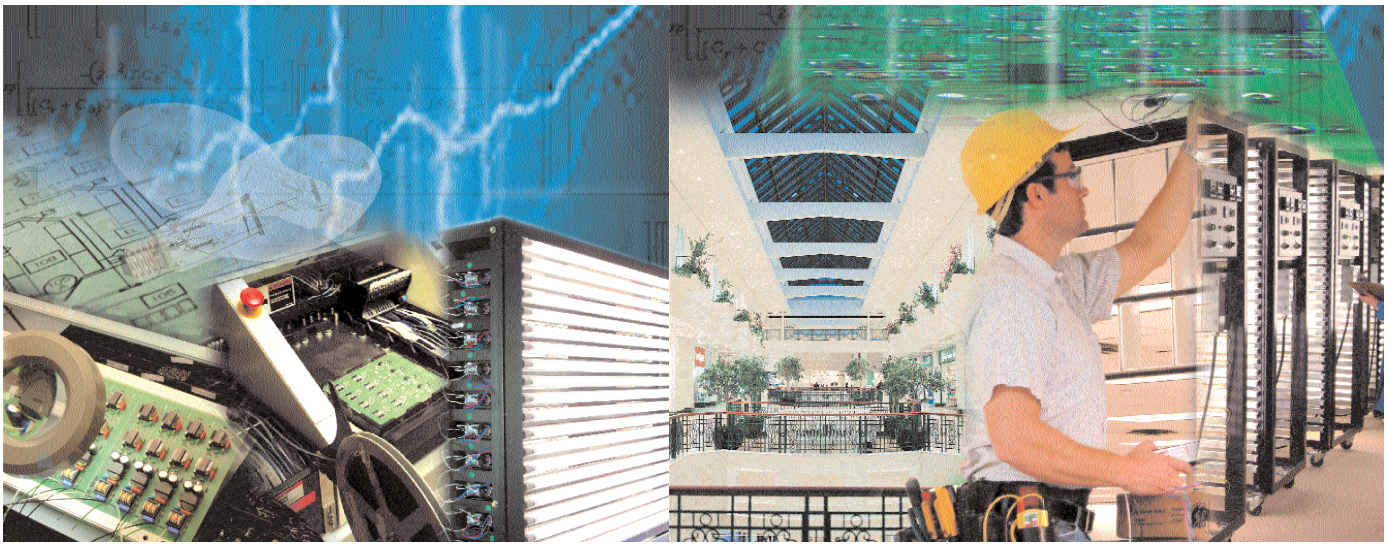
GE BALLAST PRODUCTS CATALOG

GE Lighting

TRANSFORMING THE POWER OF LIGHT™

FEATURING: ULTRAMAX™ ELECTRONIC BALLASTS

GE BALLAST PRODUCTS CATALOG



FEATURING

ULTRAMAX™ ELECTRONIC BALLAST

Breakthrough technology that dramatically improves efficiency, simplifies installation and delivers optimal lamp performance.

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For more information, visit www.gelighting.com

A COMPREHENSIVE RANGE OF SOLUTIONS... FROM THE NAME YOU TRUST

GE introduced the first fluorescent ballast more than 60 years ago. Today we are providing high frequency electronic ballasts for almost every fluorescent application.

With our UltraMax™ Ballasts, we are bringing you the future in ballast performance.

GE revolutionizes lighting again with new, breakthrough technology. Our patented UltraMax™ electronic ballasts transform the power of light into efficiency and savings from store shelves to the installation site. It all starts with UltraMax's Multi-Voltage Control (MVC), which automatically adjusts to handle voltage from 120V through 277V. That cuts the ballast models you need to stock from 40 down to 13, which can dramatically reduce inventory carrying costs. UltraMax™ ballasts have ArcGuard Protection, too, with a UL Type CC Anti-Arc Rating. Plus, they're ultra lamp friendly, with an industry low Lamp Current Crest Factor of 1.4 for optimal lamp performance. And the small, low-profile design of the UltraMax™ ballasts makes retrofits effortless at the job site.

GE offers electronic ballasts for a wide range of applications.

GE revolutionizes lighting again with new, breakthrough technology.

In the GE labs, our engineers have developed a new breed of ballasts to make lighting systems that save more energy, are more adaptable, and deliver optimal lamp performance. The innovative, patented technology in our new UltraMax™ electronic ballasts exceeds expectations, and is like nothing else available.

Multi-Voltage technology means a single UltraMax™ model handles voltage from 120 through 277.

UltraMax™ Ballasts can virtually "read" the incoming voltage and adapt automatically to any voltage from 108V to 305V. The benefits of Multi-Voltage Control (MVC) are obvious:

- Fewer models handle more jobs, eliminating inventory hassles.
- MVC simplifies installation and eliminates guesswork at the job site.
- MVC compensates for incoming voltage fluctuations or variations from unreliable power.

UltraMax™ is the only full line of T8 ballasts with a UL Type CC Anti-Arc Rating.

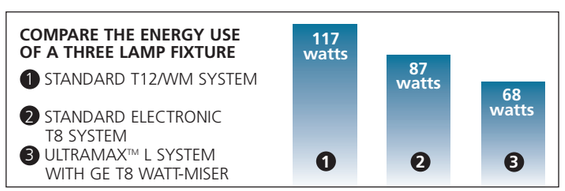
UL Type CC Rating is a stringent designation of protection against arcing in electrical devices. GE's Arc-Guard design eliminates the damaging effects arcing can have on lamps, ballasts and sockets.

High efficiency delivers up to 40% energy savings.

Ballasts are the new frontier of energy efficiency. Systems combining UltraMax™ electronic ballasts and T8/WM lamps can deliver up to 40% energy savings over standard electromagnetically ballasted T12 systems. Since energy costs are typically 80% of the overall cost of light, a more efficient system can pay for itself in a very short time and provide an excellent return on investment.

UltraMax™ is ultra lamp friendly.

With an industry low lamp current crest factor (LCCF) of 1.4, UltraMax™ ensures optimal lamp operation and maximum lamp life, which can save on lamp and maintenance costs.



Active Current Regulation (ACR) technology is a patented advantage.

UltraMax's patented ACR modular design means individual inverter modules regulate the output current to each lamp. So, unlike conventional ballasts, if one lamp fails, the remaining lamps are not forced to operate at a higher current. This ensures optimal lamp performance.

Anti-Striation Control for better light quality, with no striations.

UltraMax™ is the only line of T8 ballasts with Anti-Striation Control. This advanced technology eliminates the maintenance issues caused by striating lamps, often referred to as spiraling or swirling. This provides a flicker- and worry-free environment.

Fully parallel independent lamp operation makes system easier to maintain.

If one lamp fails, all the others in the system stay lit. That means system maintenance is easier to manage.

UltraMax™ is ultra-cool.

UltraMax's high efficiency design results in ultra-cool operation that can provide additional AC energy savings, especially during peak demand periods.

A big idea in a small package.

The UltraMax™ housing is smaller, lower-profile and lightweight. That can be a big help in retrofits. It also means future fixture designs can be more compact and streamlined.

Every unit is tested and proven before it's shipped.

GE does 100% burn-in on every UltraMax™ ballast using our extreme open/short test, which simulates undesirable and harsh-use situations, so you are assured of a system you can rely on right out of the box.

GE Six Sigma quality backed by a full 5-year warranty.

UltraMax™ is designed by GE's expert engineers and custom-manufactured to our exacting Six Sigma specifications, all backed by a full 5-year warranty.

A FULL FAMILY OF HIGH EFFICIENCY MULTI-VOLTAGE BALLASTS FOR ALL T8 APPLICATIONS.

ULTRAMAX ELECTRONIC BALLAST L

The Low watt option for Max energy savings.
With a ballast factor of .77, the L line is the most energy efficient choice. It provides adequate illumination for most applications. For 1, 2, 3, and 4 T8 lamps in 2', 3', and 4' lengths.

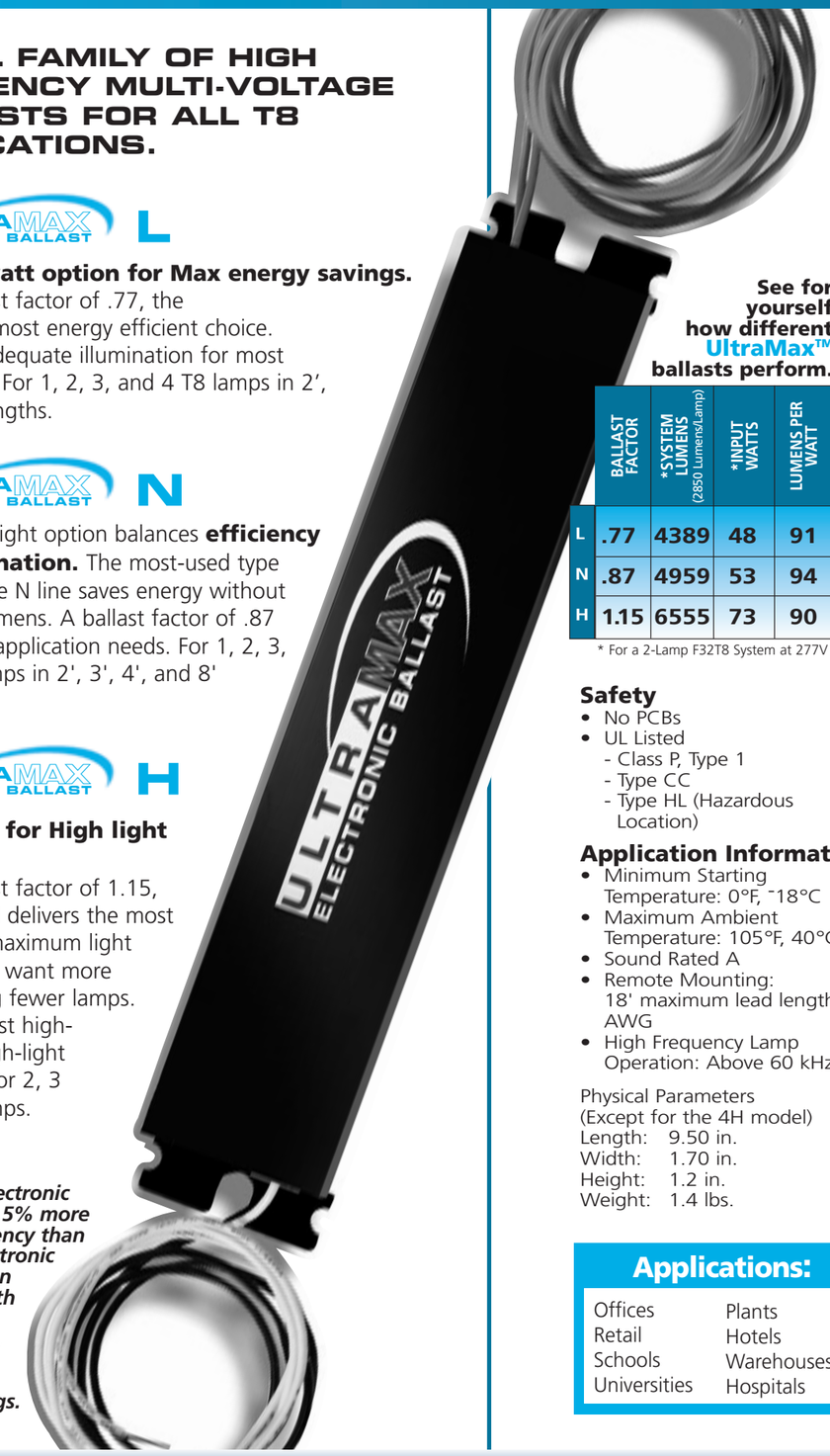
ULTRAMAX ELECTRONIC BALLAST N

The Normal light option balances **efficiency and illumination.** The most-used type of ballast, the N line saves energy without sacrificing lumens. A ballast factor of .87 meets most application needs. For 1, 2, 3, and 4 T8 lamps in 2', 3', 4', and 8' lengths.

ULTRAMAX ELECTRONIC BALLAST H

The choice for High light output.
With a ballast factor of 1.15, UltraMax™ H delivers the most lumens for maximum light or when you want more savings using fewer lamps. This is the first high-efficiency high-light output line for 2, 3 and 4 T8 lamps.

UltraMax™ electronic ballasts have 5% more energy efficiency than standard electronic ballasts. When combined with GE T8 Watt-Miser® lamps, it means up to 40% in energy savings.



See for yourself how different UltraMax™ ballasts perform.

	BALLAST FACTOR	*SYSTEM LUMENS (2850 Lumens/Lamp)	*INPUT WATTS	LUMENS PER WATT
L	.77	4389	48	91
N	.87	4959	53	94
H	1.15	6555	73	90

* For a 2-Lamp F32T8 System at 277V

Safety

- No PCBs
- UL Listed
  - Class P, Type 1
  - Type CC
  - Type HL (Hazardous Location)

Application Information

- Minimum Starting Temperature: 0°F, ¯18°C
- Maximum Ambient Temperature: 105°F, 40°C
- Sound Rated A
- Remote Mounting: 18' maximum lead length, 18 AWG
- High Frequency Lamp Operation: Above 60 kHz

Physical Parameters
(Except for the 4H model)
Length: 9.50 in.
Width: 1.70 in.
Height: 1.2 in.
Weight: 1.4 lbs.

Applications:

Offices	Plants
Retail	Hotels
Schools	Warehouses
Universities	Hospitals

WHEN YOU WANT LIGHTING DONE RIGHT, START WITH GE.

Up to 40% in energy savings

13 models can replace more than 40 conventional electronic ballasts

One patented GE ballast handles 120V through 277V

GE Lighting

TRANSFORMING THE POWER OF LIGHT™

A SMALLER, LOWER PROFILE DESIGN IS A BIG IDEA FOR EFFICIENT INSTALLATION.

It's easy to see how smaller, lower-profile UltraMax™ ballasts make even the toughest retrofits into easy fits.

One patented GE ballast handles 120V to 277V

PHYSICAL DIMENSIONS
For Ballast types L, N and H (except 4H)

OVERALL DIMENSIONS

A (length)
9.50 in.
(24.13 cm)

B (width)
1.7 in.
(4.318 cm)

C (height)
1.2 in.
(3.048 cm)

MOUNTING DIMENSIONS

D (length)
8.875 in.
(22.54 cm)

E (width)
1.4375 in.
(3.651 cm)

WEIGHT RANGE

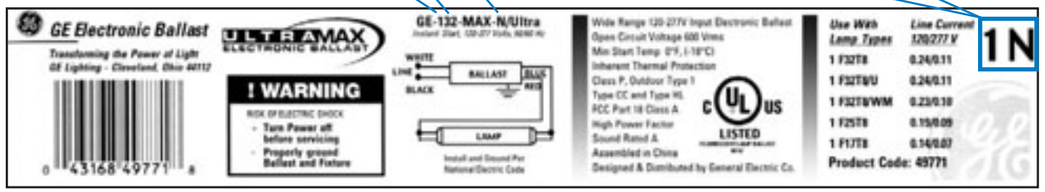
1.00 to 1.50 lbs.
(0.454 to 0.6804 kg.)

ULTRAMAX™ ELECTRONIC BALLASTS

CHOOSING THE RIGHT BALLAST IS SIMPLE.

The easy-to-understand model numbering system helps you choose and install the right model. Instructions and wiring diagrams on each ballast label help assure a correct installation the first time.

1 = Maximum number of lamps supported by this ballast.
32 = Lamp watts (primary lamp)
N = Normal ballast (ballast factor of .87)



TOTAL PERFORMANCE SYSTEM™ WARRANTY

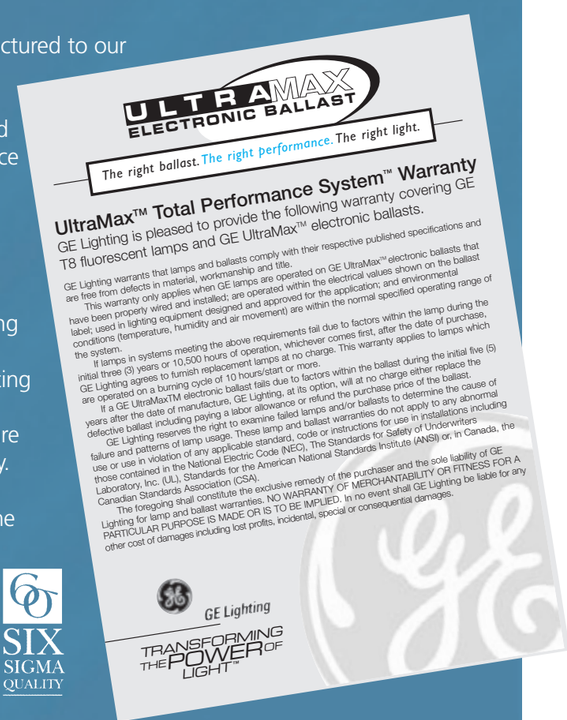
Here are the facts behind the promise.

It starts with precision manufacturing.

GE UltraMax™ Electronic Ballasts are custom-manufactured to our exacting specifications. We work to assure you the reliability and quality you expect from GE. Manufacturing processes include rigorous testing and quality control. Quality standards are further assurance of trouble-free performance.

- 100% burn-in of units to assure reliability.
- GE's extreme open/short Test which tests units' ability to withstand severe current conditions.
- Careful component selection and extensive testing of elements prior to final approval.
- Critical component placement and extensive testing of elements prior to final approval.
- Extensive lamp/ballast system testing which ensure optimal operating performance and compatibility.
- Comprehensive testing under adverse field and accelerated life conditions to prevent failure in the field.
- Commitment to Six Sigma standards for world-class product and service excellence.
- Power line voltage spike protection that passes the IEEE surge test (where a 6000 v pulse is applied to input leads). Compliance with all appropriate regulatory standards.
- Contact your GE representitive for specific warranty details.

SIX SIGMA QUALITY



SYSTEM PERFORMANCE COMPARISON MATRIX

Compare the overall performance of a GE UltraMax™ system to conventional lamp and ballast systems.

Lamps	Electromagnetic Ballasts	Electronic Ballasts					
2-Lamp System Performance 4' Fluorescent							
	Electromagnetic E.S.	Rapid Start	Low Power (L)	Normal	UltraMax™ L	UltraMax™ N	UltraMax™ H
Watt-Miser T12 (CW)	Watts: 74 BF: 0.90 Light: 100% RLPW: 100%	Watts: 64 BF: 0.86 Light: 96% RLPW: 110%	Not Available	Not Available	Not Available	Not Available	Not Available
F32T8 & F32T8/XL (SP)	Watts: 69 BF: 0.88 Light: 116% RLPW: 125%	Watts: 63 BF: 0.88 Light: 116% RLPW: 137%	Watts: 51 BF: 0.78 Light: 103% RLPW: 149%	Watts: 58 BF: 0.88 Light: 116% RLPW: 148%	Watts: 48 BF: 0.77 Light: 102% RLPW: 157%	Watts: 53 BF: 0.87 Light: 115% RLPW: 160%	Watts: 73 BF: 1.15 Light: 152% RLPW: 154%
F32T8/WM ULTRA & XL (SP)	Not Recommended	Not Recommended	Watts: 48 BF: 0.78 Light: 102% RLPW: 157%	Watts: 54 BF: 0.88 Light: 115% RLPW: 157%	Watts: 46 BF: 0.77 Light: 100% RLPW: 161%	Watts: 52 BF: 0.87 Light: 113% RLPW: 161%	Watts: 70 BF: 1.15 Light: 150% RLPW: 158%
3-Lamp System Performance 4' Fluorescent							
	Electromagnetic E.S.	Rapid Start	Low Power (L)	Normal	UltraMax™ L	UltraMax™ N	UltraMax™ H
Watt-Miser T12 (CW)	Watts: 117 BF: 0.91 Light: 100% RLPW: 100%	Watts: 93 BF: 0.86 Light: 95% RLPW: 119%	Not Available	Not Available	Not Available	Not Available	Not Available
F32T8 & F32T8/XL (SP)	Watts: 105 BF: 0.88 Light: 115% RLPW: 128%	Watts: 93 BF: 0.88 Light: 115% RLPW: 145%	Watts: 77 BF: 0.78 Light: 102% RLPW: 155%	Watts: 87 BF: 0.88 Light: 115% RLPW: 155%	Watts: 72 BF: 0.77 Light: 101% RLPW: 163%	Watts: 80 BF: 0.87 Light: 114% RLPW: 166%	Watts: 109 BF: 1.15 Light: 150% RLPW: 161%
F32T8/WM ULTRA & XL (SP)	Not Recommended	Not Recommended	Watts: 72 BF: 0.78 Light: 101% RLPW: 163%	Watts: 81 BF: 0.88 Light: 113% RLPW: 164%	Watts: 68 BF: 0.77 Light: 99% RLPW: 171%	Watts: 77 BF: 0.87 Light: 112% RLPW: 170%	Watts: 104 BF: 1.15 Light: 148% RLPW: 167%
4-Lamp System Performance 4' Fluorescent							
	Electromagnetic E.S.	Rapid Start	Low Power (L)	Normal	UltraMax™ L	UltraMax™ N	UltraMax™ H
Watt-Miser T12 (CW)	Watts: 148 BF: 0.90 Light: 100% RLPW: 100%	Watts: 128 BF: 0.86 Light: 96% RLPW: 110%	Not Available	Not Available	Not Available	Not Available	Not Available
F32T8 & F32T8/XL (SP)	Watts: 138 BF: 0.88 Light: 116% RLPW: 125%	Watts: 120 BF: 0.88 Light: 116% RLPW: 143%	Watts: 100 BF: 0.78 Light: 103% RLPW: 152%	Watts: 114 BF: 0.88 Light: 116% RLPW: 151%	Watts: 96 BF: 0.77 Light: 102% RLPW: 158%	Watts: 107 BF: 0.87 Light: 115% RLPW: 159%	TBD
F32T8/WM ULTRA & XL (SP)	Not Recommended	Not Recommended	Watts: 95 BF: 0.78 Light: 102% RLPW: 158%	Watts: 107 BF: 0.88 Light: 115% RLPW: 159%	Watts: 91 BF: 0.77 Light: 100% RLPW: 163%	Watts: 103 BF: 0.87 Light: 113% RLPW: 163%	TBD

Notes:
Light refers to "mean" lumen output relative to highlighted T12 Electromagnetic E.S. (energy saving) ballast systems.
RLPW is mean system Lumens/Watt relative to highlighted T12 Electromagnetic E.S. (energy saving) ballast systems.
Watts shown at 277 Volts.

ORDERING GUIDE AND SYSTEM WATTAGE

There's a combination of GE UltraMax™ ballasts and T8 lamps that can make virtually any lighting system perform better. The chart below lets you see for yourself.

Starting	Power	# Lamps	GE UltraMax Ballasts			F32T8 Input Watts			F32T8/WM Input Watts			F28T8/UMX Input Watts			Units Per Case
			Product Code	Description	Input Voltage	Input Watts†	In Fixture∆ Open	In Fixture∆ Enclosed	Input Watts†	In Fixture∆ Open	In Fixture∆ Enclosed	Input Watts†	Input Fixture∆ Open	Input Fixture∆ Enclosed	
Instant Start	Low	1	49706	GE-132-MAX-L/Ultra	Multi-Volt 120	25	24	24	24	23	23	22	TBD	TBD	10
					277	25	24	24	24	23	23	22	TBD	TBD	
		2	49707	GE-232-MAX-L/Ultra	Multi-Volt 120	48	48	47	46	46	45	44	TBD	TBD	10
					277	48	48	47	46	46	45	44	TBD	TBD	
		3	49708	GE-332-MAX-L/Ultra	Multi-Volt 120	73	72	71	69	68	67	65	TBD	TBD	10
					277	72	71	70	68	67	66	65	TBD	TBD	
		4	49709	GE-432-MAX-L/Ultra	Multi-Volt 120	97	95	93	92	90	88	87	TBD	TBD	10
					277	96	93	92	91	89	87	86	TBD	TBD	
	Normal	1	49771	GE-132-MAX-N/Ultra	Multi-Volt 120	28	28	27	27	26	26	25	TBD	TBD	10
					277	28	28	27	27	26	26	25	TBD	TBD	
		2	49772	GE-232-MAX-N/Ultra	Multi-Volt 120	54	54	53	53	52	51	49	TBD	TBD	10
					277	53	53	52	52	51	50	48	TBD	TBD	
		3	49773	GE-332-MAX-N/Ultra	Multi-Volt 120	82	80	78	78	77	74	72	TBD	TBD	10
					277	80	78	77	77	75	73	71	TBD	TBD	
		4	49774	GE-432-MAX-N/Ultra	Multi-Volt 120	109	105	103	105	101	98	98	TBD	TBD	10
					277	107	103	101	103	99	97	96	TBD	TBD	
	High	2	49775	GE-232-MAX-H/Ultra	Multi-Volt 120	74	71	69	71	69	67	66	TBD	TBD	10
					277	73	70	68	70	68	66	65	TBD	TBD	
		3	49776	GE-332-MAX-H/Ultra	Multi-Volt 120	111	105	102	106	102	97	97	TBD	TBD	10
					277	109	103	100	104	100	96	96	TBD	TBD	
		4	49777	GE-432-MAX-H/Ultra	Multi-Volt 120	151	TBD	TBD	145	TBD	TBD	133	TBD	TBD	10
					277	147	TBD	TBD	141	TBD	TBD	131	TBD	TBD	
			GE UltraMax Ballasts			F96T8 Input Watts			F96T8/WM Input Watts						Units Per Case
			Product Code	Description	Input Voltage	Input Watts†	In Fixture∆ Open	In Fixture∆ Enclosed	Input Watts†	In Fixture∆ Open	In Fixture∆ Enclosed				
	Normal	1	49766	GE-159-MAX-N/Ultra	Multi-Volt 120	54	TBD	TBD	51	TBD	TBD				10
					277	53	TBD	TBD	51	TBD	TBD				
		2	49767	GE-259-MAX-N/Ultra	Multi-Volt 120	107	TBD	TBD	102	TBD	TBD				10
					277	105	TBD	TBD	100	TBD	TBD				

† Denotes standard laboratory non-fixture open bench testing.

∆ In fixture watts represent typical field operating conditions with ballast and lamps in fixture/luminaire. Open fixture denotes non-lensed fixture/luminaire. Enclosed fixture denotes lensed fixture/luminaire.

PRODUCT OVERVIEW

AccuStart® and Universal Voltage Low Profile High Performance (HP-A & HP-B)

AccuStart® ballasts are ideal for frequently switched applications or as a rapid start alternative. They incorporate patented programmed rapid start technology to properly heat the lamp filaments, which yields an increase in lamp life up to 50%. The 1-4 lamp models offer universal input voltage.

Our low profile High Performance ballasts with THD <10% offer the convenience of universal input voltage (108-305 Volts) as a standard feature. Universal input is "installer-friendly" – ensuring that you have the right voltage ballast every time. Our low profile models also feature a package and cross-section that can offer greater flexibility in fixture design (1.0" height x 1.5" width). Since the mounting and wiring footprints are the same as a standard ballast, our low profile HP models will easily retrofit into any T12 or T8 fixture.

Low Profile Reduced Harmonic (RH-A)

Our low profile RH ballasts are over 45% smaller and 30% lighter. They feature a space-saving package (1.18" height x 1.7" width) and cross section for greater flexibility in fixture design. The 1-4 lamp model features parallel lamp operation, with standard mounting footprint and wiring for ease of replacement. They offer high efficiency performance with THD <20%.

Low profile RH ballasts.

AccuStart® ballasts for frequently switched applications.

Flexible fixture design options for T5 lamps.

T5 BALLASTS FOR INDIRECT, HIGH-END ARCHITECTURAL APPLICATIONS

T5 systems are gaining greater popularity for high-end architectural applications. GE provides a wide range of T5 solutions, from 14 to 54 watts. Our T5 ballasts operate multiple (1 or 2) F35T5, F28T5, F21T5 and F14T5 lamps. Additionally, our T5HO ballasts operate multiple (1 or 2) F54T5HO, F39T5HO and F24T5HO lamps. Moreover, they make your life easier with standard features that include universal input voltage (108-305 Volts), programmed rapid start technology for longer lamp life and end of lamp life shutdown circuit with auto-reset.

T5 Standard Output

Our standard output ballasts for T5 applications support multiple lamp operation (including 14, 21, 28, and 35 watts). They're ideal for indirect pendant mount, surface mount, cove, under-cabinet or task lighting. With a small cross section (1.0"height x 1.18"width), our T5 models give you more options for slim fixture design. Standard features include universal input voltage, end-of-lamp-life shutdown circuit and programmed rapid start technology.

T5 High Output

High output T5 ballasts from GE support 24-, 39- and 54-watt lamps and they offer the same standard features and compact dimensions as our T5 standard output. They're also well-suited to applications where space is at a premium, including slim pendant mounted fixtures, cove and task lighting.

ELECTRONIC
FLUORESCENT BALLASTS

SAFETY

NEC & UL Requirements

Ballast installation presents the possibility of exposure to potentially hazardous voltages and should be performed only by qualified personnel. All installation, inspection, and maintenance should be performed only with power to the fixture turned off. Additionally, all fixtures and ballasts must be installed and operated in compliance with the National Electrical Code, Underwriters Laboratories Inc. (UL) requirements, and all local applicable codes and regulations.

Polarity

Polarity refers to the proper connection of ballast lead wires to line wires. To aid you in making a correct installation, GE ballast leads are color-coded for easy identification. The WHITE ballast lead is to be connected to the neutral (grounded) and the BLACK (or black with white tracer) lead always to the phase ("hot") line wire. Systems where neither of the line wires are at ground potential require specially designed ballasts. A change in polarity may result in the voltage from the lead to the ground exceeding UL-specified limits. In some types of ballasts, a change in polarity may decrease voltage from the lead to the ground, thereby impeding the starting dependability of the ballast.

Grounding

Ballast cases and fixtures must always be grounded. The ballast case may be grounded to the fixture or otherwise grounded. It could be hazardous to make contact with an ungrounded fixture or ballast when in operation. Neglecting to properly ground the ballast and fixture combination may also result in failure of certain lamps to start or for unacceptable levels of electromagnetic noise to be conducted onto the power lines.

Operating Line Voltage Limits

To receive the full benefits of rated lamp output and to prolong ballast life, it is essential that voltage supplied to an installation be maintained within limits prescribed for each circuit. These limits are listed in the next column.

	VOLTAGE RANGE	
Nominal Voltage	**Minimum**	**Maximum**
120	108	132
220	198	242
277	249	305
347	312	382
120-277 (UNV)	108	305

Subjecting a ballast to excessive voltage for an extended period results in the deterioration of the insulation. This insulation breakdown will cause early ballast failure.

Low voltage has no damaging effect on the ballast. However, lamps may not start reliably, and early lamp failure could result.

Internal Ballast Protection

Class P Classification—Since January 1, 1984, the National Electrical Code requires that "where Fluorescent fixtures are installed indoors, the ballast shall have thermal protection integral within the ballast except for simple reactance ballasts." This ruling applies to replacement ballasts as well as to those contained within new fixtures.

In compliance with the National Electrical Code, UL has established a Class P ballast classification for fluorescent light fixtures. A Class P ballast must employ internal thermal protection limiting its operating temperature.

GE UL-approved Class P ballasts comply with the National Electrical Code requirement and are equipped with an automatic resetting thermal protector, built-in and adjacent to the transformer coils. The resetting thermal protector functions as a thermostat, which will open and temporarily deactivate the ballast when it exceeds the permissible temperature. It will reset when the ballast cools to a safe operating temperature. The ballast will continue to cycle until the cause of overheating is eliminated. If the ballast is defective, it must be replaced. If the cause is external, a Class P ballast will resume normal operation after abnormal conditions are eliminated.

SAFETY

Dimming Ballasts - Ballastar® dimming ballasts from GE are controlled by using 10-0vDC. Care should be taken to ensure that the line voltage (AC) wires are not connected to the low voltage DC wires. Ballastar® electronic dimming ballasts have protection (safety) circuitry that will sense the error so as not to harm the installer or the ballast. Dimming ballasts manufactured after May 1999 have the protection circuit. Dimming ballasts manufactured before this date do not have low voltage circuit protection.

Fusing - Class P ballasts do not require fusing. Fusing can be used when a single circuit has a large number of fixtures/ballasts.

Grounding - ANSI C82.1 recommends all fixtures and ballasts be grounded. GE requires all electronic ballasts be grounded.

Thermal Protection - All GE electronic ballasts meet UL 935 Standard for thermal protection. These ballasts are designated Class P. A Class P ballast will disconnect the ballast from input power in the event of internal over-temperature.

PERFORMANCE

Lamp Connections

Fluorescent ballasts are designed to generate voltages in excess of 300 Volts. It is imperative that proper connection to quality sockets be assured in accordance with wiring diagrams on each page of the catalog and on product labels. Some applications may not require the use of all of the ballast output leads. If any leads are not to be connected, each should be individually capped and insulated to at least 600 Volts.

Application Versatility

Many GE models are designed to allow for applications with different types or quantities of lamps. Lamp applications not listed on label cannot be warranted.

Audible Noise (Sound)

Electrical equipment, including most fluorescent lamp ballasts, produces some noise. Care must be taken to select a ballast with the proper sound rating for a particular lighting installation. Secure mounting can reduce the potential for audible noise. Typically, electronic ballasts operate up to 75% quieter than electromagnetic ballasts for fluorescent lamps.

Remote Mounting

Excessive hot or cold temperatures, audible noise requirements, or a desire to operate lamps in more than one fixture with the same ballast (master/slave), may make it desirable to mount the ballast remotely. Care must be taken to allow for ballast heat dissipation and proper grounding.

In any application, the wire used to extend leads must be at least as large as the wire supplied on the ballast (18 AWG) with an insulation rating of 1000 VAC at 90°C.

Lead lengths in excess of those noted, cause loading effects that can dramatically impact ballast performance and void the warranty. GE T8 instant start and programmed (rapid) start electronic ballasts can be mounted remotely, from the lamp sockets, up to 18 feet. GE T8 rapid start electronic ballasts can be mounted remotely, from the lamp sockets, up to 12 feet.

PERFORMANCE, continued

Lamp Starting Dependability

Fluorescent lamps are inherently more difficult to start at low temperatures. All ballasts have limitations as to their ability to start lamps at low ambient temperatures. In this catalog, the low starting point for each lamp/ballast combination appears in the column marked "Minimum Starting Temperature."

Four lamp instant start ballasts can operate at a minimum starting temperature down to -18°C (0°F) under the following conditions:

1. Lead lengths to the lamps are those supplied, by GE, with the ballast or shorter.
2. The distance from the lamp to the ground plane is no greater than 3/4".
3. The line voltage supplied to the ballast is no less than rated nominal.
4. The ballast or lamps are not remotely mounted.
5. The lamps have been burned in per lamp manufacturer requirements (typically 100 hours).

Contact GE for lamp operating characteristics and requirments below 15°C (50°F).

Light Output

Optimum light output from fluorescent lamps is achieved when the lamp wall is at 100-110°F. Any substantial excursion (either colder or warmer) will result in a reduction in light output.

Ballast Life

A fluorescent lamp ballast, like any other electrical device, generates heat during its normal operation. Ballast temperatures should be kept as low as possible. Maximum dissipation of heat through fixture design and proper ballast installation will help. Although excessive temperature may not cause the ballast to fail immediately, it can shorten ballast life. To assure maximum life, the ballast case temperature should not exceed 75°C, in a maximum ambient (fixture cavity) of 40°C.

Causes of ballast overheating:

- Incorrect line voltage or frequency
- Incorrect size, type or number of lamps
- Incorrect wiring
- Poor heat dissipation due to surrounding insulation
- Sealed (Vapor Tight) Fixtures - Unusual heat build-up due to lack of ventilation in fixtures may cause thermal (on/off) cycling of certain ballasts. Consult GE for specific recommendations.

Recommendations:

- Selection of a proper ballast to match the requirements of the lamp, fixture, voltage and installation
- Mounting of ballast within the fixture with as much surface contact as possible between the ballast and metal portions of the fixture.Secure mounting will aid in proper heat dissipation and can minimize the potential for ballast hum.
- The use of heat-conducting dissipators (radiators), if necessary, which increases surface contact between the ballast and fixture.
- If necessary, locate the ballast in a remote, cooler area outside the fixture.
- Consult GE for remote mounting recommendations.

Starting Method Legend

IS=Instant Start
PRS=Programmed Rapid Start
RS=Rapid Start
PAR-IS=Parallel Instant Start
PAR-PRS=Parallel Programmed Rapid Start
PAR-RS=Parallel Rapid Start
SER-RS=Series Rapid Start

ELECTRONIC
FLUORESCENT BALLASTS

APPLICATION AND OPERATING INFORMATION

TYPICAL SPECIFICATIONS FOR ULTRAMAX MULTI-VOLTAGE, INSTANT START, HIGH EFFICIENCY BALLASTS

Section I – Physical Characteristics

1.1 The electronic ballast shall be physically interchangeable with standard electromagnetic and standard electronic ballast.
1.2 The electronic ballast shall have a maximum height of 1.2 in. and maximum weight of 1.5 lbs. (except 4H).
1.3 The electronic ballast shall be furnished with integral leads, color-coded to ANSI C82.11.

Section II – Performance Requirements

2.1 The electronic ballast shall operate throughout wide range of input line voltage 120-277 Volts, with +/-10% variation tolerance 50/60 Hz for Multi Voltage Control /Universal Voltage.
2.2 Ballast shall be classified "hi-efficiency" and shall provide a minimum of 3 watts energy savings over comparable standard electronic ballasts.
2.3 The electronic ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when used with the primary lamp at 120 Volts. It shall be less than 20% on other approved lamps.
2.4 The electronic ballast shall have a Power Factor greater than 98% when used with primary lamp at 120 Volts and greater than 95% at 277 Volts.
2.5 The electronic ballast shall be Sound Rated A.
2.6 The electronic ballast output frequency to the lamps shall be above 60 kHz to minimize interference with infrared control systems and eliminate visible flicker.
2.7 The electronic ballast shall meet ANSI C82.11 for Electronic Ballast Performance.
2.8 The electronic ballast shall withstand transients specified in ANSI C62.41, Location Category A3.
2.9 The electronic ballast shall be Instant Start with independent parallel lamp operation.
2.10 The electronic ballast shall have a Lamp Current Crest Factor of <1.5.
2.11 Lamps may be remote or tandem mounted up to a maximum of 18ft. overall lead length between ballasts and lamps.
2.12 Ballast shall have a minimum starting temperature of 0ºF for F32T8, F25T8 and F17T8.

Section III – Regulatory

3.1 The electronic ballast shall meet the requirements of the Federal Communications Commission rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.
3.2 The electronic ballast shall comply with all applicable state and federal efficiency standards.
3.3 The electronic ballast shall be Underwriters Laboratories (UL) Listed Class P & Type HL.
3.4 The electronic ballast shall provide UL Class CC, Closed Cabinet protection to prevent ignition of non-UL–controlled thermoplastic diffuser and overheating of bi-pin lampholders.

Section IV – Other

4.1 The electronic ballast shall not contain Polychlorinated Biphenyl (PCBs).
4.2 The electronic ballast shall carry a five year warranty form the date of manufacture. Warranty shall be valid for maximum case temperature of 70ºC.
4.3 The electronic ballast shall eliminate lamp striation (spiraling effect).
4.4 The electronic ballast shall be available in 1, 2, 3, & 4 lamp versions for F32T8 and 1 & 2 lamp versions for F96T8.
4.5 The F32T8 electronic ballast shall be available with Ballast Factor of .77 Low, .87 Normal, and 1.15 High Power.
4.6 The electronic ballast shall have constant Ballast Factor if one or more lamps fail.

TYPICAL SPECIFICATIONS FOR INSTANT START BALLASTS FOR:

- **RH** (Reduced Harmonics)
- **L** (Low Wattage)
- **RHH** (Reduced Harmonics High Light)

1. Ballasts (1-4 lamp) shall operate as a Parallel Circuit, allowing remaining lamp(s) to maintain full light output if one or more lamps fail.
2. Ballasts shall operate from 60 Hz input source of 120, 277 Volts, and sustained variations of ±10% (Voltage & Frequency) with no damage to the ballasts.
3. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 20 kHz.
4. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
5. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
6. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
7. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
8. Ballasts shall operate lamps with no visible flicker (< 3% flicker index).
9. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
10. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
11. Ballast shall have a Ballast Factor greater than .85 per ANSI C82.11-1993. Ballast Factor for Low Power (L) models shall be greater than .77.
12. Input current Total Harmonic Distortion shall not exceed 20% for the primary lamp applications.
13. Ballasts shall have a Power Factor greater than .95 for primary lamp applications.
14. The ballasts do not contain any PCBs.
15. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
16. Ballast shall be manufactured in an ISO 9001 Certified Facility.
17. Ballasts shall provide instant starting sequence consistent with ANSI standard C82.11-1993.
18. GE model _____ (or approved equal).

TYPICAL SPECIFICATIONS FOR INSTANT START BALLASTS FOR:

Universal Voltage Performance

- **HP** (High Performance)

1. Ballasts (1-4 lamp) shall operate as a Parallel Circuit, allowing remaining lamp(s) to maintain full light output if one or more lamps fail.
2. Ballasts shall operate from 50/60 Hz input source of 120 through 277 Volts, and sustained variations of ±10% (Voltage & Frequency) with no damage to the ballasts.
3. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 42 kHz to minimize interference with infrared control systems.
4. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
5. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
6. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
7. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
8. Ballasts shall operate lamps with no visible flicker (<3% flicker index).
9. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
10. Ballasts shall be Underwriters Laboratory UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
11. Ballast shall have a Ballast Factor greater than .85 per ANSI C82.11-1993.
12. Input current Total Harmonic Distortion shall not exceed 10% for the primary lamp.
13. Ballasts shall have a Power Factor greater than .98 for primary lamp.
14. The ballasts shall not have any PCBs.
15. The manufacturer shall provide written warranty against defects in material or workmanship,including replacement, for five years from date of manufacture.
16. Manufacturer shall have been manufacturing electronic ballasts for at least fifteen years.
17. Ballast shall be manufactured in an ISO 9001 Certified Facility.
18. Ballasts shall provide instant starting sequence consistent with ANSI standard C82.11-1993.
19. Ballast shall be Bx32IUNVHP-B (x=1 or 2) or Bx32IUNVHP-A (x=3 or 4) depending upon the quantity of lamps per fixture.
20. GE model _____ (or approved equal).

TYPICAL SPECIFICATIONS FOR INSTANT START BALLASTS FOR:

- **HP** (High Performance)
- **HPL** (High Performance Low Power)
- **HPH** (High Performance High Light)

1. Ballasts (1-4 lamp) shall operate as a Parallel Circuit, allowing remaining lamp(s) to maintain full light output if one or more lamps fail (except T12 High Output).
2. Ballasts shall operate from 50/60 Hz input source of 120, 277, and 347 Volts, and sustained variations of 10% (Voltage & Frequency) with no damage to the ballasts.
3. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 20 kHz.
4. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
5. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
6. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
7. Ballasts shall operate lamps with no visible flicker (< 3% flicker index).
8. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
9. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
10. Ballast shall have a Ballast Factor greater than .85 per ANSI C82.11-1993. Ballast Factor for Low Power (L) models shall be greater than .77.
11. Input current Total Harmonic Distortion shall not exceed 10% for the primary lamp.
12. Ballasts shall have a Power Factor greater than .98 for primary lamp.
13. The ballasts do not contain any PCBs.
14. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
15. Ballast shall be manufactured in an ISO 9001 Certified Facility.
16. Ballasts shall provide instant starting sequence consistent with ANSI standard C82.11-1993.
17. GE model_____(or approved equal).

TYPICAL SPECIFICATIONS FOR RAPID START BALLASTS

1. Ballasts (1-4 lamp) shall operate as a Parallel Circuit, allowing remaining lamp(s) to maintain full light output if one or more lamps fail (except T12 High Output).
2. Ballasts shall operate from 60 Hz input source of 120, 277 Volts, and sustained variations of ±10% (Voltage & Frequency) with no damage to the ballasts.
3. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 20 kHz.
4. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
5. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
6. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
7. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
8. Ballasts shall operate lamps with no visible flicker (< 3% flicker index).
9. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
10. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
11. Ballast shall have a Ballast Factor greater than .85 per ANSI C82.11-1993.
12. Input current Total Harmonic Distortion shall not exceed 10% for the primary lamp applications.
13. Ballast shall be manufactured in an ISO 9001 Certified Facility.
14. Ballasts shall have a Power Factor greater than .98 primary applications.
15. The ballasts do not contain any PCBs.
16. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
17. Ballasts shall provide rapid starting sequence consistent with ANSI standard C82.11-1993.
18. GE model_____ (or approved equal).

ELECTRONIC
FLUORESCENT BALLASTS

TYPICAL SPECIFICATIONS

TYPICAL SPECIFICATIONS FOR PROGRAMMED (RAPID) START BALLASTS

1. Ballasts shall have a minimum start temperature of 0°F.
2. Ballasts shall operate from a 50/60 Hz input source of 120 through 277 Volts, and sustained variations of ±10% (Voltage & Frequency) with no damage to the ballasts.
3. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 42 kHz to minimize interference with infrared control systems.
4. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
5. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
6. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
7. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
8. Ballasts shall operate lamps with no visible flicker (<3% flicker index).
9. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
10. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
11. Ballast shall have a Ballast Factor greater than .85, per ANSI C82.11-1993.
12. Input current Total Harmonic Distortion shall not exceed 10%.
13. Ballasts shall have a Power Factor greater than .98, for primary application.
14. The ballasts shall not have any PCBs.
15. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
16. Ballast shall be manufactured in an ISO 9001 Certified Facility.
17. Ballast shall be manufactured in North America.
18. Ballast shall be GE AccuStart HP Product Bx32PUNVHP-A (x=1,2,3, or 4).
19. GE model _____ (or approved equal).

TYPICAL SPECIFICATIONS FOR T5 AND T5 HIGH OUTPUT (HO) BALLASTS

1. Ballast shall be Programmed Rapid Start.
2. Ballast shall incorporate lamp shutdown circuitry for end of lamp life protection.
3. Ballast shall allow for re-lamping without the need to cycle power.
4. Ballasts shall operate from 50/60 Hz input source of 108-305 Volts, with no damage to the ballasts.
5. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 20 kHz.
6. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-1993.
7. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
8. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
9. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991, Location A2.
10. Ballasts shall operate lamps with no visible flicker (< 3% flicker index).
11. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
12. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
13. Ballast shall have a Ballast Factor greater than .95 per ANSI C82.11-1993.
14. Input current Total Harmonic Distortion shall not exceed 10% for the primary lamp.
15. Ballasts shall have a Power Factor greater than .98.
16. The ballasts do not contain any PCBs.
17. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
18. Ballast shall be manufactured in and ISO 9001 Certified Facility.
19. GE model _____ (or approved equal).

ELECTRONIC FLUORESCENT BALLASTS

BALLAST MATRIX

Lamp	Starting	Power	# Lamps	GE Electronic Ballasts: Ballast Factor	Product Code	Description	Input Voltage	GE Ballast Cross Reference for T8 Lamps: GE/Universal Ltg. Technologies (Magnetek): Std. RH	HP	High Efficiency
Four-Foot T8, F32, F32/U, F25, F17, F32WM	Instant Start	Low Power	1	L 0.77	49706	GE-132-MAX-L/Ultra	Multi-Volt 120			
							Multi-Volt 277			
			2	L 0.77	49707	GE-232-MAX-L/Ultra	Multi-Volt 120	B232I120L-A		B232I120EL/Ultra
							Multi-Volt 277	B232I277L-A		B232I277EL/Ultra
			3	L 0.77	49708	GE-332-MAX-L/Ultra	Multi-Volt 120	B332I120L-A		B332I120EL/Ultra
							Multi-Volt 277	B332I277L-A		B332I277EL/Ultra
			4	L 0.77	49709	GE-432-MAX-L/Ultra	Multi-Volt 120	B432I120L-A		B432I120EL/Ultra
							Multi-Volt 277	B432I277L-A		B432I277EL/Ultra
		Standard	1	N 0.87	49771	GE-132-MAX-N/Ultra	Multi-Volt 120	B132I120RH-A	B132IUNVHP-B	
							Multi-Volt 277	B132I277RH-A		
			2	N 0.87	49772	GE-232-MAX-N/Ultra	Multi-Volt 120	B232I120RH-A	B232IUNVHP-B	B232I120HE/Ultra
							Multi-Volt 277	B232I277RH-A		B232I277HE/Ultra
			3	N 0.87	49773	GE-332-MAX-N/Ultra	Multi-Volt 120	B332I120RH-A	B332IUNVHP-A	B332I120HE/Ultra
							Multi-Volt 277	B332I277RH-A		B332I277HE/Ultra
			4	N 0.87	49774	GE-432-MAX-N/Ultra	Multi-Volt 120	B432I120RH-A	B432IUNVHP-A	B432I120HE/Ultra
							Multi-Volt 277	B432I277RH-A		B432I277HE/Ultra
		High	2	H 1.15	49775	GE-232-MAX-H/Ultra	Multi-Volt 120	B232I120RHH	B232I120HPH	
							Multi-Volt 277	B232I277RHH	B232I277HPH	
			3	H 1.15	49776	GE-332-MAX-H/Ultra	Multi-Volt 120	B332I120RHH		
							Multi-Volt 277	B332I277RHH		
			4	H 1.15	49777	GE-432-MAX-H/Ultra	Multi-Volt 120			
							Multi-Volt 277			
	Program Rapid Start	Standard	1	N 0.88	47532	B132PUNVHP-A	Multi-Volt 120	B132P120RH	B132PUNVHP-A	
							Multi-Volt 277	B132P277RH		
			2	N 0.88	47533	B232PUNVHP-A	Multi-Volt 120	B232P120RH	B232PUNVHP-A	
							Multi-Volt 277	B232P277RH		
			3	N 0.88	41008	B332PUNVHP-B	Multi-Volt 120	B332P120RH	B332PUNVHP-B	
							Multi-Volt 277	B332P277RH		
			4	N 0.88	41009	B432PUNVHP-B	Multi-Volt 120	B432P120RH	B432PUNVHP-B	
							Multi-Volt 277	B432P277RH		
									Varible dimming	3-level switch dim
	Dimming	Standard	2	N 0.88	80355	B232SR120V5	120		B232SR120V5	B232SR120S30
					80356	B232SR277V5	277		B232SR277V5	B232SR277S30
			3	N 0.88	80357	B332SR120V5	120		B332SR120V5	B332SR120S30
					80358	B332SR277V5	277		B332SR277V5	B332SR277S30
8-Ft. T8 F96	Instant Start	Standard	1	N 0.87	49766	GE-159-MAX-N/Ultra	Multi-Volt 120	B159I120RH		
							Multi-Volt 277	B159I277RH		
			2	N 0.87	49767	GE-259-MAX-N/Ultra	Multi-Volt 120	B259I120RH	B259IUNVHP	B259I120HE/Ultra
							Multi-Volt 277	B259I277RH		B259I277HE/Ultra
		High	2	H 1.15	TBA	GE-259-MAX-H/Ultra	Multi-Volt 120	B232I120RHH	B232I120HPH	
							Multi-Volt 277	B232I277RHH	B232I277HPH	
8-Ft. HO	IS-(vs-Rs)	Standard	1	N 0.93	80286	B286I120RH	120	B286I120RH		
					80287	B286I277RH	277	B286I277RH		
			2	N 0.88	80286	B286I120RH	120	B286I120RH		
					80287	B286I277RH	277	B286I277RH		

GE Ballast Cross Reference for T8 Lamps: Advance: Std. Discrete	Centium	High Efficiency	Sylvania: Std. Quicktronic	QT PRO	Power	Starting	Lamp
REL-1P32-LW-SC		ROP-2P32-LW-SC		QTP1x32T8/120 RSL-A	Low Power	Instant Start	Four-Foot T8, F32, F32/U, F25, F17, F32WM
VEL-1P32-LW-SC		VOP-2P32-LW-SC		QTP1x32T8/277 RSL-A			
REL-2P32-LW-SC	RCN-2P32-LW	ROP-2P32-LW-SC	QT2x32/120LP	QTP2x32T8/120 RSL-A			
VEL-2P32-LW-SC	VCN-2P32-LW	VOP-2P32-LW-SC	QT2x32/277LP	QTP2x32T8/277 RSL-A			
REL-3P32-LW-SC	RCN-3P32-LW	ROP-2P32-LW-SC	QT3x32/120LP	QTP3x32T8/120 RSL-A			
VEL-3P32-LW-SC	VCN-3P32-LW	VOP-2P32-LW-SC	QT3x32/277LP	QTP3x32T8/277 RSL-A			
REL-4P32-LW-SC	RCN-4P32-LW	ROP-2P32-LW-SC	QT4x32/120LP	QTP4x32T8/120 RSL-A			
VEL-4P32-LW-SC	VCN-4P32-LW	VOP-2P32-LW-SC	QT4x32/277LP	QTP4x32T8/277 RSL-A			
REL-1P32-SC	RCN-1P32-SC	ROP-2P32-SC	QT1x32/120IS-SC	QTP1x32T8/120 ISN-D	Standard		
VEL-1P32-SC	VCN-1P32-SC	VOP-2P32-SC	QT1x32/277IS-SC	QTP1x32T8/277 ISN-D			
REL-2P32-SC	RCN-2P32-SC	ROP-2P32-SC	QT2x32/120IS-SC	QTP2x32T8/120 ISN-D			
VEL-2P32-SC	VCN-2P32-SC	VOP-2P32-SC	QT2x32/277IS-SC	QTP2x32T8/277 ISN-D			
REL-3P32-SC	RCN-3P32-SC	ROP-P32-SC	QT3x32/120ISN-SC	QTP3x32T8/120 ISN-A			
VEL-3P32-SC	VCN-3P32-SC	VOP-P32-SC	QT3x32/277ISN-SC	QTP3x32T8/277 ISN-A			
REL-4P32-SC	RCN-4P32-SC	ROP-P32-SC	QT4x32/120ISN-SC	QTP4x32T8/120 ISN-A			
VEL-4P32-SC	VCN-4P32-SC	VOP-P32-SC	QT4x32/277ISN-SC	QTP4x32T8/277 ISN-A			
REL-2P32-HL-SC			QT2x32/120PLUS		High		
VEL-2P32-HL-SC			QT2x32/277PLUS				
REL-3P32-HL-SC			QT3x32/120PLUS				
VEL-3P32-HL-SC			QT3x32/277PLUS				
	RCN-1S32-SC			QTP1x32T8/120 PSN-F	Standard	Program Rapid Start	
	VCN-1S32-SC			QTP1x32T8/277 PSN-F			
	RCN-2S32-SC			QTP2x32T8/120 PSN-F			
	VCN-2S32-SC			QTP2x32T8/277 PSN-F			
	RCN-3S32-SC			QTP3x32T8/120 PSN-SC			
	VCN-3S32-SC			QTP3x32T8/277 PSN-SC			
	RCN-4S32-SC			QTP4x32T8/120 PSN-SC			
	VCN-4S32-SC			QTP4x32T8/277 PSN-SC			
	RZT-2S32			QT2x32/120DIM5-B	Standard	Dimming	
	VZT-2S32			QT2x32/277DIM5-B			
	RZT-3S32			QT3x32/120DIM5-Q			
	VZT-3S32			QT3x32/277DIM5-Q			
REL-2P59-S-RH-TP	RCN-2P59				Standard	Instant Start	8-Ft. T8 F96
VEL-2P59-S-RH-TP	VCN-2P59						
REL-2P59-S-RH-TP	RCN-2P59		QT2x59/120IS	QTP2x59T8/120 ISN-A			
VEL-2P59-S-RH-TP	VCN-2P59		QT2x59/277IS	QTP2x59T8/277 ISN-A			
REL-2P59-HL			QT2x59/120PLUS		High		
VEL-2P59-HL			QT2X59/277PLUS				
	RCN-2S86				Standard	IS-vs-RS	8-Ft. HO
	VCN-2S86						
REL-2S86 series RS	RCN-2S86						
VEL-2S86 series RS	VCN-2S86						

FOR (1), (2), (3) & (4) F17T8 LAMPS

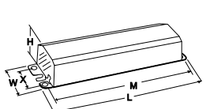
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F17T8 - One Lamp Applications															
49771	1	IS	120 277	GE-132-MAX-N/Ultra	•	•	•	0.14 0.07	17	>.99 >.90	1.05 1.05	<10 <22	0/-18	1A	-A
47532	1	PRS	120 277	B132PUNVHP-A	•			0.15 0.07	17	>.99 >.96	0.91	<10 <15	0/-18	2	-A
F17T8 - Two Lamp Applications															
49707	2	PAR-IS	120 277	GE-232-MAX-L/Ultra	•	•	•	0.24 0.11	28 29	>.99 >.93	.95	<12 <24	0/-18	1B	-A
49772			120 277	GE-232-MAX-N/Ultra	•	•	•	0.27 0.12	32	>.99 >.94	1.05	<10 <20	0/-18	1B	-A
47533	2	SER-PRS	120 277	B232PUNVHP-A	•			0.28 0.13	34	>.99 >.95	0.95	<10 <15	0/-18	30	-A
F17T8 - Three Lamp Applications															
49708	3	PAR-IS	120 277	GE-332-MAX-L/Ultra	•	•	•	0.35 0.16	42	>.99 >.96	0.95	<10 <19	0/-18	1C	-A
49773			120 277	GE-332-MAX-N/Ultra	•	•	•	0.40 0.18	48	>.99 >.97	1.05	<10 <17	0/-18	1C	-A
41008	3	SER-PRS	120 277	B332PUNVHP-A	•			0.40 0.19	48	>.98 >.90	0.92	<10	0/-18	23	-A
F17T8 - Four Lamp Applications															
49709	4	PAR-IS	120 277	GE-432-MAX-L/Ultra	•	•	•	0.47 0.21	56	>.99 >.96	0.95	<10 <19	0/-18	1D	-A
49774			120 277	GE-432-MAX-N/Ultra	•	•	•	0.54 0.24	65 64	>.99 >.97	1.05	<10 <18	0/-18	1D	-A
41009	4	SER-PRS	120 277	B432PUNV-HP-B	•			0.57 0.24	67 67	>.90 >.90	0.92 0.92	<25 <25	0/-18 0/-18	8 8	ST ST

*Need footnote detail for this symbol

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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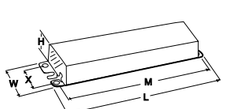


-A, -B

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"
-B	9.50"	1.50"	1.00"	8.89"	0.88"

FOR (1), (2), (3) & (4) F25T8 LAMPS

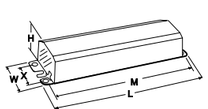
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F25T8 - One Lamp Applications															
49706	1	IS	120 277	GE-132-MAX-L/Ultra	•	•	•	0.18 0.08	21	>.99 >.92	0.94	<10 <20	0/-18	1A	-A
49771			120 277	GE-132-MAX-N/Ultra	•	•	•	0.24 0.09	23 24	>.99 >.93	0.94	<10 <18	0/-18	1A	-A
47532	1	PRS	120 277	B132PUNVHP-A	•			0.20 0.09	24	>.99 >.98	0.91	<10	0/-18	2	-A
F25T8 - Two Lamp Applications															
49707	2	PAR-IS	120 277	GE-232-MAX-L/Ultra	•	•	•	0.34 0.15	40	>.99 >.96	0.84	<10 <19	0/-18	1B	-A
49772			120 277	GE-232-MAX-N/Ultra	•	•	•	0.21 0.38	53 45	>.96 >.99	0.87 0.94	<15 <10	0/-18	1B	-A
47533	2	SER-PRS	120 277	B232PUNVHP-A	•			0.40 0.17	47 46	>.99 >.97	0.94	<10	0/-18	30	-A
F25T8 - Three Lamp Applications															
49708	3	PAR-IS	120 277	GE-332-MAX-L/Ultra	•	•	•	0.50 0.22	60 59	>.99 >.97	0.84	<10 <14	0/-18	1C	-A
49773			120 277	GE-332-MAX-N/Ultra	•	•	•	0.56 0.24	67 66	>.99 >.98	0.94	<10 <13	0/-18	1C	-A
80136			347	B332I347HP	•			0.20	68	>.99	0.91	<10	0/-18	6	ST
41008	3	SER-PRS	120 277	B332PUNVHP-A	•			0.77 0.33	92 89	>.99 >.95	.89	<10	0/-18	8	-A
F25T8 - Four Lamp Applications															
49709	4	PAR-IS	120 277	GE-432-MAX-L/Ultra	•	•	•	0.67 0.30	80 79	>.99 >.97	0.84	<10 <15	0/-18	1D	-A
49774			120 277	GE-432-MAX-N/Ultra	•	•	•	0.76 0.33	91 89	>.99 >.98	0.94	<10 <14	0/-18	1D	-A
41009	4	SER-PRS	120 277	B432PUNVHP-A	•			0.77 0.33	92 89	>.99 >.95	0.89	<10	0/-18	8	-A

*Need footnote detail for this symbol

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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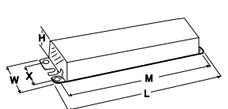


-A, -B

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"
-B	9.50"	1.50"	1.00"	8.89"	0.88"

FOR (1) & (2) F28T8 LAMPS (F28T8/UMX – GE ULTRAMAX SYSTEM; PROLINE & MULTI-VOLT PROLINE)

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F28T8 - One Lamp Applications															
49706	1	IS	120	GE-132-MAX-L/Ultra	•	•	•	0.20	22	>.99	.77	<10	0/-18	1A	-A
			277					0.09		>.93		<18			
49771			120	GE-132-MAX-N/Ultra	•	•	•	0.22	25	>.99	.87	<10	0/-18	1A	-A
			277					0.10		>.98		<16			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.32	36	>.99	1.15	<10	0/-18	1B	-A
			277					0.15		>.96		<19			
23680			120	GE-132-120-N	•		•	0.22	25	>.99	0.84	<10	0/-18	1A	-A
23681			277	GE-132-277-N	•		•	0.10	26	>.99	0.84	<10	0/-18	1A	-A
30189			120	GE-132-MV-N	•		•	0.22	27	>.99	TBD	<10	0/-18	1A	-A
			277					0.11		>.94		<16			
F28T8 - Two Lamp Applications															
49707	2	PAR-IS	120	GE-232-MAX-L/Ultra	•	•	•	0.38	44	>.99	0.77	<10	0/-18	1B	-A
			277					0.18		>.97		<17			
49772			120	GE-232-MAX-N/Ultra	•	•	•	0.42	49	>.99	0.87	<10	0/-18	1B	-A
			277					0.19	48	>.96		<15			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.58	66	>.99	1.15	<10	0/-18	1B	-A
			277					0.26	65	>.97		<13			
23671			120	GE-232-120-N	•		•	0.41	48	>.99	0.84	<10	0/-18	1B	-A
23672			277	GE-232-277-N	•		•	0.18	48	>.99	0.84	<10	0/-18	1B	-A
30247			120	GE-232-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1B	-A
			277												
30191			120	GE-232-MV-N	•		•	0.29	49	>.99	TBD	<10	0/-18	1B	-A
			277					0.14	48	>.96		<16			
30198			120	GE-232-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1B	-A
			277												

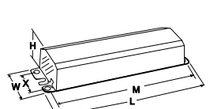
* See specific application sheet.

SEE WIRING DIAGRAMS Pages 1-39 and 1-40

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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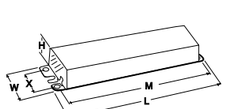


-A, -B

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50″	2.40″	1.55″	8.89″	1.69″
-A	9.50″	1.70″	1.18″	8.89″	1.13″
-B	9.50″	1.50″	1.00″	8.89″	0.88″

ELECTRONIC
FLUORESCENT BALLASTS

F28T8

FOR (3) & (4) F28T8 LAMPS (F28T8/UMX – GE ULTRAMAX SYSTEM; PROLINE & MULTI-VOLT PROLINE)

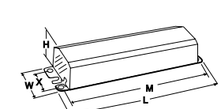
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F28T8 - Three Lamp Applications															
49708	3	PAR-IS	120	GE-332-MAX-L/Ultra	•	•	•	0.57	65	>0.99	0.77	<10	0/-18	1C	-A
			277					0.25		>0.98		<13			
49773			120	GE-332-MAX-N/Ultra	•	•	•	0.63	72	>0.99	0.87	<10	0/-18	1C	-A
			277					0.28	71	>0.98		<13			
49776			120	GE-332-MAX-H/Ultra	•	•	•	0.86	97	>0.99	1.15	<10	0/-18	1C	-A
			277					0.37	96	>0.98		<13			
23673			120	GE-332-120-N	•		•	0.62	72	>0.99	0.84	<10	0/-18	1C	-A
23674			277	GE-332-277-N	•		•	0.26	70	>0.99	0.84	<10	0/-18	1C	-A
30255			120	GE-332-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1C	-A
			277												
30192			120	GE-332-MV-N	•		•	0.46	67	>0.99	TBD	<10	0/-18	1C	-A
			277					0.21	66	>0.98		<13			
30199			120	GE-332-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1C	-A
			277												
F28T8 - Four Lamp Applications															
49709	4	PAR-IS	120	GE-432-MAX-L/Ultra	•	•	•	0.77	87	>0.99	0.77	<10	0/-18	1D	-A
			277					0.34	86	>0.98		<14			
49774			120	GE-432-MAX-N/Ultra	•	•	•	0.84	98	>0.99	0.87	<10	0/-18	1D	-A
			277					0.37	96	>0.98		<13			
49777			120	GE-432-MAX-H/Ultra	•	•	•	1.20	133	>0.99	1.15	<10	0/-18	1D	ST
			277					0.52	131	>0.98		<14			
23675			120	GE-432-120-N	•		•	0.81	96	>0.99	0.84	<10	0/-18	1D	-A
23676			277	GE-432-277-N	•		•	0.35	93	>0.99	0.84	<10	0/-18	1D	-A
30262			120	GE-432-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	-A
			277												
30193			120	GE-432-MV-N	•		•	0.83	93	>0.99	TBD	<10	0/-18	1D	-A
			277					0.36	92	>0.98		<15			
30219			120	GE-432-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	ST
			27												

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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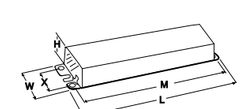


-A, -B

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50″	2.40″	1.55″	8.89″	1.69″
-A	9.50″	1.70″	1.18″	8.89″	1.13″
-B	9.50″	1.50″	1.00″	8.89″	0.88″

FOR (1) F32T8 LAMP

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - One Lamp Applications															
49706	1	IS	120	GE-132-MAX-L/Ultra	•	•	•	0.22	25	>.99	0.77	<10	0/-18	1A	-A
			277					0.10		>.94		<18			
49771			120	GE-132-MAX-N/Ultra	•	•	•	0.42	28	>.99	0.87	<10	0/-18	1A	-A
			277					0.19		>.98		<15			
49707			120	GE-232-MAX-L/Ultra	•	•	•	0.24	28	>.99	0.77	<10	0/-18	1B	-A
			277					0.11	29	>.93		<23			
49772			120	GE-232-MAX-N/Ultra	•	•	•	0.26	31	>.99	0.87	<10	0/-18	1B	-A
			277					0.12		>.94		<20			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.36	40	>.99	1.15	<10	0/-18	1B	-A
			277					0.16	41	>.96		<19			
23680			120	GE-132-120-N	•		•	0.26	30	>.99	0.87	<10	0/-18	1A	-A
23681			277	GE-132-277-N	•		•	0.12	30	>.99	0.87	<10	0/-18	1A	-A
30189			120	GE-132-MV-N	•		•	0.28	31	>.99	TBD	<10	0/-18	1A	-A
			277					0.13	31			<14			
47532	1	PRS	120	B132PUNVHP-A	•			0.26	31	>.99	0.88	<10	0/-18	2	-A
			277					0.11	30	>.98					
47533			120	B232PUNVHP-A	•			0.27	32	>.99	1.00	<10	0/-18	30	-A
			277					0.12		>.95		<15			

* See specific application sheet.

FOR (1) F32T8/WM LAMP

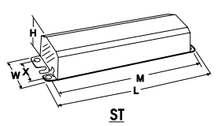
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8/WM - One Lamp Applications															
49706	1	IS	120	GE-132-MAX-L/Ultra	•	•	•	0.21	24	>.99	0.77	<10	0/-18	1A	-A
			277					0.09		>.93		<18			
49707			120	GE-232-MAX-L/Ultra	•	•	•	0.22	26	>.99	0.87	<11	0/-18	1B	-A
			277					0.11	27	>.93		<25			
49772			120	GE-232-MAX-N/Ultra	•	•	•	0.25	29	>.99	0.87	<10	0/-18	1B	-A
			277					0.12		>.94		<21			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.34	39	>.99	1.15	<10	0/-18	1B	-A
			277					0.15		>.96		<19			
23680			120	GE-132-120-N	•		•	0.24	28	>.99	0.86	<10	0/-18	1A	-A
23681			277	GE-132-277-N	•		•	0.11	28	>.99	0.86	<10	0/-18	1A	-A
30189			120	GE-132-MV-N	•		•	0.25	29	>.99	TBD	<10	0/-18	1A	-A
			277					0.12				<16			
47532	1	SER-PRS	120	B132PUNVHP-A	•			0.23	28	>.99	0.88	<10	60/16	2	-A
			277					0.10		>.98					

* See specific application sheet.

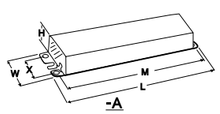
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST



-A

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (2) F32T8 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - Two Lamp Applications															
49707	2	PAR-IS	120	GE-232-MAX-L/Ultra	•	•	•	0.42	48	>.99	0.77	<10	0/-18	1B	-A
			277					0.19		>.97		<17			
49772			120	GE-232-MAX-N/Ultra	•	•	•	0.47	54	>.99	0.87	<10	0/-18	1B	-A
			277					0.21	53	>.96		<15			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.84	74	>.99	1.15	<10	0/-18	1B	-A
			277					0.37	73	>.98		<13			
49708			120	GE-332-MAX-L/Ultra	•	•	•	0.45	53	>.99	0.77	<10	0/-18	1C	-A
			277					0.20		>.97		<16			
49773			120	GE-332-MAX-N/Ultra	•	•	•	0.49	58	>.99	0.87	<10	0/-18	1C	-A
			277					0.22		>.97		<14			
23671			120	GE-232-120-N	•		•	0.49	57	>.99	0.87	<10	0/-18	1B	-A
23672			277	GE-232-277-N	•		•	0.22	57	>.99	0.87	<10	0/-18	1B	-A
30247			120	GE-232-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
30191			120	GE-232-MV-N	•		•	0.52	59	>.99	TBD	<10	0/-18	1B	-A
			277					0.23	57			<15			
30198			120	GE-232-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
47533	2	SER-PRS	120	B232PUNVHP-A	•			0.52	62	>.99	0.88	<10	0/-18	30	-A
			277					0.22	60	>.98					

* See specific application sheet.

FOR (2) F32T8/WM LAMPS

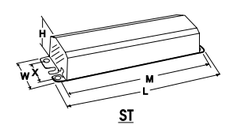
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8/WM - Two Lamp Applications															
49707	2	PAR-IS	120	GE-232-MAX-L/Ultra	•	•	•	0.40	46	>.99	0.77	<10	0/-18	1B	-A
			277					0.18		>.97		<17			
49772			120	GE-232-MAX-N/Ultra	•	•	•	0.45	53	>.99	0.87	<10	0/-18	1B	-A
			277					0.20	52	>.96		<15			
49775			120	GE-232-MAX-H/Ultra	•	•	•	0.59	71	>.99	1.15	<10	0/-18	1B	-A
			277					0.26	70	>.98		<13			
49708			120	GE-332-MAX-L/Ultra	•	•	•	0.42	49	>.99	0.77	<10	0/-18	1C	-A
			277					0.19		>.97		<17			
49773			120	GE-332-MAX-N/Ultra	•	•	•	0.46	55	>.99	0.87	<10	0/-18	1C	-A
			277					0.21		>.97		<15			
23671			120	GE-232-120-N	•		•	0.45	53	>.99	0.86	<10	0/-18	1B	-A
23672			277	GE-232-277-N	•		•	0.20	53	>.99	0.86	<10	0/-18	1B	-A
30247			120	GE-232-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
30191			120	GE-232-MV-N	•		•	0.48	55	>.99	TBD	<10	0/-18	1B	-A
			277					0.21	54			<15			
30198			120	GE-232-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
47533	2	SER-PRS	120	B232PUNVHP-A	•			0.50	60	>.99	0.88	<10	60/16	30	-A
			277					0.21		>.98					

* See specific application sheet.

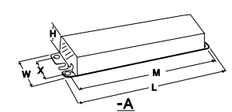
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



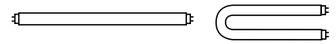
ST



-A

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (3) F32T8 LAMPS



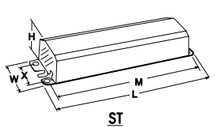
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - Three Lamp Applications															
49708	3	PAR-IS	120	GE-332-MAX-L/Ultra	•	•	•	0.63	73	>.99	0.77	<10	0/-18	1C	-A
			277					0.27	72	>.98		<13			
49773			120	GE-332-MAX-N/Ultra	•	•	•	0.70	82	>.99	0.87	<10	0/-18	1C	-A
			277					0.30	80	>.98		<13			
49776			120	GE-332-MAX-H/Ultra	•	•	•	0.92	111	>.99	1.15	<10	0/-18	1C	-A
			277					0.40	109	>.98		<13			
49709			120	GE-432-MAX-L/Ultra	•	•	•	0.65	78	>.99	0.77	<13	0/-18	1D	-A
			277					0.29	77	>.97		<16			
49774			120	GE-432-MAX-N/Ultra	•	•	•	0.72	85	>.99	0.87	<13	0/-18	1D	-A
			277					0.32	84						
49777			120	GE-432-MAX-H/Ultra	•	•	•	1.04	115	>.99	1.15	<10	0/-18	1D	-ST
			277					0.45	113	>.97		<15			
23673			120	GE-332-120-N	•		•	0.73	85	>.99	0.87	<10	0/-18	1C	-A
23674			277	GE-332-277-N	•		•	0.31	84	>.99	0.87	<10	0/-18	1C	-A
30255			120	GE-332-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
30192			120	GE-332-MV-N	•		•	0.73	81	>.99	TBD	<10	0/-18	1C	-A
			277					0.32	80	>.98		<12			
30199			120	GE-332-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
			277												
80136			347	B332I347HP	•			0.25	88	>.99	0.88	<10	0/-18	6	ST
41008	3	SER-RS	120	B332PUNVHP-A	•			0.77	92	>.99	0.88	<10	0/-18	23	-A
			277					0.34	90	>.95					
41009	3	SER-PRS	120	B432PUNVHP-A	•			0.77	92	>.99	0.93	<10	0/-18	23	-A
			277					0.34	90	>.98					

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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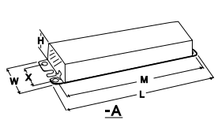


-A

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50″	2.40″	1.55″	8.89″	1.69″
-A	9.50″	1.70″	1.18″	8.89″	1.13″

FOR (3) F32T8/WM LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8/WM - Three Lamp Applications															
49708	3	PAR-IS	120	GE-332-MAX-L/Ultra	•	•	•	0.60	69	>.99	0.77	<10	0/-18	1C	-A
			277					0.26	68	>.98		<13			
49773			120	GE-332-MAX-N/Ultra	•	•	•	0.66	78	>.99	0.87	<10	0/-18	1C	-A
			277					0.29	77	>.98		<13			
49776			120	GE-332-MAX-H/Ultra	•	•	•	0.89	106	>.99	1.15	<10	0/-18	1C	-A
			277					0.39	104	>.98		<13			
23673			120	GE-332-120-N	•		•	0.68	79	>.99	0.86	<10	0/-18	1C	-A
23674			277	GE-332-277-N	•		•	0.29	78	>.99	0.86	<10	0/-18	1C	-A
30255			120	GE-332-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1C	-A
			277												
30192			120	GE-332-MV-N	•		•	0.68	75	>.99	TBD	<10	0/-18	1C	-A
			277					0.30	74	>.98		<12			
30199			120	GE-332-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1C	-A
			277												
80136			347	B332I347HP	•			0.25	88	>.99	0.88	<10	0/-18	6	ST
41008	3	SER-PRS	120	B332PUNVHP-A	•			0.73	87	>.99	0.88	<10	0/-18	23	-A
			277					0.32	85	>.95					

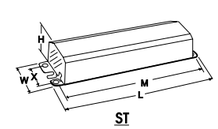
* See specific application sheet.

SEE WIRING DIAGRAMS Pages 1-39 and 1-40

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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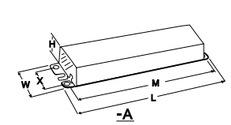


-A

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50″	2.40″	1.55″	8.89″	1.69″
-A	9.50″	1.70″	1.18″	8.89″	1.13″

FOR (4) F32T8 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - Four Lamp Applications															
49709	4	PAR-IS	120	GE-432-MAX-L/Ultra	•	•	•	0.84	97	>.99	0.77	<10	0/-18	1D	-A
			277					0.37	96	>.98		<13			
49774			120	GE-432-MAX-N/Ultra	•	•	•	0.94	109	>.99	0.87	<10	0/-18	1D	-A
			277					0.40	107	>.98		<13			
49777			120	GE-432-MAX-H/Ultra	•	•	•	1.36	151	>.99	1.15	<10	0/-18	1D	-ST
			277					0.59	147	>.98		<13			
23675			120	GE-432-120-N	•		•	0.97	113	>.99	0.87	<10	0/-18	1D	-A
23676			277	GE-432-277-N	•		•	0.41	110	>.99	0.87	<10	0/-18	1D	-A
30262			120	GE-432-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	-A
			277												
30193			120	GE-432-MV-N	•		•	0.99	113	>.99	TBD	<10	0/-18	1C	-A
			277					0.43	110			<14			
30219			120	GE-432-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	-ST
			277												
41009	4	SER-PRS	120	B432PUNVHP-A	•			1.00	119	>.99	0.88	<10	0/-18	8	-A
			277					0.42	115	>.95					

* See specific application sheet.

FOR (4) F32T8/WM LAMPS

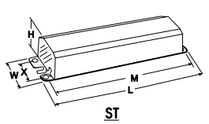
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8/WM - Four Lamp Applications															
49709	4	PAR-IS	120	GE-432-MAX-L/Ultra	•	•	•	0.80	92	>.99	0.77	<10	0/-18	1D	-A
			277					0.36	91	>.98		<14			
49774			120	GE-432-MAX-N/Ultra	•	•	•	0.90	105	>.99	0.87	<10	0/-18	1D	-A
			277					0.39	103	>.98		<13			
49777			120	GE-432-MAX-H/Ultra	•	•	•	1.31	145	>.99	1.15	<10	0/-18	1D	-ST
			277					0.56	141	>.97		<13			
23675			120	GE-432-120-N	•		•	0.90	105	>.99	0.86	<10	0/-18	1D	-A
23676			277	GE-432-277-N	•		•	0.38	102	>.99	0.86	<10	0/-18	1D	-A
30262			120	GE-432-MV-L	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	-A
			277												
30193			120	GE-432-MV-N	•		•	0.90	105	>.99	TBD	<10	0/-18	1D	-A
			277					0.40	103	>.98		<14			
30219			120	GE-432-MV-H	•		•	TBD	TBD	TBD	TBD	TBD	TBD	1D	-ST
			277												
41009	4	SER-PRS	120	B432PUNVHP-A	•			0.95	114	>.99	0.88	<10	0/-18	8	-A
			277					0.41	110	>.95					

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



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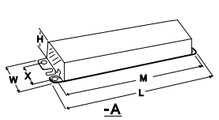


-A

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (1), (2) & (3) F40T8 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T8 - One Lamp Applications															
49766	1	IS	120	GE-159-MAX-N/Ultra	•		•	0.32	38	>.99	0.94	<10	0/-18	1A	-A
			277					0.15		>.95		<18			
49767			120	GE-259-MAX-N/Ultra	•		•	0.39	46	>.99	0.94	<10	0/-18	1B	-A
			277					0.18		>.95		<20			
47775			120	GE-232-MAX-H/Ultra	•	•	•	0.39	44	>.99	TBD	<10	TBD	1B	-A
			277					0.17	45	>.96		<13			
23671			120	GE-232-120-N	•		•	0.37	43	>.99	TBD	<10	0/-18	1B	-A
23672			277	GE-232-277-N	•		•	0.16	44	>.99	TBD	<10	0/-18	1B	-A
30191			120	GE-232-MV-N	•		•	0.39	44	>.99	TBD	<10	0/-18	1B	-A
			277					0.18		>.96		<17			
F40T8 - Two Lamp Applications															
49767	2	IS	120	GE-259-MAX-N/Ultra	•		•	0.66	77	>.97	0.94	<10	0/-18	1B	-A
			277					0.29	76			<18			
49776			120	GE-332-MAX-H/Ultra	•	•	•	0.75	85	>.99	TBD	<10	TBD	1C	-A
			277					0.33	84	>.97		<15			
23673			120	GE-332-120-N	•		•	0.67	78	>.99	TBD	<10	0/-18	1C	-A
23674			277	GE-332-277-N	•		•	0.29	77	>.99	TBD	<10	0/-18	1C	-A
30192			120	GE-332-MV-N	•		•	0.67	75	>.99	TBD	<10	0/-18	1C	-A
			277					0.29	73	>.98		<13			
F40T8 - Three Lamp Applications															
49777	3	IS	120	GE-432-MAX-H/Ultra	•	•	•	1.14	127	>.99	TBD	<10	TBD	1D	- ST
			277					0.49	124	>.90					
23675			120	GE-432-120-N	•		•	0.97	113	>.99	TBD	<10	0/-18	1D	-A
23676			277	GE-432-277-N	•		•	0.41	111	>.99	TBD	<10	0/-18	1D	-A
30193			120	GE-432-MV-N	•		•	0.99	112	>.99	TBD	<10	0/-18	1D	-A
			277					0.43	110	>.99		<14			

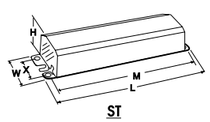
* See specific application sheet.

SEE WIRING DIAGRAMS Pages 1-39 and 1-40

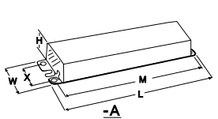
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST



-A

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (1) AND (2) F96T8 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T8 - One Lamp Applications															
49766	1	IS	120	GE-159-MAX-N/Ultra	•	•	•	0.45	56	>.99	0.87	<10	0/-18	1A	-A
			277					0.21	55	>.95		<15			
49767			120	GE-259-MAX-N/Ultra	•	•	•	0.53	62	>.99	0.87	<10	0/-18	1B	-A
			277					0.24		>.97		<20			
23677			120	GE-259-120-N	•		•	0.61	71	>.99	1.04	<10	0/-18	1B	-A
23678			277	GE-259-277-N	•		•	0.27	71	>.99	1.04	<13	0/-18	1B	-A
30194			120	GE-259-MV-N	•		•	0.66	72	>.99	TBD	<10	0/-18	1B	-A
			277					0.29		>.97		<14			
80142			120	B259I120HPL	•			0.51	60	>.98	0.92	<10	50/10	14	ST
80143			277	B259I277HPL	•			0.22	60	>.98	0.92	<10	50/10	14	ST
F96T8 - Two Lamp Applications															
49767			120	GE-259-MAX-N/Ultra	•	•	•	0.95	112	>.99	0.87	<10	0/-18	1B	-A
			277					0.41	110	>.98		<15			
23677			120	GE-259-120-N	•		•	0.96	112	>.99	0.87	<10	0/-18	1B	-A
23678			277	GE-259-277-N	•		•	0.41	110	>.99	0.87	<13	0/-18	1B	-A
30194			120	GE-259-MV-N	•		•	1.01	113	>.99	TBD	<10	0/-18	1B	-A
			277					0.40	110	>.98		<11			
80148			120	B259I120RHH	•			1.30	150	>.98	1.18	<20	32/0	14	SL
80149	2	PAR-IS	277	B259I277RHH	•			0.56	150	>.98	1.18	<20	32/0	14	SL
80142			120	B259I120HPL	•			0.84	100	>.98	0.78	<10	50/10	14	ST
80143			277	B259I277HPL	•			0.36	100	>.98	0.78	<10	50/10	14	ST

* See specific application sheet.

FOR (1) AND (2) F96T8/WM LAMPS

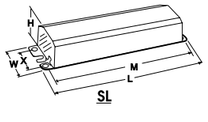
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T8/WM - One Lamp Applications															
49766	1	IS	120	GE-159-MAX-N/Ultra	•	•	•	0.46	54	>.99	0.87	<10	0/-18	1A	-A
			277					0.20	53	>.95		<15			
23677			120	GE-259-120-N	•		•	0.56	65	>.99	1.04	<10	0/-18	1B	-A
23678			277	GE-259-277-N	•		•	0.25	66	>.99	1.04	<13	0/-18	1B	-A
30194			120	GE-259-MV-N	•		•	0.63	67	>.99	TBD	<10	0/-18	1A	-A
			277					0.28	61	>.97		<17			
F96T8/WM - Two Lamp Applications															
49767	2	PAR-IS	120	GE-259-MAX-N/Ultra	•	•	•	0.90	107	>.99	0.87	<10	0/-18	1B	-A
			277					0.39	105	>.98		<15			
23677			120	GE-259-120-N	•		•	0.89	104	>.99	0.87	<10	0/-18	1B	-A
23678			277	GE-259-277-N	•		•	0.38	102	>.99	0.87	<13	0/-18	1B	-A
30194			120	GE-259-MV-N	•		•	0.93	104	>.99	TBD	<10	0/-18	1B	-A
			277					0.42	101	>.98		<13			

* See specific application sheet.

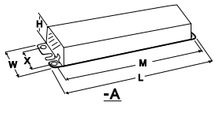
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



SL



-A

Overall Dimensions			Mounting Dimension		
Draw #	L	W	H	M	X
SL	11.75"	3.13"	1.78"	11.41"	2.00"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (1) & (2) F48T8HO, F60T8HO, F72T8HO & F96T8HO LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F48T8HO - One Lamp Applications															
80286	1	IS	120	B286I120RH	•			0.47	48	>.90	1.00	< 30	-20/-29	3	SL
80287			277	B286I277RH	•			0.20	47	>.90	1.00	< 30	-20/-29	3	SL
F60T8HO - One Lamp Applications															
80286	1	IS	120	B286I120RH	•			0.56	60	>.90	0.99	< 30	-20/-29	3	SL
80287			277	B286I277RH	•			0.23	57	>.90	0.98	< 30	-20/-29	3	SL
F72T8HO - One Lamp Applications															
80286	1	IS	120	B286I120RH	•			0.64	71	>.90	0.98	< 30	-20/-29	3	SL
80287			277	B286I277RH	•			0.26	67	>.90	0.98	< 30	-20/-29	3	SL
F96T8HO - One Lamp Applications															
80286	1	IS	120	B286I120RH	•			0.79	92	>.90	0.96	< 25	-20/-29	3	SL
80287			277	B286I277RH	•			0.32	87	>.90	0.93	< 25	-20/-29	3	SL
30176			120 277	GE-286-HO-MV-N	•		•	0.82 0.36	92 90	>.99	TBD	<10	0/-18	1B	-ST
F48T8HO - Two Lamp Applications															
80286	2	PAR-IS	120	B286I120RH	•			0.70	80	>.95	0.85	< 25	-20/-29	3	SL
80287			277	B286I277RH	•			0.30	77	>.90	0.84	< 25	-20/-29	3	SL
F60T8HO - Two Lamp Applications															
80286	2	PAR-IS	120	B286I120RH	•			0.85	99	>.95	0.85	< 20	-20/-29	3	SL
80287			277	B286I277RH	•			0.36	96	>.95	0.84	< 20	-20/-29	3	SL
F72T8HO - Two Lamp Applications															
80286	2	PAR-IS	120	B286I120RH	•			1.00	117	>.95	0.85	< 20	-20/-29	3	SL
80287			277	B286I277RH	•			0.42	114	>.95	0.84	< 20	-20/-29	3	SL
F96T8HO - Two Lamp Applications															
30176			120 277	GE-286-HO-MV-N	•		•	1.30 0.56	146 143	>.99	TBD	<10	0/-18	1B	-ST
80286	2	PAR-IS	120	B286I120RH	•			1.30	151	>.95	0.81	< 20	-20/-29	3	SL
80287			277	B286I277RH	•			0.53	144	>.95	0.81	< 20	-20/-29	3	SL

* See specific application sheet.

T5 FOR F14 & F21T5 LAMPS

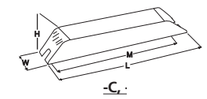
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F14T5 - One Lamp Applications															
47536	1	PRS	120 277	B228PUNV-C	•			0.15 0.07	18	>.98 >.90	1.05	<10 <15	0/-18	4a	-C
F14T5 - Two Lamp Applications															
47536	2	SER-PRS	120 277	B228PUNV-C	•			0.28 0.13	34	>.98 >.95	1.00	<10	0/-18	4a	-C
F21T5 - One Lamp Applications															
47536	1	PRS	120 277	B228PUNV-C	•			0.21 0.10	25	>.98 >.95	1.03	<10 <15	0/-18	4a	-C
F21T5 - Two Lamp Applications															
47536	2	SER-PRS	120 277	B228PUNV-C	•			0.41	49	>.98	1.00	<10	0/-18	4a	-C

* See specific application sheet.

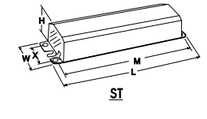
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



-C



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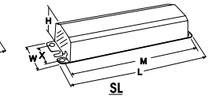


SL

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
SL	11.75"	3.13"	1.78"	11.41"	2.00"
-ST	9.50"	2.40"	1.55"	8.89"	1.69"
-C	14.25"	1.18"	1.00"	13.75"	—

T5 FOR F28 & F35T5 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F28T5 - One Lamp Applications															
47536	1	PRS	120 277	B228PUNV-C	•			0.28 0.12	33	>.98 >.95	1.00	<10	0/-18	4a	-C
F28T5 - Two Lamp Application															
47536	2	SER-PRS	120 277	B228PUNV-C	•			0.55 0.23	66 64	>.98	1.00	<10	0/-18	4a	-C
F35T5 - One Lamp Applications															
47536	1	PRS	120 277	B228PUNV-C	•			0.34 0.15	40	>.98 >.95	1.00	<10	0/-18	4a	-C
F35T5 - Two Lamp Applications															
47536	2	SER-PRS	120 277	B228PUNV-C	•			0.67 0.28	81 78	>.98	1.00	<10	0/-18	4a	-C

* See specific application sheet.

T5HO FOR F24, F39, F28 & F54 T5HO LAMPS

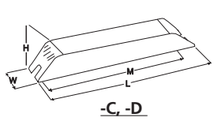
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F24T5HO - One Lamp Applications															
47534	1	PRS	120 277	B224PUNV-C	•			0.23 0.10	28	>.98 >.95	1.06	<10	0/-18	4b	-C
47540			120 277	B239PUNV-D	•			0.27 0.13	32	>.98 >.90	1.25	<10	0/-18	4b	-D
F24T5HO - Two Lamp Applications															
47534	2	SER-PRS	120 277	B224PUNV-C	•			0.45 0.19	53 52	>.98	1.00	<10	0/-18	4b	-C
47540			120 277	B239PUNV-D	•			0.51 0.22	59	>.98 >.95	1.15	<10	0/-18	4b	-D
F39T5HO - One Lamp Applications															
47534	1	PRS	120 277	B224PUNV-C	•			0.34 0.15	41 40	>.98	0.95	<10	0/-18	4b	-C
47540			120 277	B239PUNV-D	•			0.39 0.18	47	>.98 >.95	1.10	<10	0/-18	4b	-D
F39T5HO - Two Lamp Applications															
47540	2	SER-PRS	120 277	B239PUNV-D	•			0.75 0.32	89 88	>.98	1.00	<10	0/-18	4b	-D
F54T5HO- One Lamp Applications															
47542	1	PRS	120 277	B254PUNV-D	•			0.54 0.24	64	>.98 >.95	1.10	<10	0/-18	4b	-D
F54T5HO- Two Lamp Application															
47542	2	SER-PRS	120 277	B254PUNV-D	•			1.03 0.43	121 117	>.98	1.00	<10	0/-18	4b	-D

* See specific application sheet.

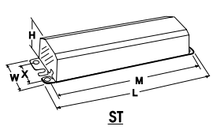
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



-C, -D



ST

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-C	14.25"	1.18"	1.00"	13.75"	—
-D	16.88"	1.18"	1.00"	16.20"	—

FOR F40T10 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T10 - One Lamp Applications															
80152	1	RS	120	B140R120HP	•			0.34	39	>.98	0.89	< 10	50/10	2	ST
80153			277	B140R277HP	•			0.15	39	>.98	0.89	< 10	50/10	2	ST
80154			120	B240R120HP	•			0.44	48	>.98	1.03	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.19	48	>.98	1.03	< 10	50/10	4	ST
F40T10 - Two Lamp Applications															
80154	2	PAR-RS	120	B240R120HP	•			0.67	80	>.98	0.90	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.29	80	>.98	0.90	< 10	50/10	4	ST
F40T10 - Three Lamp Applications															
80156	3	PAR-RS	120	B340R120HP	•			0.98	116	>.98	0.90	< 10	50/10	5	ST
80157			277	B340R277HP	•			0.43	116	>.98	0.90	< 10	50/10	5	ST

* See specific application sheet.

FOR (2), (3) & (4) F25T12 (ANSI ONLY) LAMPS

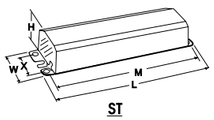
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F25T12 - Two Lamp Applications															
49707	2	PAR-IS	120 277	GE-232-MAX-L/Ultra	•	•	•	0.36 0.16	42	>.99 >.96	TBD	<10 <19	0/-18	1B	-A
49772			120 277	GE-232-MAX-N/Ultra	•	•	•	0.41 0.18	48	>.99 >.97	TBD	<10 <16	0/-18	1B	-A
23671			120	GE-232-120-N	•		•	0.37	43	>.99	TBD	<10	0/-18	1B	-A
23672			277	GE-232-277-N	•		•	0.16	44	>.99	TBD	<10	0/-18	1B	-A
F25T12 - Three Lamp Applications															
49708	3	PAR-IS	120 277	GE-332-MAX-L/Ultra	•	•	•	0.53 0.24	63	>.99 >.97	TBD	<10 <13	0/-18	1C	-A
49773			120 277	GE-332-MAX-N/Ultra	•	•	•	0.61 0.27	72 71	>.99 >.98	TBD	<10 <13	0/-18	1C	-A
23673	2	IS	120	GE-332-120-N	•		•	0.67	78	>.99	TBD	<10	0/-18	1C	-A
23674			277	GE-332-277-N	•		•	0.29	77	>.99	TBD	<10	0/-18	1C	-A
80136			347	B332I347HP	•			0.21	71	>.99	0.79	<10	0/-18	6	ST
F25T12 - Four Lamp Applications															
49709	4	PAR-IS	120 277	GE-432-MAX-L/Ultra	•	•	•	0.71 0.31	84 83	>.99 >.97	TBD	<10 <15	0/-18	1D	-A
49774			120 277	GE-432-MAX-N/Ultra	•	•	•	0.81 0.35	96 95	>.99 >.98	TBD	<10 <13	0/-18	1D	-A
23675	3	IS	120	GE-432-120-N	•		•	0.97	113	>.99	TBD	<10	0/-18	1D	-A
23676			277	GE-432-277-N	•		•	0.41	111	>.99	TBD	<10	0/-18	1D	-A

* See specific application sheet.

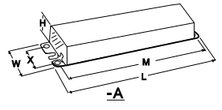
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



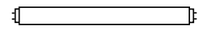
ST



-A

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

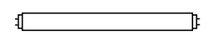
FOR (1), (2) & (3) F30T12 LAMPS



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F30T12 - One Lamp Applications															
80152	1	RS	120	B140R120HP	•			0.26	30	>.95	0.91	< 10	50/10	2	ST
80153			277	B140R277HP	•			0.11	30	>.95	0.91	< 10	50/10	2	ST
80154			120	B240R120HP	•			0.33	37	>.95	1.05	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.14	37	>.95	1.05	< 10	50/10	4	ST
F30T12 - Two Lamp Applications															
87049	2	PAR-RS	120	B240R120RH	•			0.51	59	>.95	0.92	< 20	50/10	4	ST
80154			120	B240R120HP	•			0.50	60	>.95	0.92	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.22	60	>.95	0.92	< 10	50/10	4	ST
F30T12 - Three Lamp Applications															
80156	3	PAR-RS	120	B340R120HP	•			0.75	90	>.98	0.91	< 10	50/10	5	ST
80157			227	B340R277HP	•			0.33	90	>.98	0.91	<10	50/10	5	ST

* See specific application sheet.

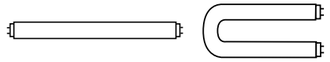
FOR (1), (2) & (3) F30T12/WM LAMPS



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F30T12/WM - One Lamp Applications															
80152	1	RS	120	B140R120HP	•			0.24	27	>.97	0.86	< 10	60/16	2	ST
80153			277	B140R277HP	•			0.10	27	>.97	0.86	< 10	60/16	2	ST
80154			120	B240R120HP	•			0.30	33	>.95	1.00	< 10	60/16	4	ST
80155			277	B240R277HP	•			0.13	33	>.95	1.00	< 10	60/16	4	ST
F30T12/WM - Two Lamp Applications															
80153	2	PAR-RS	120	B240R120HP	•			0.46	53	>.98	0.88	< 10	60/16	4	ST
80157			277	B240R277HP	•			0.20	53	>.98	0.88	< 10	60/16	4	ST
F30T12/WM - Three Lamp Applications															
80156	3	PAR-RS	120	B340R120HP	•			0.64	76	>.98	0.88	< 10	60/16	5	ST
80157			277	B340R277HP	•			0.28	76	>.98	0.88	< 10	60/16	5	ST

* See specific application sheet.

FOR (1) F40T12 LAMPS



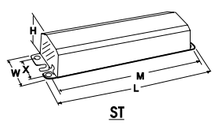
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T12 - One Lamp Applications															
24107			120 277	GE-240-RS-MV-N	•			0.41 0.19	48	>.99 >.89	TBD	<10 <17	50/10	30	ST
80152			120	B140R120HP	•			0.33	39	>.99	0.88	< 10	50/10	2	ST
80153			277	B140R277HP	•			0.14	39	>.99	0.88	< 10	50/10	2	ST
87219	1	RS	120	B240R120RH	•			0.41	46	>.90	1.09	< 20	50/10	4	ST
80154			120	B240R120HP	•			0.42	46	>.98	1.02	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.18	46	>.98	1.02	< 10	50/10	4	ST

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

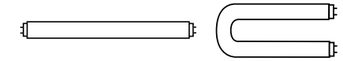
IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"

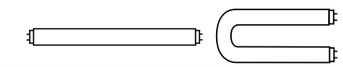
FOR (2) & (3) F40T12 LAMPS



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T12 - Two Lamp Applications															
24107	2	PAR-RS	120 227	GE-240-RS-MV-N	•		•	0.67 0.30	74 73	>.99 >.94	0.89	<10 <14	50/10	30	ST
24109			120 227	GE-340-RS-MV-N	•		•	0.73 0.33	86 85	>.99 >.96	TBD	<10 <12	50/10	5	ST
87219			120	B240R120RH	•			0.62	73	>.98	0.89	< 20	50/10	4	ST
80154			120	B240R120HP	•			0.65	75	>.99	0.88	< 10	50/10	4	ST
80155			277	B240R277HP	•			0.28	74	>.99	0.90	< 10	50/10	4	ST
80156			120	B340R120HP	•			0.70	84	>.98	1.04	< 10	50/10	5	ST
80157			277	B340R277HP	•			0.31	84	>.98	1.04	< 10	50/10	5	ST
F40T12 - Three Lamp Applications															
24109	3	PAR-RS	120 227	GE-340-RS-MV-N	•		•	0.98 0.43	114 111	>.99 >.97	0.89	<10 <11	50/10	5	ST
80156			120	B340R120HP				0.94	113	>.99	0.88	< 10	50/10	5	ST
80157			277	B340R277HP	•			0.41	113	>.99	0.88	< 10	50/10	5	ST

* See specific application sheet.

FOR (1) F40T12/WM LAMP



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T12/WM - One Lamp Applications															
24107	1	RS	120 227	GE-240-RS-MV-N				0.35 0.17	41	>.99 >.86	TBD	<10 <19	50/10	30	ST
80152			120	B140R120HP	•			0.28	33	>.98	0.86	< 10	60/16	2	ST
80153			277	B140R277HP	•			0.12	33	>.98	0.86	< 10	60/16	2	ST
87219			120	B240R120RH	•			0.36	39	> .89	1.10	< 20	60/16	4	ST
80154			120	B240R120HP	•			0.35	39	>.98	0.97	< 10	60/16	4	ST
80155			277	B240R277HP	•			0.15	39	>.98	0.97	< 10	60/16	4	ST

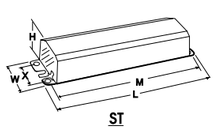
* See specific application sheet.

SEE WIRING DIAGRAMS Pages 1-39 and 1-40

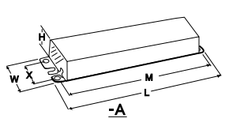
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



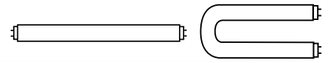
ST



-A

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-A	9.50"	1.70"	1.18"	8.89"	1.13"

FOR (2) & (3) F40T12/WM LAMPS



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F40T12/WM - Two Lamp Applications															
30192			120	GE-332-MV-N	•		•	0.67	75	>.99	TBD	<10	0/-18	1C	-A
			277					0.29	73	>.99		<13			
24107			120	GE-240-RS-MV-N				0.56	63	>.99	0.87	<10	50/10	30	ST
			227					0.26	62	>.93		<15			
24109			120	GE-340-RS-MV-N				0.60	71	>.99	TBD	<10	50/10	5	ST
			227					0.27	70	>.96		<13			
87219			120	B240R120RH	•			0.53	62	>.95	0.89	< 20	60/16	4	ST
80154	2	PAR-RS	120	B240R120HP	•			0.54	64	>.99	0.86	< 10	60/16	4	ST
80155			277	B240R277HP	•			0.23	64	>.99	0.86	< 10	60/16	4	ST
FF40T12/WM - Three Lamp Applications															
24109			120	GE-340-RS-MV-N	•		•	0.81	96	>.99	0.87	<10	50/10	5	ST
			227					0.36	94	>.96		<12			
80156	3	PAR-RS	120	B340R120HP	•			0.78	93	>.99	0.86	< 10	60/16	5	ST
80157			277	B340R277HP	•			0.34	93	>.99	0.86	< 10	60/16	5	ST

* See specific application sheet.

FOR F48T12 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F48T12 - One Lamp Applications															
80160	1	IS	120	B260I120HP	•			0.39	47	>.95	1.08	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.18	47	>.95	1.08	< 10	0/-18	14	SL
F48T12 - Two Lamp Applications															
80158			120	B260I120RH	•			0.68	76	>.95	0.92	< 25	0/-18	14	SL
80159			277	B260I277RH	•			0.29	76	>.95	0.92	< 25	0/-18	14	SL
80160	2	PAR-IS	120	B260I120HP	•			0.61	74	>.98	0.91	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.27	74	>.98	0.91	< 10	0/-18	14	SL

* See specific application sheet.

FOR F48T12/WM LAMPS

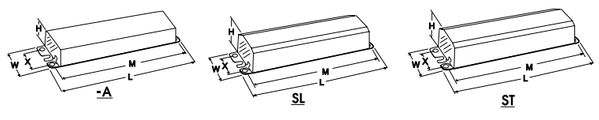
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F48T12/WM - One Lamp Applications															
80160	1	IS	120	B260I120HP	•			0.36	42	> .95	1.08	< 15	60/16	14	SL
80161			277	B260I277HP	•			0.16	42	> .95	1.08	< 15	60/16	14	SL
F48T12/WM - Two Lamp Applications															
80158			120	B260I120RH	•			0.60	64	> .95	0.92	< 25	60/16	14	SL
80159	2	PAR-IS	277	B260I277RH	•			0.25	64	> .95	0.92	< 25	60/16	14	SL
80160			120	B260I120HP	•			0.57	66	> .95	0.93	< 10	60/16	14	SL
81161			277	B260I277HP	•			0.25	66	> .95	0.93	< 10	60/16	14	SL

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
-A	9.50″	1.70″	1.18″	8.89″	1.13″
ST	9.50″	2.40″	1.55″	8.89″	1.69″
SL	11.75″	3.13″	1.78″	11.41″	2.00″

FOR F72T12 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F72T12 - One Lamp Applications															
80158			120	B260I120RH	•			0.60	66	>.90	1.04	< 25	0/-18	14	SL
80159	1	IS	277	B260I277RH	•			0.25	66	> .90	1.04	< 25	0/-18	14	SL
80160			120	B260I120HP	•			0.55	67	> .95	1.06	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.25	67	> .95	1.06	< 10	0/-18	14	SL
F72T12 - Two Lamp Applications															
80158			120	B260I120RH	•			0.92	107	> .95	0.90	< 20	0/-18	14	SL
80159	2	PAR-IS	277	B260I277RH	•			0.39	107	> .95	0.90	< 20	0/-18	14	SL
80160			120	B260I120HP	•			0.90	107	> .99	0.91	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.39	107	> .99	0.91	< 10	0/-18	14	SL

* See specific application sheet.

FOR F96T12 LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T12 - One Lamp Applications															
24108			120	GE-260-IS-MV-N	•		•	0.76	90	>.99	TBD	<10	0/-18	14	ST
			277					0.33	89	>.89		<20			
80158			120	B260I120RH	•			0.73	83	>.95	1.02	< 25	0/-18	14	SL
80159	1	IS	277	B260I277RH	•			0.31	83	>.95	1.02	< 25	0/-18	14	SL
80160			120	B260I120HP	•			0.70	84	>.98	1.05	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.31	84	>.98	1.05	< 10	0/-18	14	SL

* See specific application sheet.

FOR F96T12 LAMPS

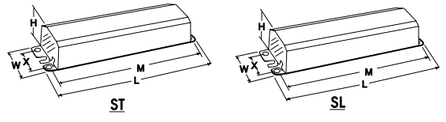
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c(UL)us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T12 - Two Lamp Applications															
24108			120	GE-260-IS-MV-N	•		•	1.21	1.21	>.99	0.87	<10	0/-18	14	ST
			277					0.52	0.52	>.97		<14			
80158			120	B260I120RH	•			1.16	133	>.95	0.86	< 20	0/-18	14	SL
80159	2	PAR-IS	277	B260I277RH	•			0.50	133	>.95	0.86	< 20	0/-18	14	SL
80160			120	B260I120HP	•			1.16	137	>.99	0.88	< 10	0/-18	14	SL
80161			277	B260I277HP	•			0.50	137	>.99	0.88	< 10	0/-18	14	SL

* See specific application sheet.

DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50″	2.40″	1.55″	8.89″	1.69″
SL	11.75″	3.13″	1.78″	11.41″	2.00″

FOR F96T12/WM LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T12/WM - One Lamp Applications															
24108	1	IS	120	GE-260-IS-MV-N	•		•	0.59	72	>.99	TBD	<10	0/-18	14	ST
			277					0.27	71	>.95		<12			
80158			120	B260I120RH	•			0.60	66	>.90	1.05	< 25	60/16	14	SL
80159			277	B260I277RH	•			0.26	66	>.90	1.05	< 25	60/16	14	SL
80160			120	B260I120HP	•			0.59	70	>.98	1.05	< 10	60/16	14	SL
80161			277	B260I277HP	•			0.26	70	>.98	1.03	< 10	60/16	14	SL
F96T12/WM - Two Lamp Applications															
24108	2	PAR-IS	120	GE-260-IS-MV-N	•		•	0.94	115	>.99	0.90	<10	0/-18	14	ST
			277					0.41	113	>.97		<16			
80158			120	B260I120RH	•			0.93	107	>.95	0.88	< 20	60/16	14	SL
80159			277	B260I277RH	•			0.40	107	>.95	0.88	< 20	60/16	14	SL
80160			120	B260I120HP	•			0.96	112	>.99	0.88	< 10	60/16	14	SL
80161			277	B260I277HP	•			0.40	112	>.99	0.88	< 10	60/16	14	SL

* See specific application sheet.

FOR T12 HIGH OUTPUT LAMPS

GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F72T12HO - Two Lamp Applications															
80162	2	SER-RS	120	B295SR120HP	•			1.40	169	>.99	0.95	< 10	-20/-29	4	SL
80163			277	B295SR277HP	•			0.61	169	>.99	0.95	< 10	-20/-29	4	SL
F73T12/BL/HO - Two Lamp Applications															
80664	2	SER-RS	120	493B2	•			1.60	180	>.90	1.00	< 25	50/10	4	ST
F84T12HO - Two Lamp Applications															
80162	2	SER-RS	120	B295SR120HP	•			1.60	185	>.99	0.89	< 10	- 20/-29	4	SL
80163			277	B295SR277HP	•			0.69	185	>.99	0.91	< 10	- 20/-29	4	SL
F96T12HO - Two Lamp Applications															
80162	2	SER-RS	120	B295SR120HP	•			1.77	208	>.99	0.90	< 10	- 20/-29	4	SL
80163			277	B295SR277HP	•			0.76	208	>.99	0.90	< 10	- 20/-29	4	SL

* See specific application sheet.

FOR T12HO/WM HIGH OUTPUT LAMPS

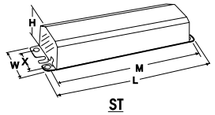
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Certification UL Type HL	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F96T12HO/WM - Two Lamp Applications															
80162	2	SER-RS	120	B295SR120HP	•			1.47	174	>.99	0.88	< 10	60/16	4	SL
80163			277	B295SR277HP	•			0.63	174	>.99	0.88	< 10	60/16	4	SL

* See specific application sheet.

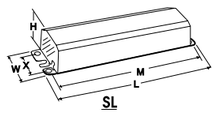
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST



SL

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
SL	11.75"	3.13"	1.78"	11.41"	2.00"

WIRING DIAGRAMS

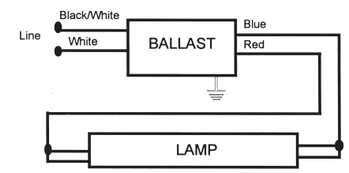


DIAGRAM 1

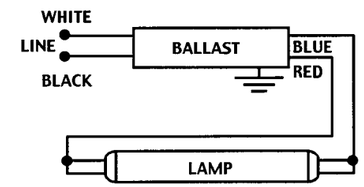


DIAGRAM 1A

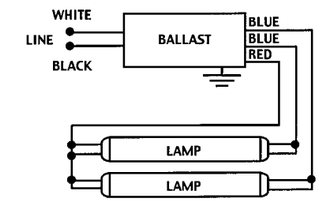


DIAGRAM 1B

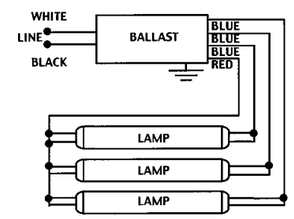


DIAGRAM 1C

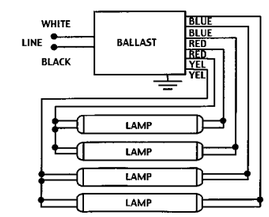


DIAGRAM 1D

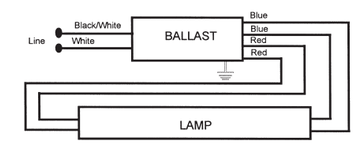


DIAGRAM 2

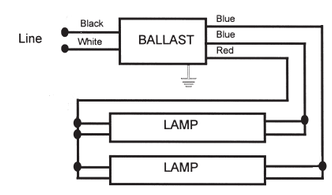


DIAGRAM 3

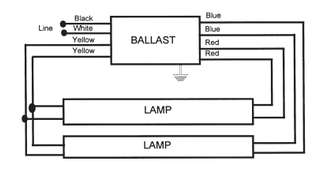


DIAGRAM 4

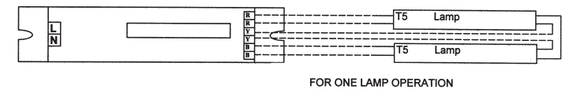


DIAGRAM 4A

FOR ONE LAMP OPERATION
CAP YELLOW LEADS INDIVIDUALLY

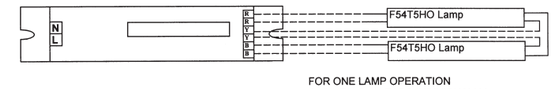


DIAGRAM 4B

FOR ONE LAMP OPERATION
CAP YELLOW LEADS INDIVIDUALLY

WIRING DIAGRAMS

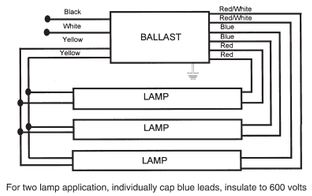


DIAGRAM 5

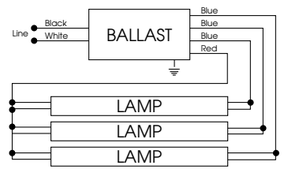


DIAGRAM 6

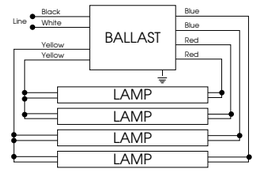


DIAGRAM 7

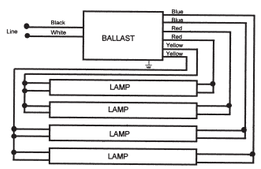


DIAGRAM 7A

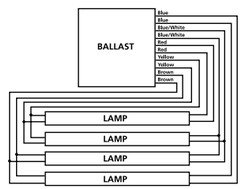


DIAGRAM 8

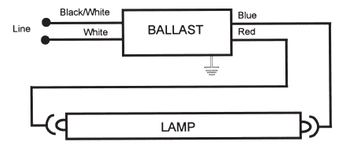


DIAGRAM 13

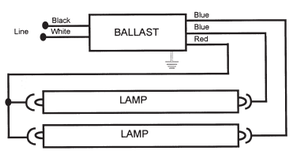


DIAGRAM 14

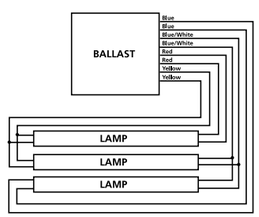
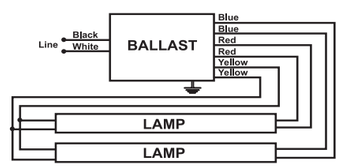


DIAGRAM 23



For one lamp application, individually cap blue leads, insulate to 600 volts.

DIAGRAM 30

DIMMING PRODUCT OVERVIEW

The effective dimming of fluorescent lights delivers a wide range of benefits: greater control of workspace lighting, ability to create a mood, energy savings, and more. Our electronic T8 fluorescent dimming products help you save as much as 30% on energy bills—and they meet today's toughest specification requirements, including ASHRAE 90.1 and California Title 24.

GE offers three options for variable lighting control: continuous dimming (100% to 5%) and two forms of light level switching (either 100/50% or 100/60/30%).

Dimming ballasts from GE are designed to ensure optimum lamp performance. Their Lamp Current Crest Factors are well below the maximum 1.7 ANSI standard — and they start the lamps according to ANSI recommendations throughout the entire dimming range. Both of these important design parameters ensure optimum lamp performance. In addition, our dimming ballasts actually increase cathode heating when dimming to maintain the cathode's proper temperature, which enhances lamp life and performance stability.

Continuous Dimming (V5)

- 1, 2 & 3 lamp models with full range dimming (100% to 5%)
- Designed for optimal lamp performance
  - — Cathode voltage increases as lamps dim
  - — Positive starting at all dimming levels
  - — No lamp dropout
  - — No flicker at all dimming levels
- Line voltage control circuit protection
  - — Miswiring of control leads will not damage the ballast
- Compatible with all 0 to 10 Volt DC controls and photocells
- Maximum energy savings versus comparable ballasts on the market
- THD <10% throughout the entire dimming range
- 120, 277 and 347 Volt models available

Light Level Switching (S30 & S50)

- 1, 2, & 3 lamp models for 120 & 277 Volt
- Switches to preset light levels, keeping all lamps illuminated
- Eliminates the dark spots associated with inboard/outboard
- Connects with two line voltage power leads
  - — Wires the same as an inboard/outboard fixture
  - — No special controls required; uses two wall switches
- Meets all ASHRAE 90.1 and California Title 24 requirements for lighting control
- THD <10%
- Lower installed costs; less wiring and equipment required

APPLICATION AND OPERATING INFORMATION

SAFETY

Dimming ballasts follow the same guidelines as electronic ballasts in regard to the application and operating information. In addition to the section for electronic ballasts, the following applies specifically to dimming electronic ballasts. See pages 1-12 and 1-13 for electronic ballast application and operating information.

V5 dimming ballasts are controlled by using 10-0vDC. Care should be taken to ensure that the line voltage (AC) wires are not connected to the low voltage DC wires. Electronic dimming ballasts have a protection circuit that will sense if the ballast has been connected in this manner and not harm the ballast or the installer. If connected in this mode, the lamps will dim to the 30% level.

New Lamp Installation

When new lamps are installed, they must operate at a full bright level for a minimum of 100 hours prior to dimming. Failure to do this will effect lamp life and cause the lamps to not dim properly. Consult your lamp manufacturer for further lamp information.

Light Level Switching Installation Note

The two power leads for the light level switching ballasts must be connected to the same power circuit. The leads should connect to separate switches or relays for control of the light level switching operation. Connection of the input leads to separate power circuits can damage the ballasts and cause electrical system problem.

Note:
Do not connect any other ballast to the load side of the switches controlling the switched dimming ballast.

Compatible Dimming Controls

For a listing of compatible controls for the V5 dimming ballasts, please see page1-43 in this catalog.

Fusing

Class P ballasts do not require fusing. Fusing can be used when a single circuit has a large number of fixtures/ballasts. For a comprehensive list of appropriate fuses, contact your GE representative.

TYPICAL SPECIFICATIONS FOR DIMMING BALLASTS

Continuous Dimming & Light Level Switching

1. Ballasts shall operate from 60 Hz input source of 120, 277 Volts, and sustained variations of ±10% (Voltage & Frequency) with no damage to the ballasts.
2. Ballasts shall be a high frequency electronic type, and operate lamps at a frequency above 20 kHz.
3. Lamp Current Crest Factor (ratio of peak to RMS current) shall be 1.7 or less in accordance with lamp manufacturer recommendation and ANSI C82.11-Cons 2002.
4. Ballasts shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
5. Ballasts shall comply with FCC Part 18 Non-Consumer Equipment for EMI (power line conducted) and RFI (Radiated).
6. Ballasts shall provide transient immunity as recommended by ANSI C62.41-1991.
7. Ballasts shall operate lamps with no visible flicker (<3% flicker index).
8. Ballasts shall tolerate sustained open circuit and short circuit output conditions without damage.
9. Ballasts shall be Underwriters Laboratory (UL 935) listed, Class P, Type 1 Outdoor, and CSA certified where applicable.
10. Ballast shall have a Ballast Factor greater than .85 per ANSI C82.11-Cons 2002, in the 100% light position.
11. Input current Total Harmonic Distortion shall not exceed 10% for the primary lamp.
12. Ballasts shall have a Power Factor greater than .98 for primary lamp.
13. The ballasts shall not have any PCBs.
14. The manufacturer shall provide written warranty against defects in material or workmanship, including replacement, for five years from date of manufacture.
15. Ballast shall be manufactured in an ISO 9001 Certified Facility.
16. Ballasts shall provide rapid starting sequence consistent with ANSI standard C82.11-Cons 2002
17. GE model _____ (or approved equal).

Continuous Dimming:
From 100% to 5% (V5 Ballast)

- Ballast 10-0 Volt (DC) control leads shall have safety/protection circuitry to protect the ballast against improper wiring of line voltage (AC) to control leads (DC).
- In the event of improper wiring, the ballast will operate with no harm to the ballast or user. The ballast will dim to a 30% light level.
- All lamps must remain on at low light levels (No Lamp Dropout).

Light Level Dimming:
From 100% to 60% to 30% or 100% to 50% (S30/S50 Ballasts)

- Ballast(s) must be operable with two standard wall switches or relays.
- Both switches must be wired on same phase of circuit.
- Ballast(s) must be compatible with Power Line Carrier (PLC) Systems.
- Ballast must provide equal lamp current to each lamp at all settings.

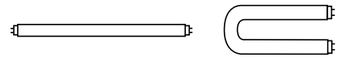
ELECTRONIC BALLASTS

CONTROLS CROSS REFERENCE

Company Name & Phone	Slide Dimmer or Modules	Photo Sensor 10-0 Volts
Electronics Diversified 800-547-2690 Prolight Dimming System	MX Dimming System Versa-Pak Dimming System	
Honeywell 800-345-6770 use with EL7305A1010	EL7315A1019 EL7315A1009	
Hunt Dimming 970-484-9048	PS-010-xxx	
Leviton 800-824-3005 DPSPE-212	Centura Illuma Tech IP7	Centura Photocell: 0DC0P
Lightolier Controls 800-526-2731 Vega Slider	Sunrise Slider Momentum Slider	
LEQ BC **Lithonia Controls** 800-533-2719 SQ1DC	LEQ LVBC SLD LVBC	LEQ DPC
Novitas 310-568-9600		01-PCx
PLC Multipoint 425-353-7552		EDSAB RCD
Prescolite Controls 800-DIMMERS PA7	Element EW-EF	
Sensor Switch 800-727-7483		CM-ALC
Thomas Industries 601-842-7212	DHC-LSD	
UNENCO 800-227-0452		Daylight Tracker DT-D
Watt Stopper 800-879-8585	LS-4 use with LCD-101 and LCD-103	LCD-1xx LS-xxx
Compatible Ballasts	B332SRxxxV5 (xxx = 120 or 277) B232SRxxxV5 (xxx = 120, 277 or 347) B132RxxxV5 (xxx = 120, 277 or 347	

Data Subject to Change Without Notice

DIMMING BALLASTS FOR (1) & (2) F25T8 LAMPS



GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F25T8 - One Lamp Applications														
80365			120	B132R120S30 @ 100%	•	•	0.20	24	>.99	0.93	< 10	50/10	15	ST
				B132R120S30 @ 60%	•	•	0.16	19	>.99	0.62	< 10	50/10	15	ST
				B132R120S30 @ 30%	•	•	0.10	12	>.98	0.29	< 15	50/10	15	ST
80366			277	B132R277S30 @ 100%	•	•	0.10	27	>.98	0.91	< 10	50/10	15	ST
				B132R277S30 @ 60%	•	•	0.08	21	>.95	0.63	< 25	50/10	15	ST
				B132R277S30 @ 30%	•	•	0.06	13	>.90	0.28	< 25	50/10	15	ST
80359	1	RS	120	B132R120S50 @ 100%	•	•	0.24	29	>.99	0.92	< 10	50/10	15	ST
				B132R120S50 @ 50%	•	•	0.13	16	>.98	0.46	< 10	50/10	15	ST
80360			277	B132R277S50 @ 100%	•	•	0.10	27	>.98	0.91	< 10	50/10	15	ST
				B132R277S50 @ 50%	•	•	0.06	17	>.95	0.47	< 20	50/10	15	ST
80353			120	B132R120V5 @ 100%	•	•	0.22	26	>.99	0.90	< 10	50/10	18	ST
				B132R120V5 @ 5%	•	•	0.06	7	>.90	0.05	< 15	50/10	18	ST
80354			277	B132R277V5 @ 100%	•	•	0.10	26	>.99	0.90	< 10	50/10	18	ST
				B132R277V5 @ 5%	•	•	0.03	7	>.90	0.05	< 20	50/10	18	ST
86446			347	B132R347V5 @ 100%	•	•	0.08	26	>.99	0.90	< 10	50/10	18	ST
				B132R347V5 @ 5%	•	•	0.02	7	>.90	0.05	< 30	50/10	18	ST
F25T8 - Two Lamp Applications														
80362	2	SER-RS	277	B232SR277S50 @ 100%	•	•	0.18	48	>.99	0.88	< 10	50/10	16	ST
				B232SR277S50 @ 50%	•	•	0.11	29	>.95	0.45	< 20	50/10	16	ST

*Need footnote detail for this symbol

DIMMING BALLASTS FOR (1) F32T8 LAMPS

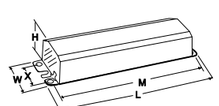
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - One Lamp Applications														
80365			120	B132R120S30 @ 100%	•	•	0.27	32	>.99	0.89	< 10	50/10	15	ST
				B132R120S30 @ 60%	•	•	0.19	23	>.99	0.60	< 10	50/10	15	ST
				B132R120S30 @ 30%	•	•	0.12	14	>.98	0.28	< 10	50/10	15	ST
80366			277	B132R277S30 @ 100%	•	•	0.13	33	>.99	0.89	< 10	50/10	15	ST
				B132R277S30 @ 60%	•	•	0.09	25	>.98	0.63	< 15	50/10	15	ST
				B132R277S30 @ 30%	•	•	0.06	15	>.95	0.28	< 20	50/10	15	ST
80359	1	RS	120	B132R120S50 @ 100%	•	•	0.27	32	>.99	0.89	< 10	50/10	15	ST
				B132R120S50 @ 50%	•	•	0.16	19	>.98	0.44	< 10	50/10	15	ST
80360			277	B132R277S50 @ 100%	•	•	0.13	36	>.99	0.89	< 10	50/10	15	ST
				B132R277S50 @ 50%	•	•	0.07	19	>.95	0.45	< 20	50/10	15	ST
80353			120	B132R120V5 @ 100%	•	•	0.27	32	>.99	0.88	< 10	50/10	18	ST
				B132R120V5 @ 5%	•	•	0.07	8	>.90	0.05	< 10	50/10	18	ST
80354			277	B132R277V5 @ 100%	•	•	0.12	32	>.99	0.88	< 10	50/10	18	ST
				B132R277V5 @ 5%	•	•	0.03	8	>.90	0.05	< 15	50/10	18	ST
86446			347	B132R347V5 @ 100%	•	•	0.09	32	>.99	0.88	< 10	50/10	18	ST
				B132R347V5 @ 5%	•	•	0.02	8	>.90	0.05	< 20	50/10	18	ST

*Need footnote detail for this symbol

DIMENSIONS

STARTING METHOD LEGEND

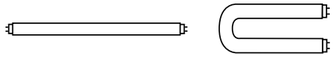
IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"

DIMMING BALLASTS FOR (2) & (3) F32T8 LAMPS



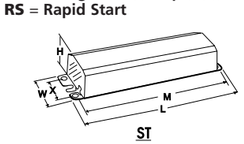
GE Product Code (C Pack)	Lamp Qty.	Lamp Starting Method	Line Volts	Catalog Number	Certification c UL us	Certification UL Type CC	Line Current (Amps)	Input Power (Watts)	Power Factor (PF)	Ballast Factor* (BF)	THD %	Min. F/C Start Temp	Wiring Diag.	Dim.
F32T8 - Two Lamp Applications														
80367			120	B232SR120S30@ 100%	•	•	0.52	62	>.99	0.88	< 10	50/10	16	ST
				B232SR120S30@ 60%	•	•	0.38	45	>.95	0.58	< 10	50/10	16	ST
				B232SR120S30@ 30%	•	•	0.24	28	>.95	0.27	< 10	50/10	16	ST
80368			277	B232SR277S30@ 100%	•	•	0.23	62	>.99	0.88	< 10	50/10	16	ST
				B232SR277S30@ 60%	•	•	0.17	45	>.95	0.58	< 10	50/10	16	ST
				B232SR277S30@ 30%	•	•	0.11	28	>.95	0.27	< 10	50/10	16	ST
80361	2	SER-RS	120	B232SR120S50@ 100%	•	•	0.52	62	>.99	0.88	< 10	50/10	16	ST
				B232SR120S50@ 50%	•	•	0.31	37	>.95	0.48	< 10	50/10	16	ST
80362			277	B232SR277S50@ 100%	•	•	0.23	62	>.99	0.88	< 10	50/10	16	ST
				B232SR277S50@ 50%	•	•	0.14	37	>.95	0.48	< 10	50/10	16	ST
80355			120	B232SR120V5 @ 100%	•	•	0.52	62	>.99	0.88	< 10	50/10	19	ST
				B232SR120V5 @ 5%	•	•	0.12	13	>.90	0.05	< 10	50/10	19	ST
80356			277	B232SR277V5 @ 100%	•	•	0.23	62	>.99	0.88	< 10	50/10	19	ST
				B232SR277V5 @ 5%	•	•	0.05	13	>.90	0.05	< 15	50/10	19	ST
86448			347	B232SR347V5 @ 100%	•	•	0.18	62	>.99	0.88	< 10	50/10	19	ST
				B232SR347V5 @ 5%	•	•	0.04	13	>.90	0.05	< 15	50/10	19	ST
80362			277	B232SR277S50@ 100%	•	•	0.23	62	>.99	0.88	<10	50/10	16	ST
				B232SR277S50@ 50%	•	•	0.14	37	>.90	0.48	<10	50/10	19	ST
F32T8 - Three Lamp Applications														
80369			120	B332SR120S30@ 100%	•	•	0.78	93	>.99	0.88	< 10	50/10	17	ST
				B332SR120S30@ 60%	•	•	0.61	69	>.95	0.60	< 10	50/10	17	ST
				B332SR120S30@ 30%	•	•	0.40	43	>.95	0.30	< 10	50/10	17	ST
80370			277	B332SR277S30@ 100%	•	•	0.34	94	>.99	0.88	< 10	50/10	17	ST
				B332SR277S30@ 60%	•	•	0.26	69	>.95	0.60	< 10	50/10	17	ST
				B332SR277S30@ 30%	•	•	0.16	43	>.95	0.30	< 10	50/10	17	ST
80363	3	SER-RS	120	B332SR120S50@ 100%	•	•	0.78	93	>.99	0.88	< 10	50/10	17	ST
				B332SR120S50@ 50%	•	•	0.50	57	>.95	0.48	< 10	50/10	17	ST
80364			277	B332SR277S50@ 100%	•	•	0.34	93	>.99	0.88	< 10	50/10	17	ST
				B332SR277S50@ 50%	•	•	0.22	57	>.95	0.48	< 10	50/10	17	ST
80357			120	B332SR120V5 @ 100%	•	•	0.77	92	>.99	0.88	< 10	50/10	20	ST
				B332SR120V5 @ 5%	•	•	0.17	20	>.90	0.05	< 10	50/10	20	ST
80358			277	B332SR277V5 @ 100%	•	•	0.33	92	>.99	0.88	< 10	50/10	20	ST
				B332SR277V5 @ 5%	•	•	0.07	20	>.90	0.05	< 15	50/10	20	ST
TBD	4	SER-RS	277	B432SR277V5 @ 100%	•	•	0.42	112	>.99	0.88	< 10	50/10	26	-ZZ
				B432SR277V5 @ 5%	•	•	0.11	27	>.90	0.05	< 15	50/10	26	-ZZ

*Need footnote detail for this symbol

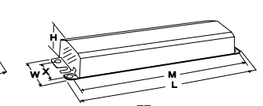
DIMENSIONS

STARTING METHOD LEGEND

IS = Instant Start
PRS = Programmed Rapid Start
RS = Rapid Start
PAR-IS = Parallel Instant Start
PAR-PRS = Parallel Programmed Rapid Start
PAR-RS = Parallel Rapid Start
SER-RS = Series Rapid Start



ST



-ZZ

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
ST	9.50"	2.40"	1.55"	8.89"	1.69"
-ZZ	16.40"	2.40"	1.50"	15.88"	1.69"

DIMMING WIRING DIAGRAMS

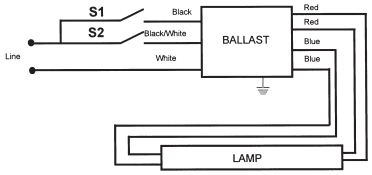


DIAGRAM 15

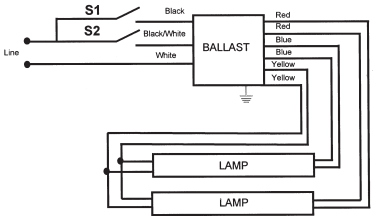


DIAGRAM 16

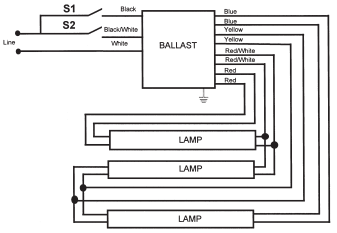


DIAGRAM 17

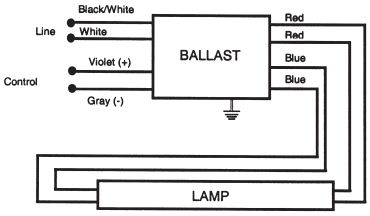


DIAGRAM 18

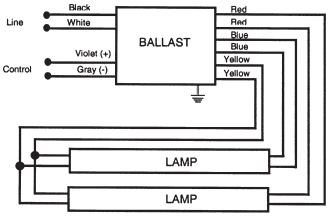


DIAGRAM 19

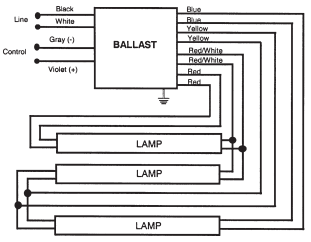


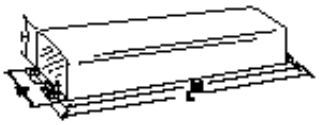
DIAGRAM 20

FOR F96T12 AND F96T12/WM LAMPS

GE Product Code	Lamp Qty.	Lamp Descr.	Line Volts	Catalog Number	Certification				NOM	Line Current (Amps)	Input Power (Watts)	Ballast Factor	Ballast Efficacy Factor	Crest Factor	THD %	Min. F/C Start Temp	Sound Rating	Wiring Diag.	Dim.
F96T12 - High Power Factor																			
86359	2	Instant	120	806-SLH-TC-P	•	•	•	•	•*	1.41	165	.95	0.37	<1.85	<10	50/10	C	39	D6
86372	1	Instant	120	822-BR-TC-P-IP		•	•		•	.84	96	.95	0.98	< 1.85	< 32	0/-18	C	34	D6
86381	1	Instant	277	828-BR-TC-P-IP		•	•			.35	93	.93	1.00	< 1.85	< 32	0/-18	C	34	D6
86378	2	Instant	277	827-SLH-TC-P-IP	•	•	•	•	•	.58	158	.93	0.59	< 1.85	< 10	50/10	C	40	D12
F96T12/WM - High Power Factor																			
86359	2	Instant	120	806-SLH-TC-P	•	•	•	•	•*	1.13	133	.91	0.68	<2.0	<20	60/15	C	39	D6
86372	1	Instant	120	822-BR-TC-P-IP		•	•		•	.70	79	.90	1.14	< 2.0	< 32	60/15	C	34	D6
86381	1	Instant	277	828-BR-TC-P-IP		•	•			.30	79	.96	1.22	< 2.0	< 32	60/15	C	34	D6
86378	2	Instant	277	827-SLH-TC-P-IP	•	•	•	•	•	.48	132	.89	0.67	< 2.0	< 20	60/15	C	40	D12

* NOM Certification is pending.

DIMENSIONS



D

Overall Dimensions			Mounting Dimensions		
Draw #	L	W	H	M	X
D6	11 3/4	3 1/8	1 25/32	11 9/64	2
D12	11 3/4	3 3/16	1 25/32	11 9/64	2

TWIN, QUAD AND MULTIPLE LAMPS–13 WATTS

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
80673	80669	80671	E	1	120	C213UNV◆	18	0.15	—	1.00	0°F	High	<10%	PRS	C10	18
80673	80669	80671	E	2	120	C213UNV◆	32	0.27	—	0.98	0°F	High	<10%	PRS	C10	19

QUICK REFERENCE
Nominal lamp watts and configuration

Lamp Type
13 Watts
CFQ13W/G24q OR CFM13W/GX24q

Quad or Multiple, 4-Pin

TWIN, QUAD AND MULTIPLE LAMPS–18 WATTS

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
80679	80675	80677	E	1	120	C218UNV♦	22	0.19	—	1.00	0°F	High	<10%	PRS	C10	18
80679	80675	80677	E	2	120	C218UNV♦	40	0.34	—	0.98	0°F	High	<10%	PRS	C10	19
?	?	?	E	1	120	CT218UNVSE	23	0.19 0.07	—	1.00	0°F	High	<10%	PRS	C10	18

Lamp Type
- **13 Watts**
  CFT13W/2GX7
- **18 Watts**
  FT18W/2G11RS

13W: Twin T4, 4-Pin
18W: Twin T5, 4-Pin

QUAD AND TRIPLE LAMPS–26 WATTS

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
87700	87700	87700	M	2	277	4226P▲	62	0.22	0.34	0.90	32°F	High	<20%	PH	C4	8

Lamp Type
18 Watts
CFQ18W/G24q OR CFM18W/GX24q

Quad or Multiple, 4-Pin

QUAD AND MULTIPLE LAMPS–26 WATTS

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
80689	80685	80687	E	1	120	C2642UNV♦	28	0.25	—	1.02	0°F	High	<10%	PRS	C10	18
80689	80685	80687	E	2	120	C2642UNV♦	56	0.49	—	0.98	0°F	High	<10%	PRS	C10	19
47509	47503	47506	E	2	120	C242UNV♦	56	0.46	—	1.02	0°F	High	<10%	PRS	C11	19

Lamp Type
- **26 Watts**
  CFQ26W/G24d
- **26 Watts**
  CFQ26W/G24q OR CFM26W/GX24q

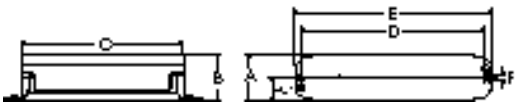
Quad or Multiple, 4-Pin

✿ PRS = Programmed Rapid Start; RS = Rapid Start
F1 indicates an open core & coil unit with no mounting feet.
F2 indicates an open core & coil unit with mounting feet.
◆ Add following suffix for complete catalog # "SE" for Side Exit connectors or "BE" suffix for Bottom Exit connectors or "BES" for Bottom Exit connectors with 2″ O.C. screw studs.
▲ Standard cases offer side lead configuration. Add "BE" suffix for Bottom Exit design or "BES" for Bottom Exit Studs design.

All ballasts are UL listed, CSA approved and designated Class P (thermally protected).

DIMENSIONS

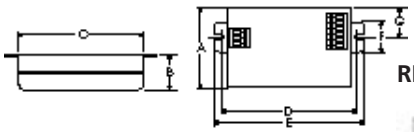
REFERENCE DRAWING FOR C3, C4, C5



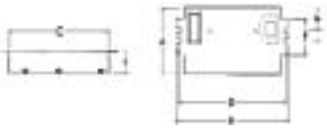
Dwg.	A	B	C	D	E	F
C4	2.34″	1.53″	5.20″	6.00″	6.59″	0.31″

Lead Lengths: Side
- Black/White–11″
- Red/Blue–12″
  BE/BES–8″

REFERENCE DRAWING FOR C10



REFERENCE DRAWING FOR C11



Dwg.	A	B	C	D	E	F	G
C10	2.31″	1.00″	4.25″	4.61″	4.94″	0.98″	1.00″
C11	2.98″	1.00″	4.25″	4.61″	4.94″	1.55″	1.00″

Leadless-Poke-in wire connection

LONG TWIN T5 BALLASTS–36/39 WATTS (BIAX, DULUX L AND PLL)

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
87623	—	—	M	2	120	4150P▲	88	0.76	—	0.90	50°F	High	<20%	RS	C6	5
80152	—	—	❍E	1	120	B140R120HP	38	0.32	—	0.90	50°F	High	<10%	RS	C6	11
80153	—	—	❍E	1	277	B140R277HP	38	0.13	—	0.94	50°F	High	<10%	RS	C6	11
80154	—	—	❍E	1	120	B240R120HP	46	0.40	—	1.00	50°F	High	<10%	RS	C6	13✢
80155	—	—	❍E	1	277	B240R277HP	46	0.17	—	1.00	50°F	High	<10%	RS	C6	13✢
80154	—	—	❍E	2	120	B240R120HP	75	0.62	—	0.89	50°F	High	<10%	RS	C6	13
80155	—	—	❍E	2	277	B240R277HP	75	0.27	—	0.89	50°F	High	<10%	RS	C6	13
47535	—	—	❍E	1	120 277	B224PUNV-C●	36	0.30 0.13	—	0.95	0°F	High	<10%	PRS	-C	27
47540	—	—	❍E	2	120 277	B239PUNV-D●	71 70	0.59 0.26	—	0.97	0°F	High	<10%	PRS	-D	27
80156	—	—	❍E	3	120	B340R120HP	106	0.89	—	0.90	50°F	High	<10%	RS	C6	15
89219	—	—	❍E	2	120	B240R120RH	69	0.58	—	0.90	50°F	High	<20%	RS	C6	13
80157	—	—	❍E	3	277	B340R277HP	106	0.39	—	0.90	50°F	High	<10%	RS	C6	15
47509	47503	47506	E	2	120 277	C242UNV●◆	68 67	0.57 0.25	—	0.90	0°F	High	<10%	PRS	C11	20
47509	47503	47506	E	2	120 277	C242UNV●◆	68 67	0.57 0.25	—	0.90	0°F	High	<10%	PRS	C11	20

QUICK REFERENCE
Nominal lamp watts and configuration

Lamp Type
- **36/39 Watts** FT36W/2G11/RS
- **36/39 Watts** FT36W/2G10

Long Twin T5, 4-Pin

✿ RS = Rapid Start; PRS = Programmed Rapid Start
▲ Standard cases offer side lead configuration.
● New auto reset shutdown circuit
◆ Add following suffix for complete catalog # "SE" for Side Exit connectors or "BE" suffix for Bottom Exit connectors or "BES" for Bottom Exit connectors with 2″ O.C. screw studs.
❍ Not approved for use in hazardous locations.

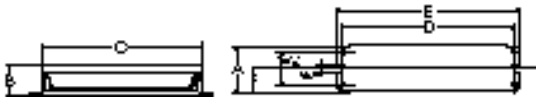
All ballasts are UL listed, CSA approved and designated Class P (thermally protected).

DIMENSIONS

REFERENCE DRAWING FOR -D

Dwg.	L	W	H	M	X
-D	16.88″	1.16″	1.00″	16.28″	---

REFERENCE DRAWING FOR C6



Dwg.	A	B	C	D	E	F
C6	2.40″	1.55″	8.31″	8.89″	9.50″	1.19″

Lead Lengths:

Electronic
Black/White-24″
Red/Blue-30″
Yellow-48″

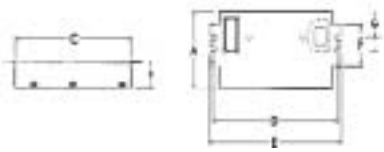
Magnetic
Models 4145P, 4245P, 4146P, 4246P
Black/White-11″
Red/Blue/Yellow-16″

Magnetic
(All other)
Black/White-20″
Red/Blue/Yellow-30″

REFERENCE DRAWING FOR -C

Dwg.	L	W	H	M	X
-C	14.25″	1.18″	1.00″	13.75″	---

REFERENCE DRAWING FOR C11



Dwg.	A	B	C	D	E	F	G
C11	2.98″	1.00″	4.25″	4.61″	4.94″	1.56″	1.00″

Leadless-Poke-in wire connection

LONG TWIN T5 BALLASTS– 40 TO 96 WATTS (BIAX, DULUX L AND PLL)

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
87625	—	—	M	2	120	4152P▲	85	0.68	—	0.90	50°F	High	<20%	RS	C6	5
80680	—	—	❍E	1	120	C240SI120RH▾	40	0.40	—	1.02	50°F	High	<20%	IS	C6	12✢
80690	—	—	E	2	120	C340SI120RH▾	75	0.68	—	0.99	50°F	High	<20%	IS	C6	14✢
80691	—	—	E	2	277	C340SI277RH▾	75	0.28	—	0.99	50°F	High	<20%	IS	C6	14✢
80681	—	—	E	2	277	C240SI277RH▾	69	0.27	—	0.88	50°F	High	<20%	IS	C6	12
80690	—	—	E	3	120	C340SI120RH▾	98	0.88	—	0.88	50°F	High	<20%	IS	C6	14
80136	—	—	E	3	347	B332I347HP	97	0.28	—	0.85	50°F	High	<10%	IS	C6	14
47542	—	—	❍E	2	120 277	B254PUNV-D•	111 108	0.93 0.40	—	1.18	0°F	High	<10%	PRS	-D	27
47542	—	—	❍E	1	120 277	B254PUNV-D•	58	0.49 0.22	—	0.90	0°F	High	<10%	PRS	-D	27
47542	—	—	❍E	2	120 277	B254PUNV-D•	106 104	0.89 0.38	—	0.82	0°F	High	<10%	PRS	-D	27
80162	—	—	E	2	120	B295SR120HP	172	1.44	—	0.93	-20°F	High	<10%	SER-RS	SL	4
80163	—	—	E	2	277	B295SR277HP	172	0.63	—	0.93	-20°F	High	<10%	SER-RS	SL	4

LONG TWIN T5 BALLASTS– 40 AND 50 WATTS (BIAX, DULUX L AND PLL)

GE Product Code			Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Starting Method✿	Dim	Wir Diag
Side Exit	Bottom Exit	Bottom Exit Studs														
Electrical Characteristics - 60 Hz																
80681	—	—	❍E	1	277	C240SI277RH▾	40	0.17	—	1.02	50°F	High	<20%	IS	C6	12✢
80683	—	—	E	1	120 277	C240PUNVHP-B•	41 40	0.34 0.15	—	1.00	0°F	High	<10%	PRS	-B	20
80680	—	—	E	2	120	C240SI120RH▾	69	0.61	—	0.88	50°F	High	<20%	IS	C6	12
80683	—	—	E	2	120 277	C240PUNVHP-B•	76 73	0.63 0.27	—	0.90	0°F	High	<10%	PRS	-B	20
80691	—	—	E	3	277	C340SI277RH▾	98	0.39	—	0.88	50°F	High	<20%	IS	C6	14
47542	—	—	❍E	1	120 277	B254PUNV-D•	60	0.50 0.23	—	1.29	0°F	High	<10%	PRS	-D	27

✿ RS = Rapid Start; IS = Instant Start; PRS = Programmed Rapid Start
▲ Standard cases offer side lead configuration.
● New auto reset shutdown circuit
▾ Incorporates shutdown circuit
❍ Not approved for use in hazardous locations.
All ballasts are UL listed, CSA approved and designated Class P (thermally protected).

QUICK REFERENCE
Nominal lamp watts and configuration

Lamp Type
40 Watts
FT40W/2G11

Long Twin T5, 4-Pin

Lamp Type
50 Watts
FT50W/2G11

Long Twin T5, 4-Pin

Lamp Type
55 Watts
FT55W/2G11

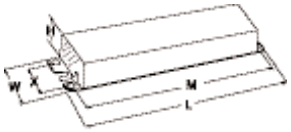
Long Twin T5, 4-Pin

Lamp Type
96 Watts
FT96W/GY10q

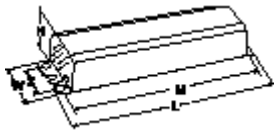
Long Twin T5, 4-Pin

DIMENSIONS

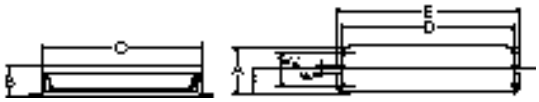
REFERENCE DRAWING FOR -B



REFERENCE DRAWING FOR -SL



REFERENCE DRAWING FOR C6



Dwg.	A	B	C	D	E	F
C6	2.40″	1.55″	8.31″	8.89″	9.50″	1.19″

Lead Lengths:

Electronic	Magnetic
Black/White-24″	Black/White-20″
Red/Blue-30″	Red/Blue/Yellow-30″
Yellow-48″	

REFERENCE DRAWING FOR -D

Dwg.	L	W	H	M	X
-B	9.50″	1.50″	1.00″	8.89″	0.88″
-D	16.88″	1.18″	1.00″	16.20″	---
-SL	11.75″	3.13″	1.78″	11.41″	2.00″

WIRING DIAGRAMS

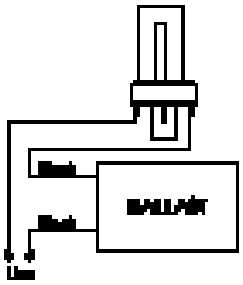


DIAGRAM 1

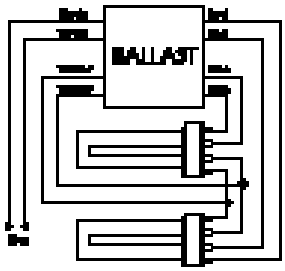


DIAGRAM 5

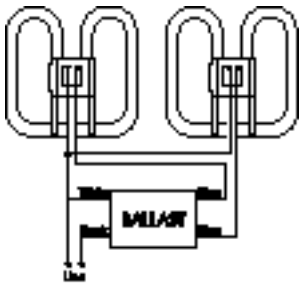


DIAGRAM 7A

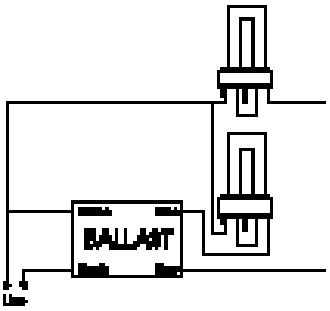


DIAGRAM 8

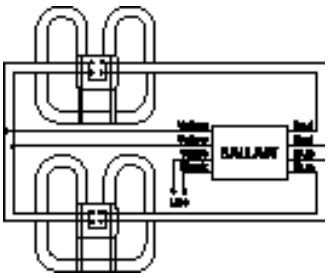


DIAGRAM 8A

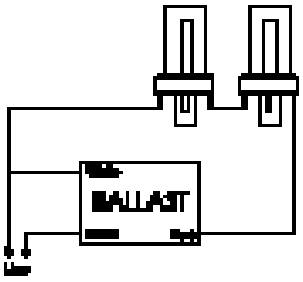


DIAGRAM 9

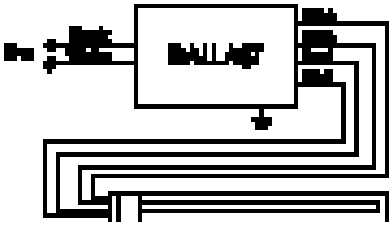


DIAGRAM 11

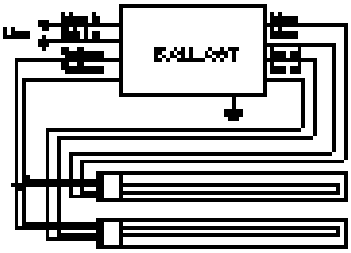


DIAGRAM 13

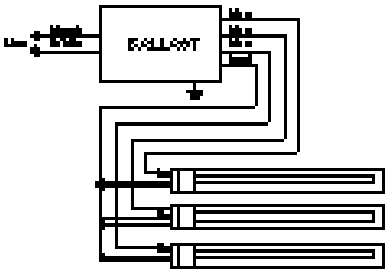


DIAGRAM 14

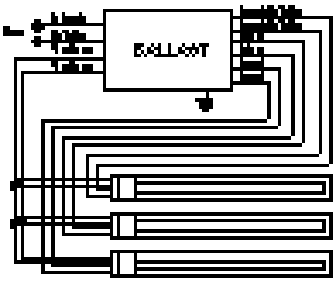


DIAGRAM 15

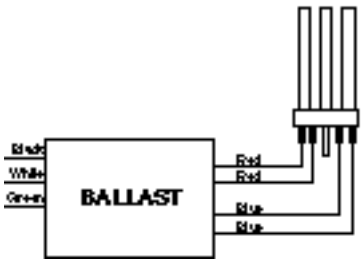


DIAGRAM 18

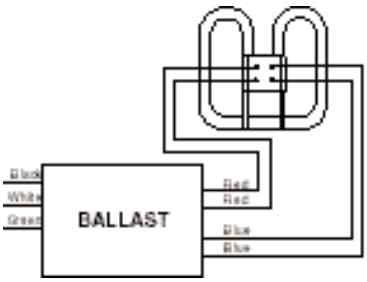


DIAGRAM 18A

WIRING DIAGRAMS

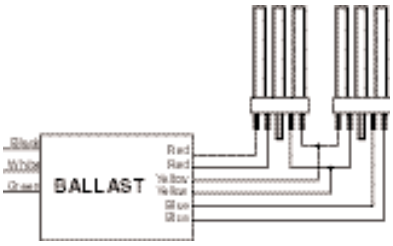


DIAGRAM 19

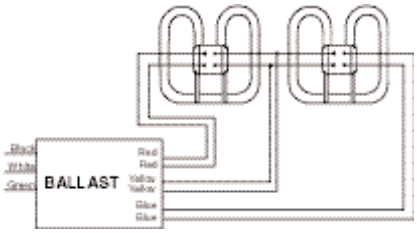


DIAGRAM 19A

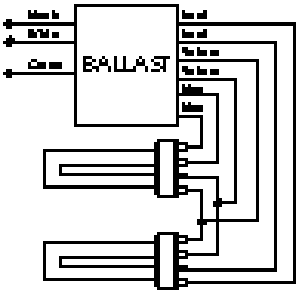


DIAGRAM 20

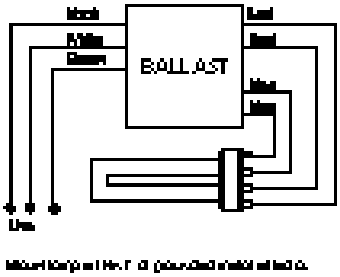


DIAGRAM 21

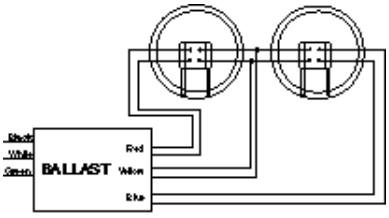


DIAGRAM 23

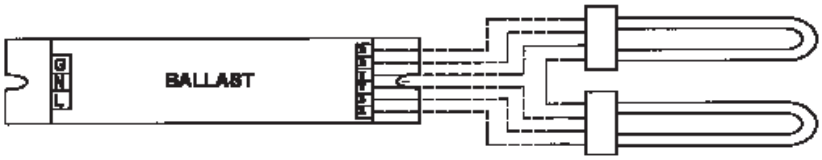


DIAGRAM 27

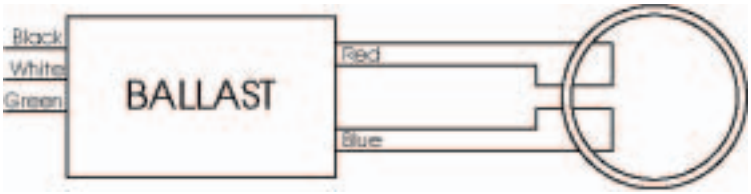


DIAGRAM 28

APPLICATION AND OPERATING INFORMATION

OIL-FILLED CAPACITORS

GE Product Code	uF	VACr	Part #	Case	Ht (")
89078	12.0	400	005-2799-MF	1.50 oval	2.7
88982	15.0	400	005-1185-MF	1.75 oval	2.7
89083	24.0	360	005-3160-MF	1.75 oval	3.1
89071	24.0	400	005-2664-MF	1.75 oval	3.1
89077	24.0	480	005-2779-MF	1.75 oval	3.9
89007	48.0	330	005-1422-MF	1.75 oval	3.9
88980			00F		

CORE & COIL BALLASTS METAL HALIDE LAMPS

MH 35/39 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 35/39 WATT M130 METAL HALIDE LAMP																					
86824	120 or 208 or 240 or 277	M50MLTLC3M500K	HX-HPF	67	1.16 0.67 0.57 0.50		3 3 2 2	4	PC1	1.0	2.6	6	280	1.2	2.2	1.31x2.16	2.2	4.3	MH100-3A	10	A

MH 70 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 70 WATT M98 METAL HALIDE LAMP – Medium Base																					
86847	120 or 208 or 240 or 277	M70MLTLC3M500K	HX-HPF	95	1.70 1.04 0.87 0.78	245	4 3 3 2	4	PC1	1.3	2.9	8	280	1.2	2.7	1.31x2.16	2.2	4.3	MH100-3A	10	A B B B
86839	480-120	M7048TLC3M	HX-HPF	95	0.50	245	1	6	PC1	1.3	2.9	8	300	1.2	2.7	1.31x2.16	2.2	4.3	MH100-3A	10	E

MH 100 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtg	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 100 WATT M90 OR M92 METAL HALIDE LAMP - Medium Base																					
86675	120 or 208 or 240 or 277	M100MLTLC3M500K	HX-HPF	130	2.30 1.30 1.10 0.95	250	5 4 3 3	4	PC1	1.7	3.2	10	280	1.2	2.7	1.31x2.16	2.2	6.3	MH100-3A	10	A
86667	480-120	M10048TLC3M500K	HX-HPF	140	0.62	250	2	6	PC1	1.7	3.2	10	280	1.2	2.7	1.31x2.16	2.2	5.0	MH100-3A	10	C

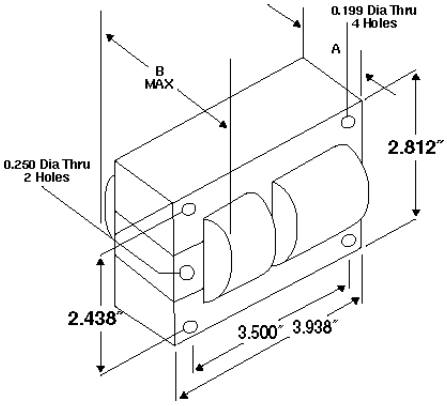
DIMENSIONS

DESCRIPTION	SUFFIX *
For **Ballast Only**	000
For **Bracket Only** (see pg. 5-6)	200
For **Capacitor Only** (see pg. 5-6)	500
For **Distributor Replacement Kit** (see pg. 5-12 thru 5-13)	500K

Ref. Dwg.	L	W	M	S
1	4.00"	0.75"	3.35"	0.25"
PC1	5.25"	1.25"	4.60"	0.25"

See pg. 5-6 for adjustable mounting brackets and detailed bracket drawings.

REFERENCE DRAWING PC1



CORE & COIL BALLASTS METAL HALIDE LAMPS

MH 150 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtg	Wir Dia	Dimensions			Capacitor						Total Wt (lbs.)	Ignitor		UL Bench Top Rise
									Ref Dwg	A	B	Mfd	Min Volt	Dry Film Dia	Dry Film Ht	Oil Filled Oval	Oil Filled Ht		Catalog Number	Max Distance to lamp (ft)	
(1) 150 WATT M102 METAL HALIDE LAMP - Medium Base																					
86718	120 or 208 or 240 or 277	M150MLTLC3M500K	HX-HPF	185	3.32 1.93 1.66 1.48	245	10 5 5 4	4	PC1	2.3	3.9	16	300	1.6	2.7	1.56x2.69	2.7	7.3	MH100-3A	10	D
86711	480-120	M15048TLC3M500K	HX-HPF	180	1.00	245	2	6	PC1	2.3	3.9	16	280	1.6	2.7	1.56x2.69	2.7	7.3	MH100-3A	10	F

MH 175 WATTS featuring Multi-5™

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions			Capacitor						Total Wt (lbs.)	Ignitor		UL Bench Top Rise
									Ref Dwg	A	B	Mfd	Min Volt	Dry Film Dia	Dry Film Ht	Oil Filled Oval	Oil Filled Ht		Catalog Number	Max Distance to lamp (ft)	
(1) 175 WATT M57, M107 METAL HALIDE OR H39 MERCURY LAMPS																					
86741	120 or 208 or 240 or 277	M175MLTAC3M500K	CWA	213	1.80 1.10 0.90 0.78	310	5 3 3 2	21	PC1	2.2	3.6	10	400	1.6	2.7	1.56x2.69	2.7	6.8	n/a	n/a	A B A A
87210	120 or 208 or 240 or 277 or 480	M175ML5AC3M500K	CWA	208 208 208 208 210	1.90 1.10 0.95 0.85 0.50	300	5 3 3 2 1.5	44	PC1	2.3	3.6	10	400	1.6	2.7	1.56x2.69	2.7	6.8	n/a	n/a	B

SEE WIRING DIAGRAMS Page 5-32

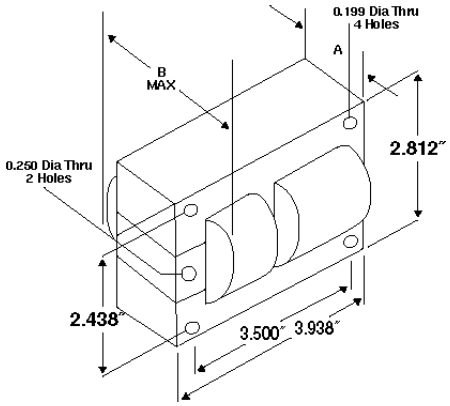
DIMENSIONS

DESCRIPTION	SUFFIX *
For **Ballast Only**	000
For **Bracket Only** (see pg. 5-6)	200
For **Capacitor Only** (see pg. 5-6)	500
For **Distributor Replacement Kit** (see pg. 5-12 thru 5-13)	500K

Ref. Dwg.	L	W	M	S
1	4.00″	0.75″	3.35″	0.25″
PC1	5.25″	1.25″	4.60″	0.25″

See pg. 5-6 for adjustable mounting brackets and detailed bracket drawings.

REFERENCE DRAWING PC1



CORE & COIL ELECTRONIC BALLASTS
METAL HALIDE LAMPS

MH 400 WATTS featuring Multi-5™

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 400 WATT M59 METAL HALIDE OR H33 MERCURY LAMP																					
86803	480-120	M40048TAC4M500K	CWA	458	1.00	300	5	19	PC2	2.0	3.9	24	400	1.8	3.6	1.91x2.91	3.1	11.2	n/a	n/a	E
86814	120 or	M400MLTAC4M500K	CWA	458	4.00	300	10	21	PC2	2.0	3.9	24	360	1.8	3.6	1.91x2.91	3.1	11.2	n/a	n/a	C
	208 or				2.30		8														D
	240 or				2.00		5														D
	277				1.70		5														E
86808	120 or	M400ML5AC4M500K	CWA	458	4.00	300	10	44	PC2	2.0	3.9	24	400	1.8	3.6	1.91x2.91	3.1	11.2	n/a	n/a	E
	208 or				2.30		8														D
	240 or				2.00		5														E
	277 or				1.70		5														D
	480				1.00		5														E

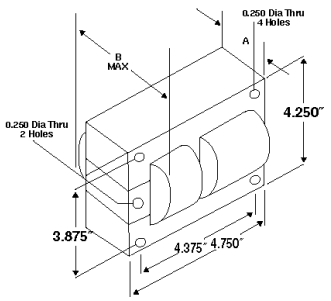
MH 1000 WATTS featuring Multi-5™

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 1000 WATT M47 METAL HALIDE OR H36 MERCURY LAMP																					
86650	480-120	M100048TAC5M500K	CWA	1080	2.30	420	10	19	PC3	2.8	4.6	24	480	n/a	n/a	1.91x2.91	3.9	22.0	n/a	n/a	C
86655	120 or	M1000MLTAC5M500K	CWA	1080	9.20	420	20	21	PC3	2.8	4.7	24	480	n/a	n/a	1.91x2.91	3.9	22.0	n/a	n/a	D
	208 or				5.30		15														
	240 or				4.60		10														
	277				4.00		10														
87213	120 or	M1000ML5AC5M500K	CWA	1080	9.00	425	20	44	PC3	2.8	4.6	24	480	n/a	n/a	1.91x2.91	3.9	22.0	n/a	n/a	F
	208 or				5.20		15														B
	240 or				4.40		10														B
	277 or				3.90		10														B
	480				2.30		10														B

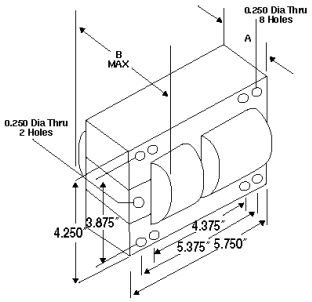
DIMENSIONS

DESCRIPTION	SUFFIX *
For **Ballast Only**	000
For **Bracket Only** (see pg. 5-6)	200
For **Capacitor Only** (see pg. 5-6)	500
For **Distributor Replacement Kit** (see pg. 5-12 thru 5-13)	500K

REFERENCE DRAWING PC2

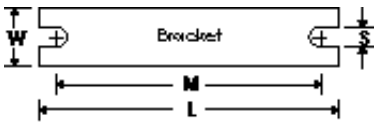


REFERENCE DRAWING PC3



Ref. Dwg.	L	W	M	S
PC 2	5.25"	1.25"	4.60"	0.25"
PC3	7.75"	2.75"	6.10"	0.25"

See pg. 5-6 for adjustable mounting brackets and detailed bracket drawings.



CORE & COIL ELECTRONIC BALLASTS
METAL HALIDE LAMPS

PULSE START MH 350-400 WATTS

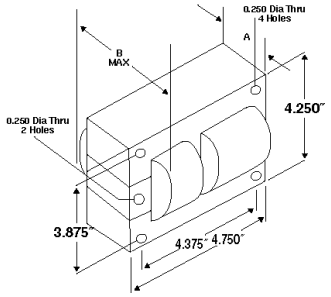
GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtng	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 350 WATT M131 METAL HALIDE PULSE START LAMP																					
86984	120 or 208 or 240 or 277	P350MLTAC4M500K	CWA	400	4.10 2.50 2.00 1.85	292	10 7 5 5	11	PC2	2.0	3.8	22	400	1.8	3.6	1.91x2.91	3.1	11.2	MH350-1	10	A
42692	277	P350277RCEM500K ✻	RX-NPF RX-HPF	377	3.80 2.34	277	8	1	RX1	1.5	3.2	22.5	280 1.6	— 3.6	— 1.56x2.69	—	— 3.5	6.8	MH350-1	10	A
(1) 400 WATT M135 METAL HALIDE PULSE START LAMP																					
87008	120 or 208 or 240 or 277	P400MLTAC4M500K	CWA	458	4.10 2.50 2.00 1.85	292	10 7 5 5	11	PC2	2.0	3.8	24	400	1.8	3.6	1.91x2.91	3.1	11.2	MH350-1	10	D
86999	480-120	P40048TAC4M500K	CWA	458	1.06	292	3	13	PC2	2.0	3.8	24	400	1.8	3.6	1.19x2.91	3.1	11.3	MH350-1	10	D

✻ Data reflects performance capacitor.

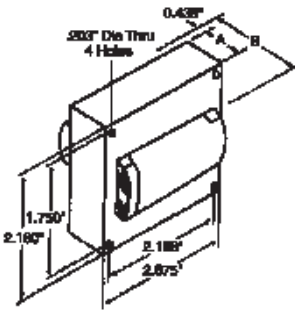
DIMENSIONS

DESCRIPTION	SUFFIX *
For **Ballast Only**	000
For **Bracket Only** (see pg. 5-6)	200
For **Capacitor Only** (see pg. 5-6)	500
For **Distributor Replacement Kit** (see pg. 5-12 thru 5-13)	500K

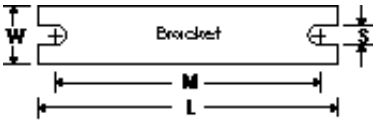
REFERENCE DRAWING PC2



REFERENCE DRAWING RX1



Ref. Dwg.	L	W	M	S
PC 2	5.25"	1.25"	4.60"	0.25"
RX1	4.00"	0.75"	3.35"	0.25"



CORE & COIL ELECTRONIC BALLASTS
MERCURY LAMPS

MERCURY 100 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtng	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 100 WATT H38 or H44 MERCURY LAMP																					
86519	120 or 208 or 240 or 277	H100MLTAC3M500K	CWA	125	1.05 0.60 0.52 0.45	250	3 2 2 2	21	PC1	1.3	2.5	10	280	1.4	2.7	1.31x2.16	2.7	4.0	n/a	n/a	A

MERCURY 175 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtng	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 175 WATT H39 MERCURY LAMP																					
86527	120 or 208 or 240 or 277	H175MLTAC3M500K	CWA	202	1.75 1.00 0.86 0.75	235	5 3 3 2	21	PC1	1.6	2.9	17.5	300	1.6	3.6	1.56x2.69	3.1	5.2	n/a	n/a	A

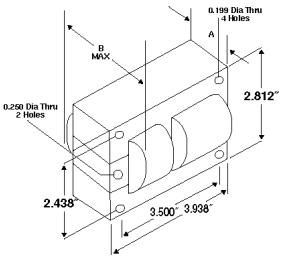
MERCURY 400 WATTS

GE Product Code	Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Vltg	Fuse Rtng	Wir Dia	Dimensions Ref Dwg	Dimensions A	Dimensions B	Capacitor Mfd	Capacitor Min Volt	Capacitor Dry Film Dia	Capacitor Dry Film Ht	Capacitor Oil Filled Oval	Capacitor Oil Filled Ht	Total Wt (lbs.)	Ignitor Catalog Number	Ignitor Max Distance to lamp (ft)	UL Bench Top Rise
(1) 400 WATT H33 MERCURY LAMP																					
86542	120 or 208 or 240 or 277	H400MLTAC4M500K	CWA	440	3.90 2.22 1.92 1.68	245	10 8 5 5	21	PC2	1.6	3.4	35	240	1.6	3.6	1.91x2.91	3.1	9.5	n/a	n/a	C

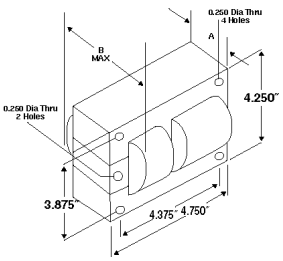
DIMENSIONS

DESCRIPTION	SUFFIX *
For **Ballast Only**	000
For **Bracket Only** (see pg. 5-6)	200
For **Capacitor Only** (see pg. 5-6)	500
For **Distributor Replacement Kit** (see pg. 5-12 thru 5-13)	500K

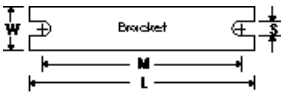
REFERENCE DRAWING PC1



REFERENCE DRAWING PC2



Ref. Dwg.	L	W	M	S
PC1	5.25"	1.25"	4.60"	0.25"
PC 2	5.25"	1.25"	4.60"	0.25"



See pg. 5-6 for adjustable mounting brackets and detailed bracket drawings.

F-CAN BALLASTS
METAL HALIDE LAMPS

MH 70-100 WATTS

GE Product Code	Input Volts	Catalog Number	Circuit Type	Max Input Watts	Nom Open Input Current	Circuit Vltg	Fuse Rtng	Dimensions			Mtg Dim	Total Weight	Max Dist To Lamp (ft)	Sound Rating	Certifications	
								Wir Dia	Overall Length	Case Length					UL	CSA
(1) 70 WATT M85 METAL HALIDE (with built-in ignitor)																
86575	120 or 277	11210-277C-TC[7]	HX-HPF	98	2.00 0.90	250	6 3	34	11.75	10.55	11.10	11.0	20	B	Yes	Yes
(1) 70 WATT M98 METAL HALIDE (with built-in ignitor)																
86578	120 or 277	11210-506C-TC[22]	HX-HPF	90	2.00 0.90	250	6 3	34	11.75	10.55	11.10	11.0	20	B	Yes	Yes
(1) 100 WATT M90 METAL HALIDE (with built-in ignitor)																
86574	120 or 277	11210-239C-TC	HX-HPF	125	2.20 1.00	250	8 4	34	11.75	10.55	11.10	11.0	20	B	Yes	Yes

[7] This ballast may also be used with (1) 70 watt S88 High Pressure Sodium lamp.
[22] M98 Designates Venture Lighting catalog numbers MH70/4/MED, C/4/MED or MS70/C/84/MED/W

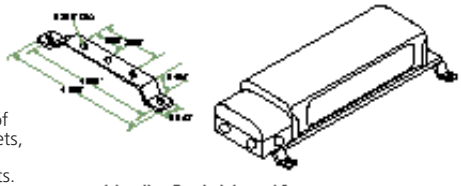
SEE WIRING DIAGRAMS page 5-32

F-CAN BALLASTS OPTIONAL ACCESSORIES

Mounting Bracket Assemblies

Catalog Number
2-BMB-1.

Available for the remote installation of ballasts. Each assembly consists of two (2) mounting brackets, four (4) screws, four (4) washers and four (4) nuts.

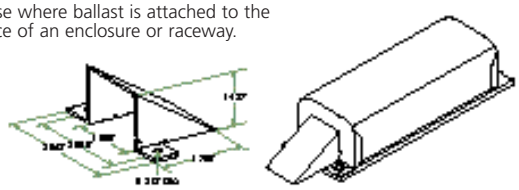


Mounting Bracket Assemblies

Tee-Pee Lead Wire Covers

Catalog Number TP5. Ref. part #001-2013.

For use where ballast is attached to the surface of an enclosure or raceway.

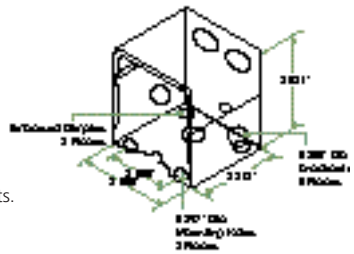


Tee-Pee Lead Wire Covers

Splice Box

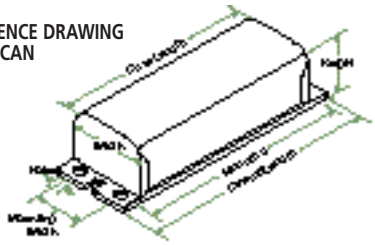
Catalog Number SB-4.
Ref. part #001-2009

For use with all F-Can Ballasts. It is easily installed on the anchor bracket provided on each F-Can ballast. It contains five (5) 7/8" diameter knockouts.



Splice Box

REFERENCE DRAWING FOR F-CAN



MH 75-150 WATTS

F-CAN BALLASTS
METAL HALIDE & PULSE START METAL HALIDE LAMPS
MH AND PSMH 175-400 WATTS

GE Product Code	Input Volts	Catalog Number	Circuit Type	Max Input Watts	Nom Open Input Current	Circuit Vltg	Fuse Rtng	Dimensions			Mtg Dim	Total Weight	Max Dist To Lamp (ft)	Sound Rating	Certifications	
								Wir Dia	Overall Length	Case Length					UL	CSA
(1) 175 WATT M57 METAL HALIDE OR H39 MERCURY LAMP																
86563	120 or 277	1110-245SC-TC000I	CWA	205	1.75 0.75	300	5 3	34	14.30	13.15	13.75	14.0	*	B	Yes	Yes
(1) 250 WATT M58 METAL HALIDE OR H37 MERCURY LAMP																
86564	120 or 277	1110-246C-TC [8c]	CWA	295	2.50 1.10	280	8 4	34	16.65	15.55	16.10	17.5	*	C	Yes	Yes
(1) 400 WATT M59 METAL HALIDE OR H33 MERCURY LAMP																
42670	120 or 277	1110-247SC-TC	CWA	460	3.90 1.70	300	10 5	34	19.25	18.05	18.60	23.0	*	C	Yes	Yes
80728	120 or 277	1111-247SC-TC [23]	CWA	460	3.90 1.70	300	10 5	36	14.30	13.15	13.75	14.0	*	B	Yes	Yes

[8c] This ballast can be used with a MH200 ignitor to operate (1) 250 watt M103 lamp. Consult Universal for instructions.
[23] Two of these ballasts are required to operate the lamp. Electrical data is for two ballasts, except for "Sound Rating," which is for each ballast.
* Refer to Page 5-4.

F-CAN BALLASTS
METAL HALIDE LAMPS
HPS 70 WATTS

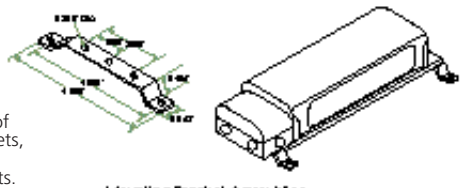
GE Product Code	Input Volts	Catalog Number	Circuit Type	Max Input Watts	Nom Open Input Current	Circuit Vltg	Fuse Rtng	Dimensions			Mtg Dim	Total Weight	Max Dist To Lamp (ft)	Sound Rating	Certifications	
								Wir Dia	Overall Length	Case Length					UL	CSA
(1) 70 WATT S62 HIGH PRESSURE SODIUM (with built-in starter)																
86596	120 or 277	12210-237C-TC0001	HX-HPF	97	1.60 0.70	140	5 2	34	11.75	10.55	11.10	9.2	10	B	Yes	Yes

F-CAN BALLASTS OPTIONAL ACCESSORIES

Mounting Bracket Assemblies

Catalog Number
2-BMB-1 (PC #86624)

Available for the remote installation of ballasts. Each assembly consists of two (2) mounting brackets, four (4) screws, four (4) nuts.

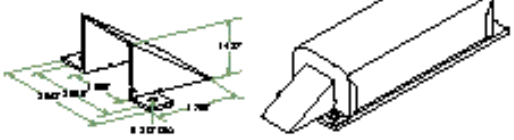


Mounting Bracket Assemblies

Tee-Pee Lead Wire Covers

Catalog Number TP5. Ref. part #001-2013.

For use where ballast is attached to the surface of an enclosure or raceway.

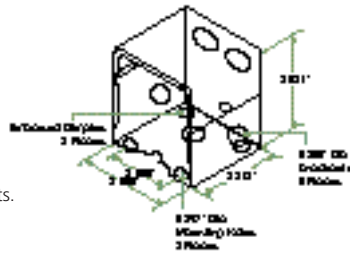


Tee-Pee Lead Wire Covers

Splice Box

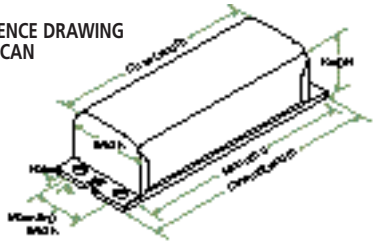
Catalog Number SB-4.
Ref. part #001-2009

For use with all F-Can Ballasts. It is easily installed on the anchor bracket provided on each F-Can ballast. It contains five (5) 7/8" diameter knockouts.



Splice Box

REFERENCE DRAWING FOR F-CAN



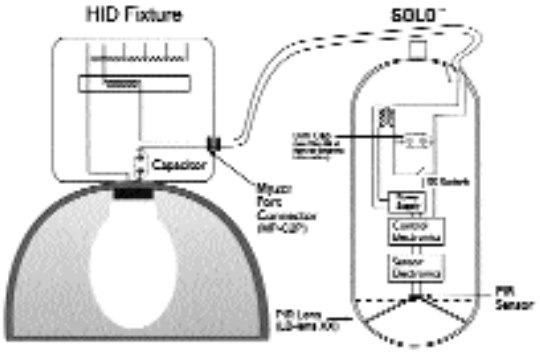
SOLO™ DUAL-LEVEL HID SWITCHING CONTROLLER

Application

The SOLO™ dual level HID controller simplifies the complex. Providing single fixture control to ensure maximum ROI. The SOLO™ is capable of interfacing with metal halide, pulse start, and high-pressure sodium fixtures ranging from 175 watts to 1,650 watts. The SOLO™ reduces fixture power up to 50% in applications such as warehouse and manufacturing facilities.

Key Features

- For use with CWA (Constant Wattage Auto-Transformer) ballasts only
- Lamp Type Controlled: (Refer to ordering information when selecting control module)
  175W to 1,650W Metal Halide
  175W to 720W Pulse Start Halide
  250W to 1,000W High Pressure Sodium
- Initial Lamp Warm Up Time: 15 minutes
- Warm Up Time If Lamp Goes Out: 15 minutes after lamp current is detected
- Lamp Switching: Solid state switching and microprocessor watch dog provides reliable zero cross voltage switching from low to high and zero cross current switching from high to low. Inrush protected.
- Continuous Dim Lamp Protection: The microprocessor monitors continuous dim time of the lamp. If lamp is dimmed continuously for 24 hours, lamp is automatically cycled to full power for 15 minutes to increase lamp life.
- Capacitor: Series dim capacitor is mounted inside the SOLO™ module. Capacitor value is selected based on ballast manufacturing specifications.
- Sensor Self-adjusting: Digital microprocessor constantly adjusts sensitivity for optimum performance.
- Sensor Optics: 9.6 square inches of optical lens @ 2.15" focal length. (For long range sensing applications, the greater optical area and longer focal length increases performance.)
- Sensor Range Pattern: (4) interchangeable lens options
- Laser alignment: Allows accurate aiming of sensor pattern to within +/- 2 degrees
- Sensor Timer Settings: 2-, 4-, 8-,16-, and 64-minute and 10-second test modes
- Force Dim Option: After lamp warm up, sensor is disabled and lamp will dim continuously. Continuous dim protection is still active.
- Self Diagnostics Test Button: Momentary push button initiates self-diagnostic to verify SOLO™ is functioning properly.
- User Interface: 4 dip switches and self diagnostic push button
- Mounting: 3/4" Threaded pipe mounting adapter with security screw. Mount such that sensor lens is even or below fixture reflector.
- Power Cord: 6' power cord with Myzer plug.
- Operating Temperature Range: (Indoor use only): -22°F to +149°F (-30°C to +65°C)
- Weight: Less than 3 lbs. (without dim capacitor installed)
- Dimensions: 13.25"H x 5.5"W x 2.6"D (33.6 x 14.0 x 6.6 cm)
- Construction: Rugged, high impact, injection-molded plastic.
- UL and CUL listed
- Warranty: Five-year limited



SOLO™ Installation
Integrated HID Dual-level Switching Controller and Sensor

SOLO™ DUAL LEVEL HID SWITCHING CONTROLLER

Part Numbers and Accessories

GE Product Code	Model	Wattage Controlled Table
41461	LB-1	175W Metal Halide
		175W, 200W Pulse Start Metal Halide
41462	LB-2	250W, 320W, 350W, 400W Metal Halide
		250W, 320W, 350W, 400W, 450W Pulse Start Metal Halide
		250 W High Pressure Sodium (HPS)
		400 W High Pressure Sodium (HPS) (Maximum operating temperature @ 55°C)
41463	LB-3	1,500W, 1,650W Metal Halide (Maximum operating temperature @ 55°C)
		1,000W Metal Halide (Maximum operating temperature @ 65°C)
		740W, 1000W Pulse Start Metal Halide (Maximum operating temperature @ 55°C)
		600W, 1,000W High Pressure Sodium (HPS) (Max. operating temperature @ 65°C)
	Models	
41461	LB-1	Solo™
TBD	LB-1-MS	Solo™ with MyzerSTART option
41462	LB-2	Solo™
TBD	LB-2-MS	Solo™ with MyzerSTART option
41463	LB-3	Solo™
TBD	LB-3-MS	Solo™ with MyzerSTART option
41304	LB-1-EXTP1	Solo™ with 4 Pin Low Voltage Interface
TBD	LB-1-MS-EXTP2	Solo™ with MyzerSTART option with 4 Pin Low Voltage Interface
41324	LB-2-EXTP1	Solo™ with 4 Pin Low Voltage Interface
TBD	LB-2-MS-EXPT2	Solo™ with MyzerSTART option with 4 Pin Low Voltage Interface
41328	LB-3-EXPT1	Solo™ with 4 Pin Low Voltage Interface
TBD	LB-3-MS-EXTP2	Solo™ with MyzerSTART option with 4 Pin Low Interface
	Lens	
41479	LB-Lens 15	Lens 15, Aisle Lens, 1.5 x .23
41481	LB-Lens 10	Lens 10, Aisle Lens, 1.0 x .23
41277	LB-Lens 07	Lens 07, Aisle Lens, .70 x .16
41413	LB-Lens 0806	Lens 0806, Area Lens, .80 x .60
	Accessories	
41502	LB-LAT-1	Laser Alignment Tool
41292	LB-CSR-10	Cable Strain Relief, 10 Pack
41500	LB-KIT-1	Conversion Hardware Kit non-Myzer Port HID Fixtures
41283	MP-C2P-10	MyzerPORT Bypass Shorting Plug, 10 pack
41290	MP-BP-10	MyzerPORT Bypass Shorting Plug, 10 pack
	Replacement Parts	
41486	DC-6	Power Cable, 6 foot
41429	LB-LAT-SW	Laser Alignment Tool on/off Switch
41476	LB-COVER-1	Capacitor and Wiring Compartment Cover
41402	LB-MOUNT-1	3/4" Threaded Mounting Adapter
41472	LB-CAP-WIRES	Two (2) Cap Connection Wires with Quick Disconnects
TBD	MPNA-C2P-100	MyzerPORT Connector Nipple adapter, 100 pack
41390	LB-FPP-10	G2, 4 pin EXTP1-Port Plug, 10 pack

* All orders require a completed HID capacitor sign-off sheet. Contact your GE representiative for more details.

IGNITORS

GE Product Code	Catalog Number	Description
STANDARD IGNITORS Metal halide		
86864	86864001I	For 35 watt M130, 50 watt M110, 70 watt M98, 100 watt M90 or M92, or 150 watt M102 lamps.
HIGH PRESSURE SODIUM		
86635	86635001I	For lamps of 150 watts or less except 150 watt S56.
86641	86641001I	For lamps from 200 to 400 watts and 150 watt S56 with CWA ballasts.

GE Product Code	Lamp Watts	ANSI Code	Circuit Type	Standard Ignitors	Auto Shutoff	Instant Restrike	Long Distance Ignitors
HIGH PRESSURE SODIUM IGNITORS							
86635	35	S76	Reactor	HPS 150-3A	HPS 150-45B	HPS 150-5B	HPS 150-4A
86635	50	S68	Reactor, HX	HPS 150-3A	HPS 150-45B	HPS 150-5B	HPS 150-4A
86635	70	S62	Reactor, HX	HPS 150-3A	HPS 150-45B	HPS 150-5B	HPS 150-4A
86635	100	S54	Reactor, HX	HPS 150-3A	HPS 150-45B	HPS 150-5B	HPS 150-4A
86635	150	S55	Reactor, HX	HPS 150-3A	HPS 150-45B	HPS 150-5B	HPS 150-4A
86641	150	S56	CWA	HPS 400-3A	HPS 400-45B	—	HPS 400-4A
86641	250	S50	CWA	HPS 400-3A	HPS 400-45B	—	HPS 400-4A
86641	400	S51	CWA	HPS 400-3A	HPS 400-45B	—	HPS 400-4A

GE Product Code	Lamp Watts	ANSI Code	Circuit Type	Standard Ignitors	Auto Shutoff	Long Distance Ignitors
METAL HALIDE IGNITORS						
86864	35	M130	Reactor	MH 100-3A	—	MH 100-5A
86864	50	M110	HX	MH 100-3A	—	MH 100-5A
86864	70	M98	HX	MH 100-3A	MH 100-35B	MH 100-5A
86864	100	M90	Reactor	MH 100-3A	MH 100-35B	MH 100-5A
86864	100	M90	CWA	MH 100-3A	MH 100-35B	MH 100-5A
86864	150	M102	HX	MH 100-3A	MH 100-35B	MH 100-5A

Standard Ignitors

Standard Ignitors are supplied with all High Pressure Sodium and Metal Halide ballasts requiring ignitors. These ballasts are supplied with an appropriate external ignitor unless the ignitor is permanently attached to or built into the ballast.

Instant Restrike Ignitors

An Instant Restrike Ignitor generates multiple pulses to restrike a lamp arc after a brief power interruption has extinguished it, without the typical 3-minute cool-down time. A Standard Ignitor cannot restrike an arc until the lamp has had time to sufficiently cool. Even though an Instant Restrike Ignitor can reinitiate the lamp arc immediately upon restoration of power, the lamp is still subject to warmup. The following chart is based on an S55 lamp.

Time Lamp Is Extinguished	Restrike Time	Light Output On Reignition	Lamp Warmup Time
1 second	2 seconds	87%	35 seconds
5 seconds	Instant	83%	70 seconds
15 seconds	Instant	76%	130 seconds
30 seconds	Instant	62%	190 seconds
1 minute	Instant	46%	255 seconds
Cold Start	Instant	36%	360 seconds

Plug Replaceable Ignitors

Incorporates terminals and a separate mounting base to simplify construction and replacement.

Long Distance Ignitors

Long Distance Ignitors are used in situations where an ignitor must be mounted further from the lamp than is recommended for a standard ignitor. The maximum lamp to ignitor distance for these ignitors is 50 feet, which may vary depending on the type of lamp, ballast, fixture, and wiring.

Automatic Shutoff Ignitors

In the event of a lamp failure, a Standard Ignitor will continue to pulse, trying to start the lamp. This may reduce the life of the ignitor. An Automatic Shutoff Ignitor will apply pulses for 10 to 12 minutes and then deactivate if a lamp arc cannot be initiated. Resetting the ignitor is accomplished by momentarily interrupting the power to the ballast. For this reason, these ignitors are not recommended for use on unswitched circuits.

Shutoff Devices

Ignitor Accessory (IA) devices can be used to convert a Standard Ignitor into an Automatic Shutoff Ignitor. Simply match the Shutoff Device catalog number on page 5-78 with the Standard Ignitor that is supplied with the ballast. Using the IA device with the Standard Ignitor eliminates the need to buy a separate Automatic Shutoff Ignitor.

WIRING DIAGRAMS

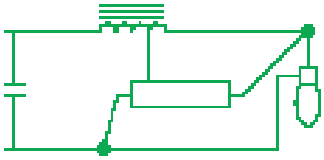


DIAGRAM 1

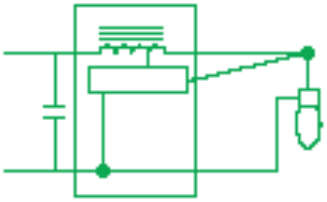


DIAGRAM 1A

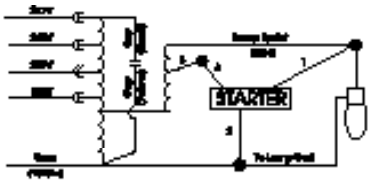


DIAGRAM 4

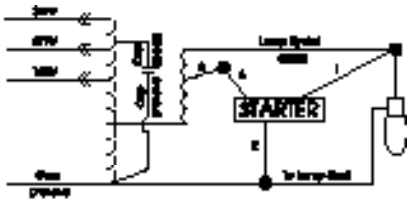


DIAGRAM 4A

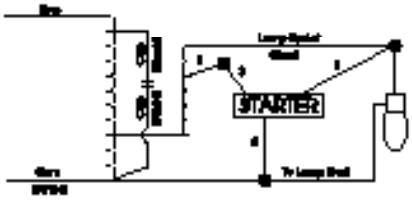


DIAGRAM 6

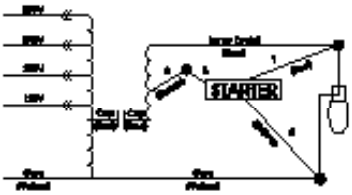


DIAGRAM 11

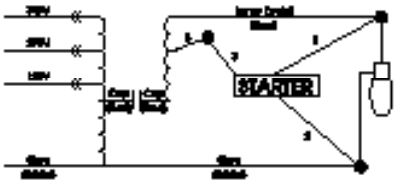


DIAGRAM 13

DIAGRAM 15

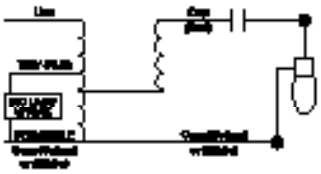


DIAGRAM 19

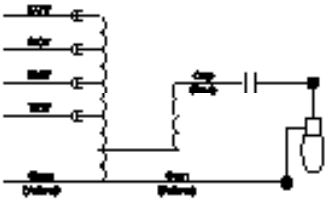


DIAGRAM 21

DIAGRAM 34

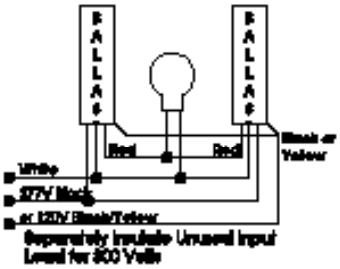


DIAGRAM 36

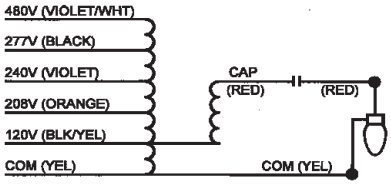
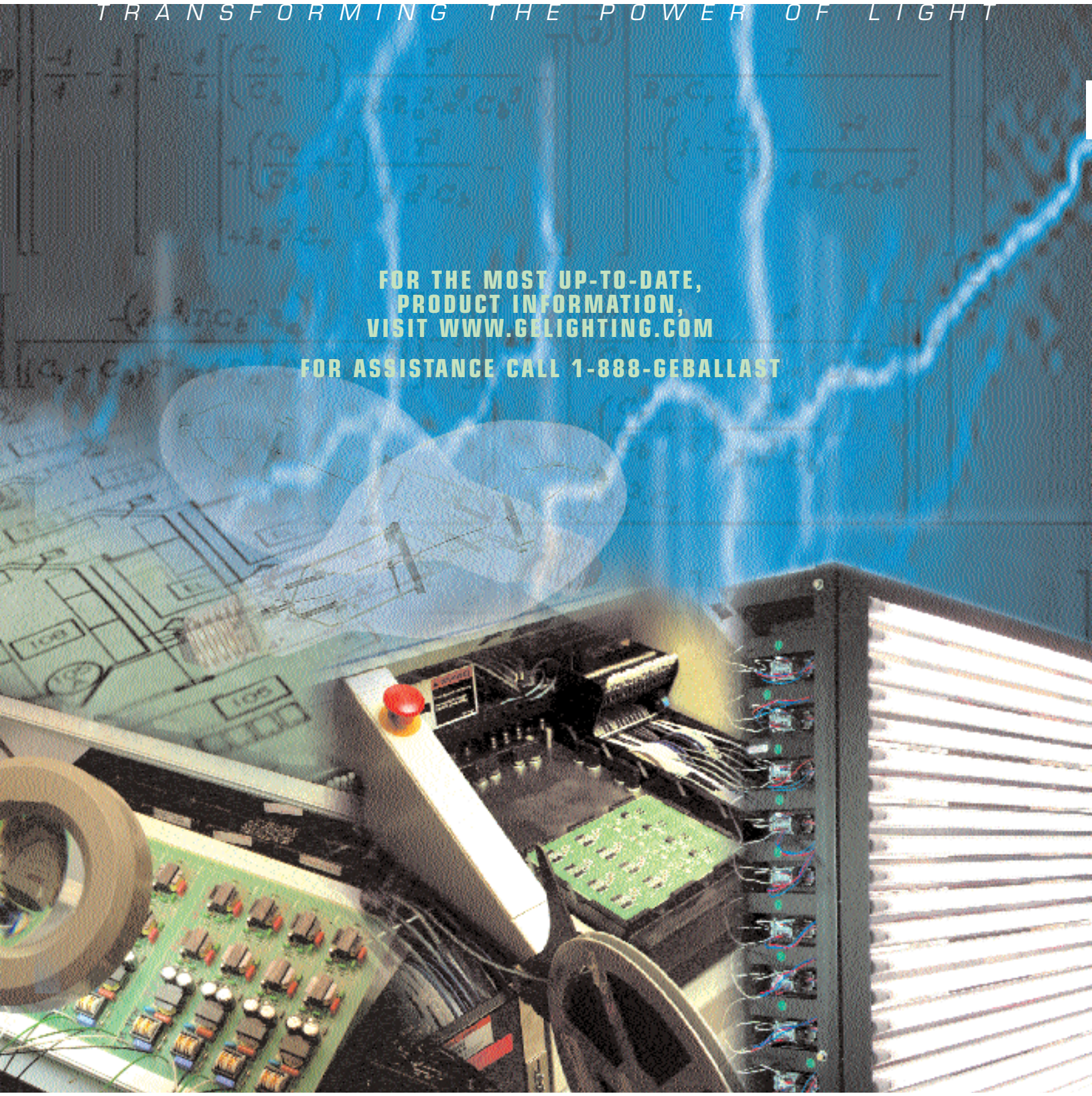


DIAGRAM 44

DIAGRAM 46



GE Lighting

Printed in USA. 16122 (2/05)