from ballast under varying conditions as specified.

### Total Harmonic Distortion (THD)

A measure of the distortion caused by ballasts and other inductive loads of the input current on alternating current (AC) power systems caused by higher order harmonics of the fundamental frequency (60Hz in North America). THD is expressed in percent and may refer to individual electrical loads (such as ballast) or a total electrical circuit or system in a building. ANSI C82.77 recommends THD not exceed 32% for individual commercial electronic ballasts, although some electrical utilities may require lower THDs on some systems. Excessive THDs on electrical systems can cause efficiency losses as well as overheating and deterioration of system components.

### Transients

High voltage surges through an electrical system caused by lightning strikes to nearby transformers, overhead lines or the ground. May also be caused by switching of motors or compressors, as well as by short circuits or utility system switching. Can lead to premature ballast failure (see TVSS).

### Troffer

A long, recessed lighting unit, usually installed in an opening in the ceiling.

### Tungsten-Halogen Lamp

(See HALOGEN LAMP).

### TVSS

Transient Voltage Surge Suppressors, which will protect ballasts and other electronic equipment from transient high-voltage spikes that may be present in the power line.

### Two-Pin Compact Fluorescent Lamps

Type of lamps that have the glow bottle starter built into the base of the lamp. Traditionally 2-pin lamps are designed to work with electromagnetic ballasts (see FOUR-PIN COMPACT FLUORESCENT LAMPS).

## U

### Uniform Code Council (UCC)

The 12 digit case code derived from the last 12 digits of the 14 digit SCC code on GE's case content

label.

#### **Uniform Product Code (UPC)**

The 12 digit code on the saleable unit that is used for scanning at the register.

#### **Ultra**

A common way of referring to high-efficiency.

#### **Ultraviolet (UV) Radiation**

For practical purposes, any radiant energy within the range of 100–380 nanometers. It is beyond the blue or violet region of the spectrum, and is invisible to the eye just like the silent "ultrasound" dog whistle is inaudible to the ear.

UV is divided into 3 regions:

UVA	100 to 280 nm
UVB	280 to 315 nm
UVC	315 to 400 nm

Some wavelengths (180–220) produce ozone, some (220–300) are bactericidal, some (280–320) erythema (reddened human skin); others (320–400) cause secondary luminance (black light).

## V

#### **Valance Lighting**

Lighting from light sources on a wall typically above eye level, shielded by horizontal panels. The light may be upward or downward directed.

#### **Veiling Reflection**

Effective reduction in contrast between task and its background caused by the reflection of light rays; sometimes called "reflected glare". You might have dealt with veiling reflections when you have to tilt a shiny magazine to avoid glare so as to read it, or struggled with reading a computer monitor because of the reflection of a window or a light fixture (See GLARE).

#### **Vio**

GE's unique LED platform that provides best in class quality and stability of light from LED's, due to its unique use of violet chips combined with proprietary phosphors.

#### **Visual Comfort Probability (VCP)**

For a given lighting scheme, VCP is a ratio expressed as a percent of people who, when viewing from a specific location and in a specified direction, find the system acceptable in terms of glare (See GLARE).

#### **Visual Task**

The task associated with seeing; objects and details that must be seen to perform an activity.

#### **Volt**

A measure of "electrical pressure" between two points. The higher the voltage, the more current will be pushed through a resistor connected across the points. The volt specification of an incandescent lamp is the electrical "pressure" required to drive it at its designed point. The "voltage" of a ballast (e.g. 277 V) refers to the line voltage it must be connected to.

#### **Voltage**

A measurement of the electromotive force in an electrical circuit or device expressed in volts. Voltage can be thought of as being analogous to the pressure in a waterline.

#### **Voltage (Design)**

For Automotive lamps, voltage at which the lamp is designed to provide the amperes, candlepower, and laboratory life characteristics. For Projection lamps, the voltage shown is the design voltage of the lamp, on which the life and wattage ratings are based. Lamps for which 115-120 is shown in the Volts column are designed at 118 volts. Lamps are available only in the design voltage(s) shown. When ordering lamps listed for more than one voltage, be sure to specify the voltage required. (Supply voltage variation can significantly affect lamp life.)

#### **Voltage Surge**

Transient spikes in line voltage that can be harmful to electronic equipment like computers and electronic ballasts. Surge suppressors are often used to protect against such transients.

## W

#### **Wall Temperature (Maximum Bulb)**

The maximum operating bulb wall temperature in Celsius.

#### **Warm-Up Time**

HID lamps typically take a few minutes to warm up to full brightness after starting.

#### **Warm Up Time to 90%**

The time it takes for a High Intensity Discharge lamp to reach 90% of light output after being turned on.

#### **Warm White**

Refers to a colour temperature around 3000K, providing a yellowish-white light.

#### **Watt**

A unit of electrical power. Lamps are rated in watts to indicate the rate at which they consume energy (See KILOWATT HOUR).

#### **Wattage Indicator Reduced**

Indicates that this is a reduced wattage option for lamps normally used in this application. Be sure to check wattage, lumens and life to determine which lamp is best suited to your needs.

#### **Watt-Miser**

A Watt-Miser lamp is a term used by GE to indicate a reduced-wattage lamp with performance characteristics (life, light output, etc.) such that it can usually directly replace a higher-wattage product. Watt-Miser lamps are available in a wide range of incandescent and fluorescent lamp types.

#### **Wavelength**

The distance between two neighboring crests of a traveling wave. The wavelength of light is between 400 and 700 nanometers.

#### **WEEE (Waste Electrical and Electronic Equipment)**

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) aims to minimise the impact of electrical and electronic goods on the environment, by increasing re-use and recycling and reducing the amount of WEEE going to landfill. It seeks to achieve this by making producers responsible for financing the collection, treatment, and recovery of waste electrical equipment, and by obliging distributors to allow consumers to

return their waste equipment free of charge.

#### **Work Plane**

Plane at which work is done and at which illumination is specified and measured; unless otherwise indicated, it is assumed to be a horizontal plane 30 inches above the floor (table-top height) having the same area as the floor.

#### **Working Distance (Typical)**

The Working Distance shown is the distance from the front surface of the reflector rim to the film plane, in the optical system for which the lamp was first designed. In most cases, it provides a uniform plane of light for the intended aperture.

**GE Asia Headquarters  
China**

7F, Building 1, No.1 Hua Tuo Rd.  
Zhang Jiang Hi-Tech Park  
Pudong, Shanghai 201203  
T: +86 21 3877 7888  
F: +86 21 3877 7437  
+86 21 3877 7459

**Japan**

12F, Akasaka Park Bldg., 5-2-20  
Akasaka Minatoku, Tokyo  
107-6112  
T: +81 3 5544 6700  
F: +81 3 5544 6760

**Singapore**

240 Tanjong Pagar Road  
#06-00 GE Tower  
Singapore 088540  
T: +65 6326 3319  
F: +65 6326 3227

**Australia**

125-127 Long Street  
Smithfield, Sydney, NSW 2164  
T: +61 2 8788 6911  
F: +61 2 8788 7224

**Korea**

9F, POBA Gangnam Tower, 119,  
Nonhyeon-dong, Gangnam-gu, Seoul,  
135820  
T: +82 2 6201 4300  
F: +82 2 6201 4343, 4344

**Taiwan**

6F, No.8, Sec. 3, Minsheng E. Road  
Taipei 10480  
T: +886 2 2183 7000  
F: +886 2 2516 7356

**Indonesia**

BRI II Tower, 26th Floor  
Jl. Jend Sudirman kav 44-46  
Jakarta, Indonesia 10210  
T: +62 21 573 0490  
F: +62 21 574 5241

**Malaysia**

Level 6, 1 Sentral, Jalan Travers,  
Kuala Lumpur 50470  
T: +603 2273 9788  
F: +603 2273 3473

**Thailand**

27th Floor, CRC Tower, All Seasons Place  
87/2 Wireless Road, Lumpini,  
Pathumwan, Bangkok 10330  
T: +66 2 250 0820-4  
F: +66 2 250 0825

**India**

The Millenia, 6F, Tower B, #1&2  
Murphy Road, Ulsoor Bangalore  
560 008  
T: +91 80 4143 4000  
F: +91 80 4143 4199

**New Zealand**

Level 1, 8 Tangihua Street.  
Auckland, North Island.  
T: +64 9 353 6706  
F: +64 9 353 6707

**Vietnam**

7F, Saigon Center 65 Le Loi  
Boulevard, Dist 1,  
HoChiMinh City  
T: +84 8 3914 6778  
F: +84 8 3827 8229

**HongKong**

8F, The Lee Gardens, 33 Hysan  
Avenue Causeway Bay, HongKong  
T: +852 2100 6800  
F: +852 2376 0013

**Philippines**

1873 P. Domingo Street  
Makati City, 1207  
T: +63 2 895 7051 to 53  
F: +63 2 325 0377

