

## GE Ballast Products Catalog 2008

US/Canada Customer Ordering and Tracking—[www.geelitenet.com](http://www.geelitenet.com)  
For detailed ballast and lamp specifications—[www.gelighting.com](http://www.gelighting.com)  
For order, technical or warranty assistance, call: 1-888-GEBALLAST (432-2552)  
OEM Customer Service: (T) 1-800-833-4933, (F) 1-800-327-0588  
GE Lighting Headquarters, Nela Park, 1975 Noble Rd., Cleveland, OH 44112, (T) 216-266-2121

Transforming  
the **POWER**  
of light™



# ballasts

2008 product catalog

Transforming  
the **POWER**  
of light™



imagination at work



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## GE Consumer & Industrial Lighting

The future can seem pretty intimidating. Our known reserves of oil and natural gas are expected to be depleted by 2045, the climate is changing, and more than a billion people lack clean water. At GE, we believe some of the world's most pressing challenges present an opportunity to do what we do best: **Imagine and build innovative solutions that benefit our customers and society at large.**

As a global leader in energy, technology, manufacturing and infrastructure, GE is uniquely suited to help solve environmental challenges, today and for generations to come. Our customers want a more prosperous, cleaner future. By harnessing our most abundant renewable resource—the imagination of our people—we can create that future with them. We are taking a new approach to solving some of our customers' toughest environmental problems.

### We call it ecomagination.™

#### Impact of ecomagination:

A manufacturing and warehouse facility was looking to reduce costs and greenhouse gas emissions:

**Existing Lighting**  
 400W MH std. CWA  
 Light output\* 23,000 mean lumens at 8,000 hours (19,200 lumens at 12,000 hours)  
 Size 100,000 sq. ft. ~ 300 fixtures  
 Energy Rate/Burning Hours 10¢ kWh/5,000 per year  
 Total Watts per Fixture 458  
 Energy Used \$68,700  
 RoHS compliant\*\* No

#### Proposed Lighting

4-Lamp T5W/MH with UltraStart® Ballast  
 Light output\* 19,000 mean lumens at 12,000 hours  
 Watts per Fixture 216  
 Energy Used \$32,400  
 Energy Saved \$36,300  
 RoHS compliant\*\* Yes

#### Environmental Impact

Watts Saved 363,000 kilowatt-hours per year  
 Greenhouse gases (Co<sub>2</sub>) Reduced by 519,090 lbs. per year  
 SO<sub>2</sub> Reduced by 2,030 lbs. per year  
 The equivalent effect of:  
 Equivalent Forestation 71 acres  
 Equivalent Cars 45 cars removed from the roads for a year



### Our heritage, our future

We believe that better technology is the answer to our customers' environmental challenges. And we are confident we can find tomorrow's solutions to those challenges just as we have since the days of our founder, Thomas Edison.

Throughout our 115-year history, we have invented solutions to meet our customers' greatest needs. Over many years, we have developed one of the broadest ranges of environmentally advanced technologies. We will build on this legacy of success by researching and developing next-generation clean technologies. Our goal is to be a leader in bringing clean energy, air, water and improved quality of life to all of the world's citizens.

## ecomagination<sup>SM</sup>



imagination at work

## GE Consumer & Industrial Lighting

### Product Warranties

Light your world with a brand you can trust—GE.

GE has been a leader in innovative lighting technologies for over 100 years. Our name on the labels is virtually synonymous with dependable, efficient, high-quality products—and that is why we are totally confident in the system performance and reliability of our lamps and ballasts. Also it is why we are willing to back them with a limited warranty that provides excellent coverage against defects in materials and workmanship.

If your GE lamp or ballast, when installed and used properly, fails during its warranty period because of defects in materials or workmanship, our warranties provide for purchase price credits or replacement. Of course, every lamp, ballast and system is different and warranty details vary, so check the individual warranty for your product at <http://genet.geighting.com/LightProducts/html/warranties.htm>.

### GE Ultra High Efficiency Design is Ultra Cool!

#### Results:

Combine GE's Ultra ballasts with cool running fixtures to achieve maximum system performance in hot temperatures. GE provides the Ultra Cool™ system certification with high grade fixture systems which means a 5 year 55°C max ambient warranty.

#### System Limited Warranty

##### GE Lamps operating on GE Ballast

Compact Fluorescent Lamp	Warranty*	Electronic Ballast Warranty	Electromagnetic Ballast Warranty
Double Black® 13", 18", 26-watt 4-pin base	1 year after date of purchase or 4000 hrs.	5 years from date of manufacture	2 years from date of manufacture
Triple Black® 13", 18", 26", 32", 42-watt	1 year after date of purchase or 4000 hrs.	5 years from date of manufacture	2 years from date of manufacture
20", 10", 16", 21", 28", 38-watt	1 year after date of purchase or 4000 hrs.	5 years from date of manufacture	2 years from date of manufacture
Linear Fluorescent Lamp	Warranty	Electronic Ballast Warranty	Electromagnetic Ballast Warranty
F25T12**	3 years after date of purchase or 10,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
F28T8, F32T8, F32T8MM	3 years after date of purchase or 10,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
F32T8/XL, F32T8/XL/JHL, F32T8/XL/MM	3 years after date of purchase or 12,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
F32T8/SXL, F32T8/Z5W	4.5 years after date of purchase or 15,750 hrs.	5 years from date of manufacture	2 years from date of manufacture
F40T5HE, F21T5HE, F28T5HE, F35T5HE, F54T5HO	4 years after date of purchase or 14,000 hrs.	5 years from date of manufacture	2 years from date of manufacture
F40T5/MM, F21T5/MM, F28T5/MM, F35T5/MM, F54T5/MM	3.5 years after date of purchase or 12,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
F28W15/HL	3 years after date of purchase or 10,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
F96T8	2 years after date of purchase or 8,000 hrs.	5 years from date of manufacture	2 years from date of manufacture
F96T8/XL, F96T8/XL/MM, F96T8/XL/WMP	3 years after date of purchase or 10,500 hrs.	5 years from date of manufacture	2 years from date of manufacture
HID Lamp	Warranty	Electronic Ballast Warranty	Electromagnetic Ballast Warranty
CMH® ConstantColor® SPXX 250-, 320-, 350-, 400-watt	1 year after date of purchase or 5000 hrs.	5 years from date of manufacture	2 years from date of manufacture
PulseArc® 250-, 320-, 350-, 400-watt	1 year after date of purchase or 5000 hrs.	5 years from date of manufacture	2 years from date of manufacture

\*Based on whichever comes first

\*\*On GE Normal light output UltraMax®, ProLine® or MultiVolt ProLine® instant start ballasts

\*\*\*See warranties at [geighting.com](http://geighting.com) for specific lamp cycle requirements for instant start & program start ballasts. Cycle time with program start ballasts shall be 15 minutes or greater

\*\*\*\*All configurations of lamps are included

\*Mean lumen measured at 40% of rated life  
 \*\*RoHS compliant European Directive (2002/95/EC on the Restriction of Hazardous Substances) states that beyond certain limited exemptions electrical and electronic products shall not contain lead, cadmium, mercury, hexavalent chromium, polybrominated diphenyl ethers (PBDEs) or polybrominated diphenyl ether (PBDEs)

GE's UltraStart® ballasts use lead-free solder and other environmentally preferable materials that meet the RoHS directive.

RoHS-compliant ballasts are GE's standard. GE's UltraStart® ballasts meet their disposal needs now, and in the future.

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## 2008 Ballast Product Catalog

Ecomagination<sup>®</sup> is GE's commitment to create products that help our customers improve their environmental and operating performance. GE's UltraStart<sup>®</sup> T5 and T8 programmed start and GE UltraMax<sup>®</sup> Instant Start ballasts are among the highest energy-efficient ballasts available and contribute to significant reductions in energy consumption and the curbing of greenhouse gas emissions.

### RoHS compliant:

European Directive (2002/95/EC on the Restriction of Hazardous Substances) states that (beyond certain limited exemptions) electrical and electronic products shall not contain lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBBs), or polybrominated diphenyl ethers (PBDEs). GE's electronic ballasts use lead-free solder and other environmentally preferable materials that meet the RoHS directive. Although not required in the U.S., RoHS-compliant ballasts show GE's commitment to helping our customers meet their disposal needs now, and in the future. GE encourages customer awareness on the importance of reducing hazardous materials and getting ahead of complying with environmental trends. Look for the RoHS-compliant mark on GE ballasts.

### UltraMax<sup>®</sup> Electronic Ballast

A family of high-efficiency GE T8 instant-start electronic linear fluorescent ballasts designed to optimize GE's T8 Ultra lamps for optimal system energy savings. UltraMax<sup>®</sup> ballasts have a lamp-friendly low-lamp-current crest factor and virtually "read" and adapt to incoming voltage from 108V to 305V. Other features include UL Type CC Anti-Arc Rating and anti-stratification control to eliminate lamp striations and spiraling. All UltraMax<sup>®</sup> ballasts exceed 90% efficiency and the NEMA Premium<sup>®</sup> ballast program minimum efficiency requirements.

### UltraStart<sup>®</sup> Electronic Ballast

UltraStart<sup>®</sup> ballasts are a family of high-efficiency GE Program Start (see page 36) electronic linear fluorescent ballasts designed to optimize GE's T8 and T5 Ultra lamps in frequently switched applications. Instant Start ballasts provide approximately 10,000 starts before 50% of lamp failure. UltraStart<sup>®</sup> provides greater than 100,000 starts. UltraStart<sup>®</sup> have the equivalent energy savings and convenience of instant start ballasts but with the long lamp life of a programmed start ballast.

UltraStart<sup>®</sup> T8 L, N and H ballasts exceed 90% efficiency and the NEMA Premium<sup>®</sup> ballast program minimum efficiency requirements.

This catalog contains North America ballast and lamp data as of December 2007. Additional information is constantly being uncovered through research and testing, which may modify the data given herein. Changes may be made at any time. The data and suggested applications should not be taken as representations or warranties as to the suitability of a ballast for a particular application.



UltraMax<sup>®</sup> T8 Electronic Ballast



UltraStart<sup>®</sup> T8 Electronic Ballast



Multivolt ProLine<sup>®</sup> CFL Ballast

### ProLine<sup>®</sup> Electronic Ballast

Offered in dedicated or multivolt (120-277V), these high-performance T8 instant start ballasts are long life, less than 10% THD and most models also meet minimum efficiency requirements of the NEMA Premium<sup>®</sup> ballast program.

### Compact Fluorescent Lamp (CFL)

CFLs are single-ended T4 and T5 lamps that are bent to form a compact shape. Screw-in CFLs have an integral ballast with a screw base for easy replacement of incandescent lamps. GE offers multi-voltage, multi-lamp and multi-entry ballasts for a wide range of CFL plug-in lamps. Multivolt ProLine<sup>®</sup> CFL ballasts are designed for plug-in lamps so that a ballast will survive over the useful life of approximately 3-to-4 lamp lives.

### Electromagnetic Ballast (Magnetic Ballast)

Primarily used for T12 lamps, these ballasts operate lamps at a less efficient 60Hz and typically have efficiencies of 70-80%. Most ballasts consist of a core and coil transformer assembly. Today, magnetic ballasts for 4 foot and 8 foot lamps are typically used only for replacement purposes and are restricted by EPACT to be sold, even in replacement applications, starting in 2009.

### Sign Ballast (Magnetic Ballast)

Designed to operate T12 HO Lamps at 120 volts in cold and damp conditions in sign cabinets.



Sign Ballast



HID Electromagnetic Ballast Kit

### GE eHID, Electronic High Intensity Discharge Ballast (eHID)

Electronic HID significantly improves the performance of HID lighting. GE's UltraMax<sup>®</sup> eHID ballast operates pulse start and ceramic metal halide lamps.

### GE High Intensity Discharge Ballast (HID)

HID magnetic ballasts consist of robust core and coil designs that meet or exceed minimum ANSI requirements. These ballasts are typically sold as distributor replacement kits which are pre-wired with a capacitor, ignitor (if applicable) and all necessary mounting hardware and instructions. Each wattage is typically offered in quad (MLT-120/208/240/277 volt), 5-tap (MLS-120/208/240/277/480 volt) or 480 volt (48T) options.



UltraMax<sup>®</sup> eHID Ballast

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>T8 Instant Start Multi-Voltage High-Efficiency</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps						
72258	GEI32MAX-N/ULTRA	1 - F32T8 120 to 277 "L" 77 BF UltraMax®	38			10
49775	GEI32MAX-N/ULTRA	1 - F32T8 120 to 277 "N" 87 BF UltraMax®	38	72260		10
72262	GEI32MAX-H/ULTRA	2 or 1 - F32T8 120 to 277 "H" 1.15 BF UltraMax®	39	47548		10
72266	GEI32MAX-N/ULTRA	2 or 1 - F32T8 120 to 277 "N" 77 BF UltraMax®	39	72256		10
	GEI32MAX-H/ULTRA	2 or 1 - F32T8 120 to 277 "H" 1.15 BF UltraMax®	40	72267		10
71734	GEI32MAX-N/ULTRA	3 or 2 - F32T8 120 to 277 "N" 1.0 BF UltraMax®	40			10
71717	GEI32MAX-H/ULTRA	3 or 2 - F32T8 120 to 277 "H" 1.15 BF UltraMax®	41	71715		10
71717	GEI32MAX-N/ULTRA	3 or 2 - F32T8 120 to 277 "N" 77 BF UltraMax®	41	71718		10
71723	GEI32MAX-H/ULTRA	3 or 2 - F32T8 120 to 277 "H" 1.0 BF UltraMax®	42	71721		10
71725	GEI32MAX-N/ULTRA	4 or 3 - F32T8 120 to 277 "N" 1.15 BF UltraMax®	43	71724		10
71725	GEI32MAX-H/ULTRA	4 or 3 - F32T8 120 to 277 "H" 1.15 BF UltraMax®	43	71726		10
71725	GEI32MAX-N/ULTRA	4 or 3 - F32T8 120 to 277 "N" 77 BF UltraMax®	44	71729		10
71725	GEI32MAX-H/ULTRA	4 or 3 - F32T8 120 to 277 "H" 77 BF UltraMax®	44			10
71731	GEI32MAX-H/90-V60	6, 5, 4 - F32T8 120 to 277 "H" 77 BF UltraMax® 0-10V 100-60% continuous dim		71732		10
71497	GEI32MAX-H/90-V60	6, 5, 4 - F32T8 120 to 277 "H" 77 BF UltraMax® 95% 100/60% step dim		71502		10
For 46 - 59W/4 ft - 8 ft Slimline Lamps						
49766	GEI59MAX-N/ULTRA	1 - F96T8 120 to 277 "N" 87 BF UltraMax®	45			10
49767	GEI59MAX-H/ULTRA	2 or 1 - F96T8 120 to 277 "H" 87 BF UltraMax®	45	23954		10
<b>ProLine® T8 Multivolt 120V - 277V</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps						
72269	GE-132-MV-N	1 - F32T8 120 to 277 "N" 87 BF MV ProLine®	46	72270		10
30198	GE-232-MV-H	2 or 1 - F32T8 120 to 277 "H" 1.18 BF MV ProLine®	46	30275		10
72273	GE-232-MV-L	2 or 1 - F32T8 120 to 277 "L" 77 BF MV ProLine®	47	72274		10
72275	GE-332-MV-N	2 or 1 - F32T8 120 to 277 "N" 87 BF MV ProLine®	47	72276	72277	10
30199	GE-332-MV-H	3 or 2 - F32T8 120 to 277 "H" 1.15 BF MV ProLine®	48	30296		10
30255	GE-332-MV-L	3 or 2 - F32T8 120 to 277 "L" 77 BF MV ProLine®	48	30309		10
30192	GE-332-MV-N	3 or 2 - F32T8 120 to 277 "N" 87 BF MV ProLine®	49	30270	97710	10
30219	GE-432-MV-H	4 or 3 - F32T8 120 to 277 "H" 1.15 BF MV ProLine®	49	30303		10
30262	GE-432-MV-L	4 or 3 - F32T8 120 to 277 "L" 77 BF MV ProLine®	50	30310		10
30193	GE-432-MV-N	4 or 3 - F32T8 120 to 277 "N" 87 BF MV ProLine®	50	30271	97711	10
For 46 - 59W/4 ft - 8 ft Slimline Lamps						
30195	GE-159-MV-N	1 - F96T8 120 to 277 "N" 87 BF MV ProLine®	51	30274		10
30194	GE-259-MV-N	2 or 1 - F96T8 120 to 277 "N" 87 BF MV ProLine®	51	30272	97712	10
<b>ProLine® T8 Multivolt High Output 120V - 277V</b>						
For 44 - 86W/4 ft - 8 ft HO Lamps						
30176	GE-286-HO-MV-N	2 or 1 - F96T8HO 120 to 277 "N" 87 BF	52	30187		10
<b>ProLine® T8 Instant-Start High-Performance</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps						
23680	GE-132-120-N	1 - F32T8 120V "N" 87 BF ProLine®	53	24161		10
23681	GE-132-277-N	1 - F32T8 277V "N" 87 BF ProLine®	53	24162		10
23671	GE-232-120-N	2 or 1 - F32T8 120V "N" 87 BF ProLine®	54	24163		10
23672	GE-232-277-N	2 or 1 - F32T8 277V "N" 87 BF ProLine®	54	24164		10
23673	GE-332-120-N	3 or 2 - F32T8 120V "N" 87 BF ProLine®	55	24165		10
23674	GE-332-277-N	3 or 2 - F32T8 277V "N" 87 BF ProLine®	55	24166		10
23675	GE-432-120-N	4 or 3 - F32T8 120V "N" 87 BF ProLine®	56	24167		10
23676	GE-432-277-N	4 or 3 - F32T8 277V "N" 87 BF ProLine®	56	24168		10
For 46 - 59W/4 ft - 8 ft Slimline Lamps						
23677	GE-259-120-N	2 or 1 - F96T8 120V Normal Light 87 BF ProLine®	57	24169		10
23678	GE-259-277-N	2 or 1 - F96T8 277V "N" 87 BF ProLine®	57	24170		10

See page 195 for warranty information.

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>T8 Fluorescent Ballasts</b>						
<b>Residential Grade ProLine® T8 120V</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps						
97782	GE232-120-RES	2 or 1 - F32T8 120V "N" 87 BF Residential ProLine®	58		71037	10
97833	GE432-120-RES	4 or 3 - F32T8 120V "N" 87 BF Residential ProLine®	58		71038	10
<b>Electromagnetic T8 Ballasts</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps						
87125	GE4232TR8S120	2 - F32T8 RS 120V Magnetic Ballast	59			10
87130	GE4232TR8S277	2 - F32T8 RS 277V Magnetic Ballast	59			10
<b>T8 PROGRAMMED START BALLASTS</b>						
<b>UltraStart® T8 Programmed Start</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps						
29621	GE-232-120-PS-N	2 - F32T8 120V Normal Light 87 BF <10% THD UltraStart®	60	29630		10
29622	GE-232-277-PS-N	2 - F32T8 277V Normal Light 87 BF <10% THD UltraStart®	60	29632		10
96714	GE232-MVPS-N	2 or 1 - F32T8 120V-277V Normal Light 88 BF <10% THD UltraStart®	61	96717		10
96720	GE232-MVPS-L	2 or 1 - F32T8 120V-277V High Light 1.15 BF <10% THD UltraStart®	61			10
29675	GE-232-MVPS-H	2 - F32T8 120V-277V Normal Light 88 BF <10% THD UltraStart®	62	29661		10
29671	GE-232-MVPS-XL	2 - F32T8 120V-277V Ultra Low Watt 60 BF <10% THD	62	29665		10
29623	GE-332-120-PS-N	3 - F32T8 120V Normal Light 87 BF <10% THD UltraStart®	63	29633		10
29624	GE-332-277-PS-N	3 - F32T8 277V Normal Light 87 BF <10% THD UltraStart®	63	29634		10
29676	GE-332-MVPS-H	3 - F32T8 120V-277V High Light 1.15 BF <10% THD UltraStart®	64	29656		10
96715	GE332-MVPS-N	3 - F32T8 120V-277V Normal Light 88 BF <10% THD UltraStart®	64	96718		10
96721	GE332-MVPS-L	3 - F32T8 120V-277V Low Watt 71 BF <10% THD UltraStart®	65			10
29672	GE-332-MVPS-XL	3 - F32T8 120V-277V Ultra Low Watt 60 BF <10% THD	65	29666		10
29625	GE-432-120-PS-N	4 - F32T8 120V Normal Light 87 BF <10% THD UltraStart®	66	29635		10
29627	GE-432-277-PS-N	4 - F32T8 277V Normal Light 87 BF <10% THD UltraStart®	66	29650		10
96716	GE432-MVPS-N	4 - F32T8 120V-277V Normal Light 88 BF <10% THD UltraStart®	67	96719		10
71832	GE432-MVPS-L	4 - F32T8 120V-277V Low Watt 71 BF <10% THD UltraStart®	67			10
29678	GE-432-MVPS-H	4 - F32T8 120V-277V High Light 1.15 BF <10% THD UltraStart®	68	29657		8
<b>T8 Dimming</b>						
For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps						
80353	B332R120V5	1 - F32T8 DIM 100 to 5% RS 120	69			10
80355	B235R120V5	2 - F32T8 DIM 100 to 5% RS 120	69			10
80362	B235R277V50	2 - F32T8 Switch 100/50% RS 277	70			10
80356	B235R277V5	2 - F32T8 DIM 100 to 5% RS 277	70			10
80357	B332S2R120V5	3 - F32T8 DIM 100 to 5% RS 120	71			10
80358	B332S2R277V5	3 - F32T8 DIM 100 to 5% RS 277	71			10

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See page 195 for warranty information.

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>T5 Fluorescent Ballasts</b>						
<b>T5 ELECTRONIC PROGRAMMED START BALLASTS</b>						
<b>T5 High Efficiency Programmed Start</b>						
For F14(2 ft), F21(3 ft), F28(4 ft), F35(5 ft) HE T5 Lamps						
99653	GE228MVP5H-A	2 or 1 - F14-F28T5HE 120 to 277 UltraStart® PRS High Light 1.15 BF A Can	77	99654		10
99655	GE228MVP5-A	2 or 1 - F14-F35T5HE 120 to 277 UltraStart® PRS Normal Light .95 BF A Can	77	99656		10
47536	B228PUNV-COGIC	2 - F28T5 PRS UNV 50/60 Hz C Can	78			10
<b>T5 High Output Programmed Start</b>						
For F24(2 ft), F31(3 ft), F34(4 ft), F40(5 ft) HO T5 Lamps						
47534	B224PUNV-COGIC	2 - F24T5HO PRS UNV 50/60 Hz C Can	79			10
47540	B239PUNV-DOGIC	2 - F31T5HO PRS UNV 50/60 Hz D Can	79			10
99651	GE254MVP590-F	2 or 1 - F54T5HO 120 to 277 UltraStart® PRS High Temp F Can	80	99652		10
47542	B254PUNV-DGELC	2 - F54T5HO PRS UNV 50/60 Hz D Can	80			10
72279	GE254MVP5-D	2 or 1 - F54T5HO 120 to 277 UltraStart® PRS D Can	80			10
99649	GE454MVP590-E	4-1 - F54T5HO 120 to 277 UltraStart® PRS High Temp E Can	81	99650		8
29726	GE454MVP5N1	4.3, 2, or 1 - F54T5HO 120-277V UltraStar® PRS Can	81	29717		12
72280	GE180MVP5-D	1 - F80T5HO 120 to 277 UltraStar® PRS D Can				10
T5 lamp lengths are noted to nearest foot and are not exact lengths as noted in feet. See GE Lamp Catalog for exact lamp length.						
<b>T12 Fluorescent Ballasts</b>						
<b>T12 ELECTRONIC BALLASTS</b>						
<b>ProLine® T12 Multivolt 120V - 277V</b>						
For F20(2 ft), F30(3 ft), and F34(F40(4 ft) T12 Lamps						
24107	GE-240-RS-MV-N	2 or 1 - F40 or F34T12 Rapid Start 120 to 277 "N" BF ProLine® T12	85	24773		10
97498	GE240RS120	2 - F40 or F34T12 Rapid Start 120V "N" BF ProLine® T12	85	97499		10
72110	GE140RS120-DIV	1 - F40 or F34T12 Rapid Start Electronic 120V "N" BF DIY Pack	86	72110		10
24109	GE-340-RS-MV-N	3 or 2 - F40 or F34T12 Rapid Start 120 to 277 ProLine® T12	86	24774		10
24108	GE-260-S-MV-N	2 or 1 - F96T12 Instant Start 120 to 277	87	24776		10
For T12 4 ft - 8 ft Slimline Lamps						
<b>T12 HIGH OUTPUT</b>						
80162	B295SR120HP	2 - F96T12HOES RS 120	88			6
80163	B295SR277HP	2 - F96T12HOES RS 277	88			6
72109	GE296HO-MV-N	2 or 1 - F96T12 HO RS 120 to 277 Multivolt ProLine®	89			6
<b>T12 MAGNETIC BALLASTS</b>						
For 2 ft, Circeline, Preheat T12 Lamps						
89711	GEM120PH120DIV	1 - F20T12, F15T8, F1512, F14T8, F14T8, 120V Magnetic Ballast (200Hz)	90	89711		10
89712	GEM120TC120DIV	1 - F20T12, F15T8, F1512, F14T12, 120V Magnetic Ballast (5/6BCTCP)	90	89712		4
89720	GEM1FC16T9RS120	2 - FC12T9, FC16T9, FC8T9, FC12T9, 120V Magnetic (1726LHWSTCIP)	91	89720		4
86227	GEM1FC8T9RS120HP	1 - FC8T9, FC6T9 RS 120V Magnetic Ballast (547RSVSTCIP)	91	89722		10
89717	GEM1FC12T9RS120	2 FC12T9 RS 120V Magnetic Ballast (449LRSVSTCIP)	92	89717		4
80619	GEM220T5120DIV	2 - F20T12, F15T8, F1512, F14T12, 120V Magnetic Ballast (447LRLVLTCP)	92	80619		4

Quick reference ballast selection guide (cont.)

Prod Code	Existing	New	Description (Same)	Application	Product Page Number	Units Per Carton
<b>T8 Fluorescent Ballasts</b>						
<b>2008 T8 Ballast Enhancement New Product Code Cross Reference</b>						
<b>UltraMax® Instant-Start Multi-Voltage High-Efficiency</b>						
49706	72258	72258	GE132MAX-L/ULTRA	1 - F32T8 120 to 277 "L" .77 BF UltraMax®	38	10
49771	72259	72259	GE132MAX-N/ULTRA	1 - F32T8 120 to 277 "N" .87 BF UltraMax®	38	10
23939	72260	72260	GE132MAX-N-DIY	1 - F32T8 120 to 277 "N" .87 BF UltraMax® DIY Pack		4
49707	72262	72262	GE232MAX-L/ULTRA	2 or 1 - F32T8 120 to 277 "L" .77 BF UltraMax®	39	10
47506	72263	72263	GE232MAX-L-42T	2 or 1 - F32T8 120 to 277 "L" .77 BF UltraMax® Pallet Pack		420
71281	72264	72264	GE232MAX-N/42T	2 or 1 - F32T8 120 to 277 "N" .87 BF UltraMax® Pallet Pack		10
97656	72265	72265	GE232MAX-N/CTR	2 or 1 - F32T8 120 to 277 "N" .87 BF UltraMax® w/ JST Connectors		10
49772	72266	72266	GE232MAX-N/ULTRA	2 or 1 - F32T8 120 to 277 "N" .87 BF UltraMax®	40	10
31052	72267	72267	GE232MAX-N-42T	2 or 1 - F32T8 120 to 277 "N" .87 BF UltraMax® Pallet Pack		420
23940	72268	72268	GE232MAX-N-DIY	2 or 1 - F32T8 120 to 277 "N" .87 BF UltraMax® DIY Pack		10
49776	71714	71714	GE332MAX-H/ULTRA	3 or 2 - F32T8 120 to 277 "H" 1.18 BF UltraMax®	41	10
47509	71715	71715	GE332MAX-H-42T	3 or 2 - F32T8 120 to 277 "H" 1.18 BF UltraMax® Pallet Pack		420
49708	71717	71717	GE332MAX-L/ULTRA	3 or 2 - F32T8 120 to 277 "L" .77 BF UltraMax®	41	10
31055	71718	71718	GE332MAX-L-42T	3 or 2 - F32T8 120 to 277 "L" .77 BF UltraMax® Pallet Pack		420
97657	71720	71720	GE332MAX-N/CTR	3 or 2 - F32T8 120 to 277 "N" .87 BF UltraMax® w/ JST Connectors		10
49773	71719	71719	GE332MAX-N/ULTRA	3 or 2 - F32T8 120 to 277 "N" .87 BF UltraMax®	42	10
31053	71721	71721	GE332MAX-N-42T	3 or 2 - F32T8 120 to 277 "N" .87 BF UltraMax® Pallet Pack		420
23941	71722	71722	GE332MAX-N-DIY	3 or 2 - F32T8 120 to 277 "N" .87 BF UltraMax® DIY Pack		4
49777	71723	71723	GE432MAX-H/ULTRA	4 or 3 - F32T8 120 to 277 "H" 1.18 BF UltraMax®	43	10
47550	71724	71724	GE432MAX-H-42T	4 or 3 - F32T8 120 to 277 "H" 1.18 BF UltraMax® Pallet Pack		420
49709	71725	71725	GE432MAX-L/ULTRA	4 or 3 - F32T8 120 to 277 "L" .77 BF UltraMax®	43	10
47547	71726	71726	GE432MAX-L-42T	4 or 3 - F32T8 120 to 277 "L" .77 BF UltraMax® Pallet Pack		420
97658	71728	71728	GE432MAX-N/CTR	4 or 3 - F32T8 120 to 277 "N" .87 BF UltraMax® w/ JST Connectors		10
49774	71729	71729	GE432MAX-N/ULTRA	4 or 3 - F32T8 120 to 277 "N" .87 BF UltraMax®	44	10
31054	71730	71730	GE432MAX-N-42T	4 or 3 - F32T8 120 to 277 "N" .87 BF UltraMax® Pallet Pack		420
23942	71730	71730	GE432MAX-N-DIY	4 or 3 - F32T8 120 to 277 "N" .87 BF UltraMax® DIY Pack		4
<b>ProLine® T8 Multivolt 120-277V</b>						
30189	72269	72269	GE-132-MV-N	1 - F32T8 120 to 277 "N" .87 BF Multivolt ProLine®	46	10
30248	72270	72270	GE-132-MV-N-42T	1 - F32T8 120 to 277 "N" .87 BF Multivolt ProLine® Pallet Pack		420
30247	72273	72273	GE-232-MV-L	2 or 1 - F32T8 120 to 277 "L" .77 BF Multivolt ProLine®	47	10
30308	72274	72274	GE-232-MV-L-42T	2 or 1 - F32T8 120 to 277 "L" .77 BF Multivolt ProLine® Pallet Pack		420
30191	72275	72275	GE-232-MV-N	2 or 1 - F32T8 120 to 277 "N" .87 BF Multivolt ProLine®	47	10
30269	72276	72276	GE-232-MV-N-42T	2 or 1 - F32T8 120 to 277 "N" .87 BF Multivolt ProLine® Pallet Pack		420
97709	72277	72277	GE232MV-N-DIY	2 or 1 - F32T8 120 to 277 "N" .87 BF Multivolt ProLine® Pallet Pack DIY Pack		4

Quick reference ballast selection guide (cont.)

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>T12 Fluorescent Ballasts</b>						
For F30, F34/F40 (4 ft) T12 Lamps						
89714	GEM140RS120DIY	1 - F40T12, F40T12, 120V Magnetic Ballast (4x12,LSLH)TCPI	93		89714	4
89709	GEM140RS120DIY	1 - F40T12, F30T12, F48/25W, 120V Magnetic Ballast (4x13,CT)CPI	93		89709	4
80644	GEM230RS120DIY	2 - F30T12, 120V Magnetic Ballast (57.3x)TCPI	94		80644	4
89710	GEM240RS120DIY	2 - F40T12, F40T12, 120V Magnetic Ballast (4x20,LT)CPI	94		89710	4
86139	GEM240RS120IP	2 - F40T12, RS 120V Magnetic Ballast (4x46,SL)H)TCPI	95		46958	10
86124	GEM240RS277IP	2 - F40T12, RS 277V Magnetic Ballast (4x43,LSL)H)TCPI	95		89713	10
86341	GEM240RS220IP	2 - F40T12, F40T10, 220V Magnetic Ballast (75x4)TCPI	96			10
For T1.2 4 ft - 8 ft Slimline Lamps						
86372	GEM196S120IP	1 - F96T12 IS 120 Magnetic Ballast (82x28)RTCP	97		86372	6
86381	GEM196S277IP	1 - F96T12 IS 277V Magnetic Ballast (82x28)RTCP	97		97	6
86360	GEM296S120IP	2 - F96T12 IS 120V Magnetic Ballast (80x65)LT)CPI	98		46965	6
86379	GEM296S277IP	2 - F96T12 IS 277V Magnetic Ballast (82x75)LT)CPI	98		89715	6
For T1.2 High Output Lamps						
86164	GEM296HORS120IP	2 - F96T12HO, F96T12HO, F72T12HO, RS 120V Magnetic Ballast (4x80)SL)TCPI	99		89718	4
86171	GEM296HORS277IP	2 - F96T12HO, F96T12HO, RS 277V Magnetic Ballast (4x87)SL)TCPI	99			4
80664	46982	2 - F72T12/BU)HO Suntion 120 Magnetic Ballast	100			10

FLUORESCENT ACCESSORIES

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>Starters</b>						
80619	FS-2-C	Starters for 14-, 15 & 20 Watt Flu. Lamps	100			24
80620	FS-4-C	Starters for 30 & 40 Watt Flu. Lamps	100			24
80621	FS-5-C	Starters for 4, 6 & 8 Watt Flu. Lamps	100			24
80622	FS-25-C	Starters for 22 & 25 Watt Flu. Lamps	100			24
80629	FS-12-C	Starters for 32 Watt Circular Flu. Lamps	100			24
<b>Sockets</b>						
80623	BP-SKT	Socket Set w/ Starter for Bi-Pin Flu. Lamps	100			12
80624	BP	Socket Set for Bi-Pin Flu. Lamps	100			12
80625	SL-SS	Socket Set for Slimline Flu. Lamps	100			12
80627	BP-PM	Force Mount Socket Set for Bi-Pin Flu. Lamps	100			12
80628	BP-LP	Low Profile Socket Set for Bi-Pin Flu. Lamps	100			12

Sign Ballasts

Std Pack Prod Code	Description	Application	Product Page Number	Pallet Pack	DIY Pack	Std Pack Units Per Carton
<b>Sign Ballasts</b>						
For T1.2 High Output Lamps						
72103	GESB-0412-12-IP	T12HO Sign ballast, 4 to 12 ft, 1 to 2 lamps	107			1
72104	GESB-0620-24-IP	T12HO Sign ballast, 6 to 20 ft, 2 to 4 lamps	107			1
72105	GESB-1224-24-IP	T12HO Sign ballast, 12 to 24 ft, 2 to 4 lamps	108			1
72106	GESB-1240-46-IP	T12HO Sign ballast, 12 to 40 ft, 4 to 6 lamps	108			1
72107	GESB-2040-24-IP	T12HO Sign ballast, 20 to 40 ft, 4 to 6 lamps	109			1
72108	GESB-2448-46-IP	T12HO Sign ballast, 24 to 48 ft, 4 to 6 lamps	109			1
88921	USE-0412-12-IP	4 to 12 ft, 1 to 2 lamps	110			4
88931	USE-0616-14-IP	6 to 16 ft, 1 to 4 lamps	110			4
88934	USE-1632-24-IP	16 to 32 ft, 2 to 4 lamps	111			2
88936	USE-1024-14-IP	10 to 24 ft, 1 to 4 lamps	111			2
88939	USE-2036-46-IP	20 to 36 ft, 4 to 6 lamps	112			2
88940	USE-2048-46-IP	20 to 48 ft, 4 to 6 lamps	112			2
88918	USE-0218-16-IP	Max 3.02 to 18 ft, 1 to 6 lamps	113			2
88919	USE-1048-16-IP	Max 3.10 to 48 ft, 1 to 6 lamps	113			2
88920	USE-1232-16-IP	Max 3.12 to 32 ft, 1 to 6 lamps	114			2

Prod Code	Description	Application	Product Page Number	Bottom Exit with Studs	Dual Exit/ Bottom side	3-Way Mounting	Units Per Carton
<b>Compact Fluorescent Ballasts</b>							
<b>ProLine® CFL Electronic Ballasts</b>							
For 13 - 42W T4 CFL Lamps							
71430	GEC213-MVPS-3W	2 or 1 - CFQ13W/G24q Bottom Exit 120-277V ProLine® PS	123	71428	71429	71430	10
71434	GEC218-MVPS-3W	2 or 1 - CFQ18W/G24q Bottom Exit 120-277 ProLine® PS	123	71432	71433	71434	10
71445	GEC226-MVPS-3W	2 - CFQ26W FT24 or 1-42W, CFTR32 Bottom Exit 120-277V ProLine® PS	124	71443	71444	71445	10
47509	C2420NVSE-IP	2 - 42/36/32/28/24 watt CFL/UVV side exit	124		47506		10
For 40W Biack® CFL Ballasts							
80683	C240FUVNHP-B-IP	2 or 1 - F140W/G24q PS UVN	125				10
80680	C240S120RH-IP	2 - F140W/G24q IS 120	125				10
80681	C240S127RH-IP	2 - F140W/G24q IS 277	126				10
80690	C340S120RH-IP	3 - F140W/G24q IS 120	126				10
80691	C340S127RH-IP	3 - F140W/G24q IS 277	127				10
For 5 - 26W Preheat CFL Lamps							
87634	GEM1CF579PH277	1 - CFT157909W/G23 Preheat 277 (4x20.5F2P)	128				20
87533	GEM1CF13PH120	1 - CFT1Q13W/GK23 Preheat 120 (4x11H2P)	128				20
<b>CFL Magnetic Ballasts</b>							
For 5 - 26W Preheat CFL Lamps							
87655	GEM2CF13PH277	2 - CFT1Q13W/GK23 Preheat 277 (4x21.4PBES)	129				10
87700	GEM2CF24PH277	2 - CFQ26W/G24d Preheat 277 (4x26PBES)	129				10
For 36 - 40W CFL Lamps							
87623	GEM2FT36RS120	2 - FT36W/G24q IS 120 (4x150P)	130				10
87625	GEM2FT40RS120	2 - FT40W/G24q IS 120 (4x152P)	130				10

## Quick reference ballast selection guide (cont.)

Prod Code	Description	Application	Product Page Number	ANSI Lamp Type	Circuit Type	Units Per Carton
<b>HID Electronic Ballasts</b>						
For 20 - 1500W Pulse-Start HID Lamps						
87490	GEMH20-MF-120	1 - 20W M156 120V Electronic HID	135	M156	Electronic	10
87501	GEMH39-MF-F120	1 - 39W M130 120V Electronic HID	135	M130	Electronic	10
87516	GEMH50-MSF-120	1 - 50W M110 M/C148 120V Electronic HID	136	M148, M110, C148	Electronic	10
87531	GEMH70-MSF-120	1 - 70W M98 M/C143 120V Electronic HID	136	M98, M143, M139, C143, C139	Electronic	10
87546	GEMH70-SL-FMV	1 - 70W M98 M/C143 120V-277V Electronic HID	137	M139, C139, M98, M143, C143	Electronic	10
87561	GEMH100-SL-FMV	1 - 100W M90 M/C140 120V-277V Electronic HID	137	M90, M140, C140	Electronic	10
87576	GEMH150-SL-FMV	1 - 150W M102 M/C142 120V-277V Electronic HID	138	M142, M102, C142	Electronic	10
For 250W - 400W Pulse-Start HID Lamps						
29377	GE-MH-250-400-MA	1 - 250 to 400W UltraMax® HID Electronic 208-277 50-60Hz	139	M155, M153, M138, M135, M132, M131, M154	Electronic	1
89646	GEMH250-400M-V50	1 - 250 to 400W UltraMax® HID Dimming 208-277 50-60Hz	139	M155, M154, M153, M138, M135, M132, M131	Electronic	1
<b>HID Electromagnetic Ballasts</b>						
<b>Metal Halide</b>						
For 20 - 175W Metal Halide HID Lamps						
86824	GEM50MLTLC3D-5	1 - 50W MH M110 or M148 Quad (120/208/240/277V)	144	M110	HX-HPF	6
86847	GEM70MLTLC3D-5	1 - 70W MH M98 or M143 Quad (120/208/240/277V)	144	M98	HX-HPF	6
86859	GEM7048TLC3D-5	1 - 70W MH M98 or M143 480	145	M98	HX-HPF	6
86675	GEM100MLTLC3D-5	1 - 100W MH M90 or M140 Quad (120/208/240/277V)	145	M92, M90, M140	HX-HPF	6
86667	GEM10048TLC3D-5	1 - 100W MH M90 or M140 480	146	M92, M90, 40	HX-HPF	6
86718	GEM150MLTLC3D-5	1 - 150W MH M102 or M142 Quad (120/208/240/277V)	146	M142, M102	HX-HPF	6
86711	GEM15048TLC3D-5	1 - 150W MH M102 or M142 480	147	M142, M102, M107	HX-HPF	6
87210	GEM175MLSAC3-5	1 - 175W MH M57 or H39 5-Top (120/208/240/277V)	147	M57, H39, M109	CWA	6
86741	GEM175MLTAC3-5	1 - 175W MH M57 or H39 Quad (120/208/240/277V)	148	M57, M107, H39	CWA	6
For 250 - 1500W Metal Halide HID Lamps						
87211	GEM250MLSAC3-5	1 - 250W MH M58 or H37 5-Top (120/208/240/277V)	149	M58, H37	CWA	6
86765	GEM250MLTAC3-5	1 - 250W MH M58 or H37 Quad (120/208/240/277V)	149	M58, H37	CWA	6
87212	GEM250MLSAC4-5	1 - 250W MH M58 or H37 5-Top (120/208/240/277V)	150	M58, H37	CWA	3
72300	GEM400ML5A4A-5	1 - 400W MH M59 or H33 5-Top (120/208/240/277V)	150	M59, H33	CWA	3
72149	GEM400MLTAA4-5	1 - 400W MH M59 or H33 Quad (120/208/240/277V)	151	M59, H33	CWA	3
86603	GEM40048TAC4-5	1 - 400W MH M59 or H33 480	151	M59, H33	CWA	3
86650	GEM100048TAC5-5	1 - 1000W MH M47 or H36 480	152	M47, H36	CWA	2
87213	GEM1000ML5AA5-5	1 - 1000W MH M47 or H36 5-Top (120/208/240/277V)	152	M47, H36	CWA	2
86655	GEM1000MLTAA5-5	1 - 1000W MH M47 or H36 Quad (120/208/240/277V)	153	M47, H36	CWA	2
86693	GEM150048TAC5-5	1 - 1500W MH M48 480	153	M48	CWA	2
86698	GEM1500MLTAC5-5	1 - 1500W MH M48 Quad (120/208/240/277V)	154	M48	CWA	2

Prod Code	Description	Application	Product Page Number	ANSI Lamp Type	Circuit Type	Units Per Carton
<b>HID Electromagnetic Ballasts</b>						
<b>Pulse Start</b>						
For 175 - 1000W Pulse-Start Metal Halide HID Lamps						
86885	GEP1750MLTAC3-5	1 - 175W PS M137 or M152 Quad (120/208/240/277V)	155	M153, M137	CWA	6
86876	GEP175048TAC3-5	1 - 175W PS M137 or M152 480	155	M152, M137	CWA	6
86935	GEP2500MLTAC4-5	1 - 250W PS M138 or M153 Quad (120/208/240/277V)	156	M153, M138	CWA	3
86926	GEP25048TAC4-5	1 - 250W PS M138 or M153 480	156	M153, M138	CWA	3
86959	GEP3200MLTAC4-5	1 - 320W PS M132 or J54 Quad (120/208/240/277V)	157	M154, M132	CWA	3
86952	GEP32048TAC4-5	1 - 320W PS M132 or M154 480	157	M154, M132	CWA	3
86968	GEP320TRAC4-5	1 - 320W PS M132 or M154 TRI-Voltage 120 277 347	158	M154, M132	CWA	3
86984	GEP350MLTAC4-5	1 - 350W PS M131 Quad (120/208/240/277V)	158	M131	CWA	3
86999	GEP40048TAC4-5	1 - 400W PS M135 or M155 480	159	M155, M135	CWA	3
87008	GEP400MLTAC4-5	1 - 400W PS M135 or M155 Quad (120/208/240/277V)	159	M155, M135	CWA	3
46936	GEP75048TAC5-5	1 - 750W PS M149 480	160	M149	CWA	2
46934	GEP750MLTAC5-5	1 - 750W PS M149 Quad (120/208/240/277V)	160	M149	CWA	2
72281	GEP1000MLTAC5-5	1 - 1000W PS M141 Quad (120/208/240/277V)	161	M141	CWA	2
72282	GEP1000ML5AC5-5	1 - 1000W PS M141 5-Top (120/208/240/277V)	161	M141	CWA	2

Prod Code	Description	Application	Product Page Number	ANSI Lamp Type	Circuit Type	Units Per Carton
<b>High-Pressure Sodium</b>						
For 50 - 150W High-Pressure Sodium HID Lamps						
87152	GES50MLTLC3D-5	1 - 50W HPS S68 Quad (120/208/240/277V)	162	S68	HX-HPF	6
86587	GES70MLTLC3D-5	1 - 70W HPS S62 Quad (120/208/240/277V)	162	S62	HX-HPF	6
86456	GES7048TLC3D-5	1 - 70W HPS S62 480V	163	S62	HX-HPF	6
87074	GES100MLTLC3D-5	1 - 100W HPS S54 Quad (120/208/240/277V)	163	S54	HX-HPF	6
87068	GES10048TLC3D-5	1 - 100W HPS S54 480V	164	S54	HX-HPF	6
87094	GES150MLTLC3D-5	1 - 150W HPS S55 Quad (120/208/240/277V)	164	S55	HX-HPF	6
87087	GES15048TLC3D-5	1 - 150W HPS S55 480V	165	S55	HX-HPF	6
For 250 - 1000W High-Pressure Sodium HID Lamps						
87214	GES250ML5AC4-5	1 - 250W HPS S50 5-Top (120/208/240/277V)	166	S50	CWA	3
87121	GES250MLTAC4-5	1 - 250W HPS S50 Quad (120/208/240/277V)	166	S50	CWA	3
87215	GES400ML5AC4-5	1 - 400W HPS S51 5-Top (120/208/240/277V)	167	S51	CWA	3
87164	GES400MLTAC4-5	1 - 400W HPS S51 Quad (120/208/240/277V)	167	S51	CWA	3
87198	GES40048TAC4-5	1 - 400W HPS S51 480V in smaller frame	168	S51	CWA	3
87048	GES100048TAC5-5	1 - 1000W HPS S52 5-Top (120/208/240/277V)	168	S52	CWA	2
87218	GES1000ML5AC5-5	1 - 1000W HPS S52 5-Top (120/208/240/277V)	169	S52	CWA	2
87056	GES1000MLTAC5-5	1 - 1000W HPS S52 Quad (120/208/240/277V)	169	S52	CWA	2



Quick reference ballast selection guide (cont.)

Prod Code	Description	Application	Product Page Number	ANSI Lamp Type	Circuit Type	Units Per Carton
<b>HID Electromagnetic Ballasts</b>						
<b>High Intensity Discharge Lamp Ballast Kits</b>						
71701	GEM175MLSAC3-55	1 - 175W MH M57 or H39 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	170	M57 Mogul Base Elliptical Lamp	CWA	1
71702	GEM250MLSAC3-55	1 - 250W MH M58 or H37 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	170	M58 Mogul Base Elliptical Lamp	CWA	1
71703	GEM400MLSAC4-55	1 - 400W MH M59 or H35 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	171	M59 Mogul Base Elliptical Lamp	CWA	1
71704	GEM1000MLSAC4-55	1 - 1000W MH M47 or H36 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	171	M47 Mogul Base Elliptical Lamp	CWA	1
71705	GES100MLTLC3D-55	1 - 100W HPS S54 Quad (120/208/240/277V) Lamp & Ballast Kit (L-55)	172	S54 Medium Base Elliptical Lamp	HX-HPF	1
71706	GES250MLSAC4-55	1 - 250W HPS S50 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	172	M50 Mogul Base ED18 Lamp	CWA	1
71707	GES400MLSAC4-55	1 - 400W HPS S51 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (L-55)	173	S51 Mogul Base ED18 Lamp	CWA	1
<b>Enclosed and Potted Metal Halide</b>						
86576	11210277CTC000C	1 - 70W M85 120/277 Enclosed & Potted	174	M85	HX-HPF	4
86578	11210506CTC000C	1 - 70W M98 120/277 Enclosed & Potted	174	M98	HX-HPF	4
86574	11210239CTC000I	1 - 100W M90 120/277 Enclosed & Potted	175	M90	HX-HPF	4
86563	11102455CTC000I	1 - 175W M57 120/277 Enclosed & Potted	175	M57, H39	CWA	2
86564	1110246CTC000C	1 - 250W M58 120/277 Enclosed & Potted	176	M58, H37	CWA	2
42670	1110-2475C-TC	1 - 400W M59 120/277 Enclosed & Potted F-can	176	M59, H33	CWA	2
80728	1111-2475CTC000I	1 - 400W M59 120/277 Enclosed & Potted	177	M59, H33	CWA	4
<b>F-Can and Post Mount High Pressure Sodium</b>						
86605	1233142J000I	1 - 70W S62 120 Reactor-NPF	178	S62	R-HPF, R-NPF	6
86596	12210237CTC000I	1 - 70W S62 120/277 E and P F-Can built-in starter	178	S62	HX-HPF	4
86606	1233154J000I	1 - 150W S55 120 Reactor-NPF	179	S55	R-NPF	6

Prod Code	Description	Application	Product Page Number	ANSI Lamp Type	Circuit Type	Units Per Carton
<b>HID Electromagnetic Ballasts</b>						
<b>HID ACCESSORIES</b>						
<b>Replacement Capacitors</b>						
88980	005-1184-MF	10.0 MFD 400V 90C 2.4 MEG 1.50 oval 27 ht	179			20
88982	005-1185-MF	15.0 MFD 400V 90C 1.6 MEG 1.75 oval 27 ht	179			20
89007	005-1422-MF	48.0 MFD 300V 90C 0.6 MEG 1.75 oval 3.9 ht	179			20
89077	005-2779-MF	24.0 MFD 480V 90C 1.75 oval 3.9 ht	179			20
89083	005-3160-MF	24.0 MFD 360V 90C 1.0 MEG 1.75 oval 3.1 ht	179			20
<b>Replacement Igniters for Pulse Start lamps - (MH and HPS)</b>						
86864	MH100-3A	Ignitor for MH 30 5070 100	179			20
86635	HPS150-3A	Ignitor HPS 150 watts or less except 150W-556	179			20
86641	HPS400-3A	Ignitor HPS 200-400 watts & 150W-556	179			10
<b>Other Accessories</b>						
47621	000-8724	HIDP Adjustable Mounting Bracket Hardware Kit	179			100
86467	001-2009	Splice Box	179			10
86468	004-9177	Adjustable Mounting Bracket For 4"	179			50
86624	28MB1000C	HID Parts ESP Mounting Bracket	179			50

Quick reference lamp to ballast selection guide

Table with columns: Lamp Type, Voltage, # of Lamps, Fluorescent Ballast Type, Ballast Description, Fluorescent Ballast Long Description, Ballast Product Code, Prod Code Page No.

Table with columns: Lamp Type, Voltage, # of Lamps, Fluorescent Ballast Type, Ballast Description, Fluorescent Ballast Long Description, Ballast Product Code, Prod Code Page No.





Table with columns: Lamp Type, # of Lamps, Voltage, Fluorescent Ballast Type, Ballast Product Code, Ballast Description, Fluorescent Ballast Long Description, Prod Code Page No. Includes sections for Linear Fluorescent Lamps and F3012MM.

Quick reference lamp to ballast selection guide (cont.)

Table with columns: Lamp Type, # of Lamps, Voltage, Fluorescent Ballast Type, Ballast Product Code, Ballast Description, Fluorescent Ballast Long Description, Prod Code Page No. Includes sections for Linear Fluorescent Lamps and F2818.





Table with columns: Lamp Type, # of Lamps, Voltage, Fluorescent Ballast Type, Ballast Product Code, Ballast Description, Fluorescent Ballast Long Description, Prod Code Page No.

Quick reference lamp to ballast selection guide (cont.)

Table with columns: Lamp Type, # of Lamps, Voltage, Fluorescent Ballast Type, Ballast Product Code, Ballast Description, Fluorescent Ballast Long Description, Prod Code Page No.







Quick reference lamp to ballast selection guide (cont.)

Table with columns: Lamp Type, Use with ANSI Lamp Types, Wattage, PC, New GE Description (HID) Lamps, Circuit Type, Frame Size, Voltage, Cap., Ignitor, Prod Code Page No. Rows include various HID lamp types like M154, M135, M131, etc.

Table with columns: Lamp Type, Use with ANSI Lamp Types, Wattage, PC, New GE Description (HID) Lamps, Circuit Type, Frame Size, Voltage, Cap., Ignitor, Prod Code Page No. Rows include various HID lamp types like M110, M148, M143, etc.



## Understanding T8 Fluorescent Ballasts

A comprehensive range of solutions...from GE, 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® and UltraStart® ballasts, we are bringing you the future in ballast performance.

GE revolutionizes lighting again with breakthrough technology. Our patented UltraMax® instant-start and UltraStart® programmed start electronic ballasts transform the power of light into efficiency and savings from store shelves to the installation site. The foundation of the "Ultra" family of ballasts starts with its high efficiency ratings. High efficiency ballasts are a minimum of 90% efficiency with some ballasts nearly 95% efficient which means the ballast only consumes 5-10% of the total system power. These high efficiency ballasts exceed minimum high efficiency standards as established by almost all energy advocate groups, utility rebate programs and the NEMA Premium® ballast program. The ballasts are marked with the Ultra brand as well as the NEMA Premium® ballast mark. These ballasts have multi-voltage control (MVCL) 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 a low lamp current crest factor of 1.4 for optimal lamp performance. Both UltraMax® and UltraStart® have anti-striation control for better light quality with no lamp striations (spiraling). And the small, low-profile design of these ballasts makes retrofits effortless at the job site. Also unique to our programmed start UltraStart® ballasts is parallel lamp operation which ensures if one lamp fails the others remain on, and quick starting times of less than 700 milliseconds which is necessary in avoiding delays with automatic sensors.

## GE Fluorescent Ballast Types

### Electronic Instant Start

The most common fluorescent ballast is the instant start and is used typically in long 3 to 10-hour lamp cycle applications. These ballasts are energy efficient and can deliver up to 20% to greater than 40% energy savings when installed with energy-efficient lamps in building retrofits. These ballasts deliver >550 open circuit volts when starting lamps and operate lamps at high frequencies which offers flicker-free operation and better lamp efficiencies. The ballasts are significantly quieter than conventional magnetic ballasts and are backed by GE's ultra system 5-year ballast limited warranty and extended lamp warranties.

### UltraMax®

A family of high-efficiency GE T8 instant-start electronic linear fluorescent ballasts designed to optimize GE's T8 Ultra lamps for optimal system energy savings. UltraMax® ballasts have a low lamp current crest factor and virtually "read" and adapt to incoming voltage from 108V to 305V. Other features include UL Type CC Anti-Arc Rating and anti-striation control to eliminate lamp striations and spiraling. These ballasts are offered in ballast factors: low wattage (.77), normal light (.87), normal-high (NH)(1.0) and high (>1.15).

### ProLine®

Offered in dedicated or multi-volt (120-277V), these high-performance T8 instant-start ballasts also meet minimum efficiency requirements as established with the NEMA Premium® ballast program. These ballasts are offered in ballast factors: low wattage (.77), normal light (.87), and high (>1.15).

### Programmed Start

Programmed Start electronic ballasts have a lamp starting method that preheats lamp filaments while not allowing the lamp to ignite and then applies an open circuit voltage (OCV) to start the lamp. Use Programmed Start ballasts to ensure long lamp life when turning lamps on and off more than five times in a day or in conjunction with any automatic light control or sensor. This type of starting circuit keeps lamp-end blackening to a minimum and improves lamp life performance, especially in applications where the lamps are frequently switched on and off.

### UltraStart®

UltraStart® is a family of high-efficiency GE Programmed Start electronic linear fluorescent ballasts that also exceed NEMA Premium® ballast efficiency requirements but are designed to optimize GE's T8 Ultra lamps in frequently switched applications. Instant start ballasts provide 7,000-13,000 starts before 50% lamp failure. UltraStart® provides greater than 100,000 starts before 50% lamp failure. UltraStart® ballasts have the same energy savings and convenience of instant start ballasts but with the long lamp life of a programmed start ballast. These ballasts are offered in ballast factors: programmed start x-low wattage (XL)(.60), low wattage (.71), normal light (.87), and high (>1.15).

### Ballast Date Codes

#### Date Codes

GE electronic ballast manufacturing date codes are located on the upper right-hand corner of the label. The code lists the month, year and day of manufacture. A typical code is C06-073, where the month is listed as A (January), B (February), C (March) (as in this code) followed by the year 06 (2006) and the date of manufacture 073 (the 73rd day of 2006).

#### Ballast Life

GE electronic ballasts are designed and manufactured to an average life expectancy of 60,000 hours of operation at maximum rated case temperatures. As a rule of thumb, ballast life is doubled for every 10C reduction in ballast case temperature. However there are other variables such as transients, voltage sags and swells, ambient temperature, etc., which affect ballast life as well.

#### Instant Start vs. Rapid Start Sockets

When using programmed start or dimming ballasts in fixtures, sockets must be 2-pin rapid start type. Fixtures with T8 instant start ballasts must use jumpered rapid start sockets or shunted lamp holders (internal to the lamp holder) that bridge the lamp bi-pins together into one contact on each side of the lamp. If retrofitting from an instant start ballast fixture with shunted sockets to a dimming or programmed start ballast, rapid start type sockets must be used to properly start lamps and maintain rated lamp life.

### GE Ballast Electronic nomenclature

GE - 2 - 3 - 2 - M - V - S - N - 4 - 2 - T			
<b>GE Ballast</b> GE = CFL 2E = CFL Maximum of lamps supported by this ballast = 1, 2, 3, 4, 6	<b>Lamp Watts</b> Primary Lamp Secondary Lamp T12 = 40- four foot 60- eight foot 120 = 120 volt 277 = 277 volt MAX or MV = 120 - 277V	<b>IS = Instant Start, Standard (not shown)</b> A = Anti-Arc PS = Program Start	<b>Ultra-Hi Efficiency</b> S4142 = I = 840, 420 qty A, D, E = Can sizes BES = Bottom exit with studs SE = Dual - side & bottom exit 3W = 3 way mounting kit
<b>Ballast Factor</b> UL Type CC for MAX savings N = Normal for New Fixtures H = High Power, Tri-Flight, Tri-Bay			

geighting.com

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

**49775 – GE232MAX-H/ULTRA**  
 UltraMax® Instant Start Multi-Voltage High-Efficiency 2 or 1 – F32T8 120 to 277 V<sup>1</sup>, 1.15 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Active Current Regulation regulates the output to each lamp with individual lamp inverter modules
- Anti-stratification control for better light quality, with no stratifiers

**General characteristics**

Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Start Method	Preheat
Lamp Voltage	Rated
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	70°C (158°F)
Power Factor	Low
Power Factor Correction	Active
Sound Rating	A102-24 decibels
Additional Info	Anti-stratification control, Auto-Reset, Thermally protected

**Electrical characteristics**

Supply Current Frequency	50/60/60 Hz
Remotely Mounting Distance to Lamp	18 ft
Remotely Mounting Wire Gauge	18 AWG
Lead Lengths	Length 1 (in) 34 in (864 mm) Length 2 (in) 25 in (635 mm)

**Order information**

IP Pack	49775	IP Pack	
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**Specifications by lamp and wattage**

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) <sup>1</sup>	THDP (%) <sup>2</sup>	Min. Starting Temp. (°F/C)
F32T8	1	120	24	0.09 A	0.77	3.10	98	1.5	0/18
F32T8	1	277	24	0.09 A	0.77	3.10	98	1.5	0/18
F25T8	1	120	24	0.09 A	0.77	3.20	99	1.5	0/18
F25T8	1	277	24	0.09 A	0.77	3.20	99	1.5	0/18
F40T8	1	120	24	0.09 A	0.77	3.50	99	1.5	0/18
F40T8	1	277	24	0.09 A	0.77	3.50	99	1.5	0/18
F32T8	1	120	24	0.08 A	0.77	3.10	98	1.5	0/18
F32T8	1	277	24	0.08 A	0.77	3.10	98	1.5	0/18
F25T8	1	120	24	0.08 A	0.77	3.20	99	1.5	0/18
F25T8	1	277	24	0.08 A	0.77	3.20	99	1.5	0/18
F40T8	1	120	24	0.08 A	0.77	3.50	99	1.5	0/18
F40T8	1	277	24	0.08 A	0.77	3.50	99	1.5	0/18

**Safety and performance** UL, UL Type I Outdoor, UL, UL Type CC, UL, UL Class P, cUL Listed, REB Compliant, UL, UL Listed, REB Compliant

## 72262 – GE232MAX-L/ULTRA

UltraMax® Instant Start Multi-Voltage High-Efficiency 2 or 1 – F32T8 120 to 277 V<sup>1</sup>, 77 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Active Current Regulation regulates the output to each lamp with individual lamp inverter modules
- Anti-stratification control for better light quality, with no stratifiers
- Lamp frequency >70Hz

**General characteristics**

Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Start Method	Preheat
Lamp Voltage	Rated
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	70°C (158°F)
Power Factor	Low
Power Factor Correction	Active
Sound Rating	A102-24 decibels
Additional Info	Anti-stratification control, Auto-Reset, Thermally protected

**Electrical characteristics**

Supply Current Frequency	50/60/60 Hz
Remotely Mounting Distance to Lamp	18 ft
Remotely Mounting Wire Gauge	18 AWG
Lead Lengths	Length 1 (in) 34 in (864 mm) Length 2 (in) 25 in (635 mm)

**Order information**

IP Pack	72262	IP Pack	
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**Specifications by lamp and wattage**

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) <sup>1</sup>	THDP (%) <sup>2</sup>	Min. Starting Temp. (°F/C)
F32T8	1	120	24	0.09 A	0.76	3.10	98	1.5	0/18
F32T8	1	277	24	0.09 A	0.76	3.10	98	1.5	0/18
F25T8	1	120	24	0.09 A	0.76	3.20	99	1.5	0/18
F25T8	1	277	24	0.09 A	0.76	3.20	99	1.5	0/18
F40T8	1	120	24	0.09 A	0.76	3.50	99	1.5	0/18
F40T8	1	277	24	0.09 A	0.76	3.50	99	1.5	0/18

**Safety and performance** UL, UL Type I Outdoor, UL, UL Type CC, UL, UL Class P, cUL Listed, REB Compliant, UL, UL Listed, REB Compliant

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

**72258 – GE132MAX-L/ULTRA**  
 UltraMax® Instant Start Multi-Voltage High-Efficiency 1 – F32T8 120 to 277 V<sup>1</sup>, 77 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Active Current Regulation regulates the output to each lamp with individual lamp inverter modules
- Anti-stratification control for better light quality, with no stratifiers
- Lamp frequency >70Hz

**General characteristics**

Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Start Method	Preheat
Lamp Voltage	Rated
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	70°C (158°F)
Power Factor	Low
Power Factor Correction	Active
Sound Rating	A102-24 decibels
Additional Info	Anti-stratification control, Auto-Reset, Thermally protected

**Electrical characteristics**

Supply Current Frequency	50/60/60 Hz
Remotely Mounting Distance to Lamp	18 ft
Remotely Mounting Wire Gauge	18 AWG
Lead Lengths	Length 1 (in) 34 in (864 mm) Length 2 (in) 25 in (635 mm)

**Order information**

IP Pack	72258	IP Pack	
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**Specifications by lamp and wattage**

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) <sup>1</sup>	THDP (%) <sup>2</sup>	Min. Starting Temp. (°F/C)
F32T8	1	120	24	0.09 A	0.77	3.10	98	1.5	0/18
F32T8	1	277	24	0.09 A	0.77	3.10	98	1.5	0/18
F25T8	1	120	24	0.09 A	0.77	3.20	99	1.5	0/18
F25T8	1	277	24	0.09 A	0.77	3.20	99	1.5	0/18
F40T8	1	120	24	0.09 A	0.77	3.50	99	1.5	0/18
F40T8	1	277	24	0.09 A	0.77	3.50	99	1.5	0/18

**Safety and performance** UL, UL Type I Outdoor, UL, UL Type CC, UL, UL Class P, cUL Listed, REB Compliant, UL, UL Listed, REB Compliant

## 72259 – GE132MAX-N/ULTRA

UltraMax® Instant Start Multi-Voltage High-Efficiency 1 – F32T8 120 to 277 V<sup>1</sup>, 87 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Active Current Regulation regulates the output to each lamp with individual lamp inverter modules
- Anti-stratification control for better light quality, with no stratifiers
- Lamp frequency >70Hz

**General characteristics**

Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Start Method	Preheat
Lamp Voltage	Rated
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	70°C (158°F)
Power Factor	Low
Power Factor Correction	Active
Sound Rating	A102-24 decibels
Additional Info	Anti-stratification control, Auto-Reset, Thermally protected

**Electrical characteristics**

Supply Current Frequency	50/60/60 Hz
Remotely Mounting Distance to Lamp	18 ft
Remotely Mounting Wire Gauge	18 AWG
Lead Lengths	Length 1 (in) 34 in (864 mm) Length 2 (in) 25 in (635 mm)

**Order information**

IP Pack	72259	IP Pack	
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**Specifications by lamp and wattage**

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) <sup>1</sup>	THDP (%) <sup>2</sup>	Min. Starting Temp. (°F/C)
F32T8	1	120	24	0.09 A	0.87	3.10	98	1.5	0/18
F32T8	1	277	24	0.09 A	0.87	3.10	98	1.5	0/18
F25T8	1	120	24	0.09 A	0.87	3.20	99	1.5	0/18
F25T8	1	277	24	0.09 A	0.87	3.20	99	1.5	0/18
F40T8	1	120	24	0.09 A	0.87	3.50	99	1.5	0/18
F40T8	1	277	24	0.09 A	0.87	3.50	99	1.5	0/18

**Safety and performance** UL, UL Type I Outdoor, UL, UL Type CC, UL, UL Class P, cUL Listed, REB Compliant, UL, UL Listed, REB Compliant

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

- Energy-saving high-efficiency instant-start electronic ballast (> 90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type C Rating provides protection against arcing in electrical devices
- Anti-stratton control for better light quality, with no strattons
- Lamp frequency > 70 kHz
- UL 55C Ambient temperature rating

### 71714 – GE322MAX-H/Ultra

Replaces 49776  
UltraMax® Instant Start Multi-Voltage High-Efficiency 3 or 2 – F32/F18 120 to 277 V\* 1.18 BF UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Case Dimensions - Ref Drawing - A - see page 75	9.5 in (24.30 mm)
Height (in)	1.8 in (45.70 mm)
Width (in)	1.4 in (35.40 mm)
Mounting dimensions	
Mount Length (in)	8.8 in (224.80 mm)
Mount Width (in)	1.1 in (28.00 mm)
Mount Spacing (in)	1.4 in (35.40 mm)
Weight	1.40 lbs
Additional Info	UL Type C Rating Remote Mounting Distance to Lamp Remotes Mounting Wire Gauge UL Type C Rating UL Type C Rating
Electrical characteristics	
Supply Current Frequency	50/60 Hz
Order information	IP Pack
IP Pack	71714 (replaces 49776)
UL Pack	71714 (replaces 49776)

Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	System Ballast Factor	Power Factor (%)	THDP (%)	Min. Starting Temp (°F/C)
E3218	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10
E3218/AM	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10
E2818	3	120	120	0.88	1.15	99	1.5	10
	3	277	277	0.88	1.15	99	1.5	10
	3	120	277	0.88	1.15	99	1.5	10
E2512	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10

Other compatible lamps: E1518, F4018, F2518, F1718, F3218/25W

Safety and performance: UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Type CC, UL Type C, UL Listed, ReHS Compliant

### 71717 – GE322MAX-L/Ultra

Replaces 49708  
UltraMax® Instant Start Multi-Voltage High-Efficiency 3 or 2 – F32/F18 120 to 277 V\* 1.18 BF UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Case Dimensions - Ref Drawing - A - see page 75	9.5 in (24.30 mm)
Height (in)	1.8 in (45.70 mm)
Width (in)	1.4 in (35.40 mm)
Mounting dimensions	
Mount Length (in)	8.8 in (224.80 mm)
Mount Width (in)	1.1 in (28.00 mm)
Mount Spacing (in)	1.4 in (35.40 mm)
Weight	1.40 lbs
Additional Info	UL Type C Rating Remote Mounting Distance to Lamp Remotes Mounting Wire Gauge UL Type C Rating UL Type C Rating
Electrical characteristics	
Supply Current Frequency	50/60 Hz
Order information	IP Pack
IP Pack	71717 (replaces 49708)
UL Pack	71717 (replaces 49708)

Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	System Ballast Factor	Power Factor (%)	THDP (%)	Min. Starting Temp (°F/C)
E3218	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10
E3218/AM	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10
E2818	3	120	120	0.88	1.15	99	1.5	10
	3	277	277	0.88	1.15	99	1.5	10
	3	120	277	0.88	1.15	99	1.5	10
E2512	2	120	120	0.88	1.15	99	1.5	10
	2	277	277	0.88	1.15	99	1.5	10
	2	120	277	0.88	1.15	99	1.5	10

Other compatible lamps: E1518, F4018, F2518, F1718, F3218/25W

Safety and performance: UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Type CC, UL Type C, UL Listed, ReHS Compliant

See page 195 for warranty information.

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

- Energy-saving high-efficiency instant-start electronic ballast (> 90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type C Rating provides protection against arcing in electrical devices
- Active Current Regulation regulates the output to each lamp with individual lamp inverter modules
- Anti-stratton control for better light quality, with no strattons
- Lamp frequency > 70 kHz

### 72266 – GE322MAX-N/Ultra

Replaces 49772  
UltraMax® Instant Start Multi-Voltage High-Efficiency 2 or 1 – F32/F18 120 to 277 V\* 1.18 BF UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Case Dimensions - Ref Drawing - A - see page 75	9.5 in (24.30 mm)
Height (in)	1.8 in (45.70 mm)
Width (in)	1.4 in (35.40 mm)
Mounting dimensions	
Mount Length (in)	8.8 in (224.80 mm)
Mount Width (in)	1.1 in (28.00 mm)
Mount Spacing (in)	1.4 in (35.40 mm)
Weight	1.40 lbs
Additional Info	UL Type C Rating Remote Mounting Distance to Lamp Remotes Mounting Wire Gauge UL Type C Rating UL Type C Rating
Electrical characteristics	
Supply Current Frequency	50/60 Hz
Order information	IP Pack
IP Pack	72266 (replaces 49772)
UL Pack	72266 (replaces 49772)

Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	System Ballast Factor	Power Factor (%)	THDP (%)	Min. Starting Temp (°F/C)
E3218	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10
E3218/AM	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10
E2818	3	120	120	0.87	1.10	99	1.5	10
	3	277	277	0.87	1.10	99	1.5	10
	3	120	277	0.87	1.10	99	1.5	10
E2512	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10

Other compatible lamps: E1518, F4018, F2518, F1718, F3218/25W

Safety and performance: UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Type CC, UL Type C, UL Listed, ReHS Compliant

### 71421 – GE322MAX-N+

UltraMax® Instant Start Multi-Voltage High-Efficiency 2 or 1 – F32/F18 120 to 277 V\* 1.06 F UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Case Dimensions - Ref Drawing - A - see page 75	9.5 in (24.30 mm)
Height (in)	1.8 in (45.70 mm)
Width (in)	1.4 in (35.40 mm)
Mounting dimensions	
Mount Length (in)	8.8 in (224.80 mm)
Mount Width (in)	1.1 in (28.00 mm)
Mount Spacing (in)	1.4 in (35.40 mm)
Weight	1.40 lbs
Additional Info	UL Type C Rating Remote Mounting Distance to Lamp Remotes Mounting Wire Gauge UL Type C Rating UL Type C Rating
Electrical characteristics	
Supply Current Frequency	50/60 Hz
Order information	IP Pack
IP Pack	71421 (replaces 49772)
UL Pack	71421 (replaces 49772)

Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	System Ballast Factor	Power Factor (%)	THDP (%)	Min. Starting Temp (°F/C)
E3218	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10
E3218/AM	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10
E2818	3	120	120	0.87	1.10	99	1.5	10
	3	277	277	0.87	1.10	99	1.5	10
	3	120	277	0.87	1.10	99	1.5	10
E2512	2	120	120	0.87	1.10	99	1.5	10
	2	277	277	0.87	1.10	99	1.5	10
	2	120	277	0.87	1.10	99	1.5	10

Other compatible lamps: E1518, F4018, F2518, F1718, F3218/25W

Safety and performance: UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Type CC, UL Type C, UL Listed, ReHS Compliant

See page 195 for warranty information.

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

**71723 – GE432MAX-H/ULTRA** (replaces 49777)  
 UltraMax® Instant Start Multi-Voltage High-Efficiency 4 or 3 – F32/F18 120 to 277 "H" 1.18 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Anti-stratton control for better light quality, with no strattons
- Lamp frequency >70 KHz
- UL 55C Ambient Temperature rating

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Line Voltage Regulation (LVR)	100%
Case Temperature (T <sub>case</sub> )	70°C (158°F)
Case Temperature (T <sub>case</sub> ) (MAX)	100°C (212°F)
Mounting dimensions	
Mount Length (M)	8.8 in (224.80 mm)
Mount Width (W) or F)	1.1 in (28.20 mm)
Power Factor Correction	Active
Weight	1.40 lbs
Additional Info	Anti-stratton control, Auto-restart, Thermally protected
<b>Electrical characteristics</b>	
Est. Type	Side
Remote Mounting Distance to Lamp	18 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	25 in (635 mm)
White and Black	34 in (864 mm)
Blue	41 in (1041 mm)
Yellow	41 in (1041 mm)
<b>Order information</b>	
IP Pack	71723 (replaces 47550)
DIV Pack	
IP Pack	

Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) (s=)	THDP (%) (s=)	Min. Starting Temp (°F/C)
E32T8	4	120	1.08	0.99	99	1.5	10
	3	277	1.18	0.98	98	1.5	10
	2	120	1.15	0.99	99	1.5	10
E32T8/MH	4	120	1.12	0.98	98	1.5	10
	3	277	1.22	0.97	97	1.5	10
	2	120	1.18	0.99	99	1.5	10
E28T8	4	120	1.07	0.98	98	1.5	10
	3	277	1.17	0.97	97	1.5	10
	2	120	1.13	0.98	98	1.5	10
E25T8	4	120	1.06	0.98	98	1.5	10
	3	277	1.16	0.97	97	1.5	10
	2	120	1.12	0.98	98	1.5	10

Other compatible lamps: F15T8, F18T8, F25T8, F32T8, F40T8

**Safety and performance**

## 71725 – GE432MAX-L/ULTRA

UltraMax® Instant Start Multi-Voltage High-Efficiency 4 or 3 – F32/F18 120 to 277 "L" 77 BF UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Line Voltage Regulation (LVR)	100%
Case Temperature (T <sub>case</sub> )	105°F (41°C)
Case Temperature (T <sub>case</sub> ) (MAX)	135°F (58°C)
Mounting dimensions	
Mount Length (M)	8.8 in (224.80 mm)
Mount Width (W) or F)	1.1 in (28.20 mm)
Power Factor Correction	Active
Weight	1.40 lbs
Additional Info	Anti-stratton control, Auto-restart, Thermally protected
<b>Electrical characteristics</b>	
Est. Type	Side
Remote Mounting Distance to Lamp	18 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	25 in (635 mm)
White and Black	34 in (864 mm)
Blue	41 in (1041 mm)
Yellow	41 in (1041 mm)
<b>Order information</b>	
IP Pack	71725 (replaces 47597)
DIV Pack	
IP Pack	

Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) (s=)	THDP (%) (s=)	Min. Starting Temp (°F/C)
E32T8	4	120	1.09	0.99	99	1.5	10
	3	277	1.19	0.98	98	1.5	10
	2	120	1.15	0.99	99	1.5	10
E32T8/MH	4	120	1.13	0.98	98	1.5	10
	3	277	1.23	0.97	97	1.5	10
	2	120	1.19	0.99	99	1.5	10
E28T8	4	120	1.08	0.98	98	1.5	10
	3	277	1.18	0.97	97	1.5	10
	2	120	1.14	0.98	98	1.5	10
E25T8	4	120	1.07	0.98	98	1.5	10
	3	277	1.17	0.97	97	1.5	10
	2	120	1.13	0.98	98	1.5	10

Other compatible lamps: F15T8, F18T8, F25T8, F32T8, F40T8

**Safety and performance**

## UltraMax® Instant Start Multi-Voltage High-Efficiency T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

**71719 – GE332MAX-N/ULTRA** (replaces 49773)  
 UltraMax® Instant Start Multi-Voltage High-Efficiency 3 or 2 – F32/F18 120 to 277 "N" 87 BF UltraMax®

- Energy-saving high-efficiency instant-start electronic ballast (>90%)
- Multi-voltage technology handles voltage from 120 to 277V
- UL Type CC Rating provides protection against arcing in electrical devices
- Anti-stratton control for better light quality, with no strattons
- Lamp frequency >70 KHz
- UL 55C Ambient Temperature rating

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Line Voltage Regulation (LVR)	100%
Case Temperature (T <sub>case</sub> )	70°C (158°F)
Case Temperature (T <sub>case</sub> ) (MAX)	100°C (212°F)
Mounting dimensions	
Mount Length (M)	8.8 in (224.80 mm)
Mount Width (W) or F)	1.1 in (28.20 mm)
Power Factor Correction	Active
Weight	1.40 lbs
Additional Info	Anti-stratton control, Auto-restart, Thermally protected
<b>Electrical characteristics</b>	
Est. Type	Side
Remote Mounting Distance to Lamp	18 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	25 in (635 mm)
White and Black	34 in (864 mm)
Blue	41 in (1041 mm)
Yellow	41 in (1041 mm)
<b>Order information</b>	
IP Pack	71719 (replaces 47563)
DIV Pack	
IP Pack	

Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) (s=)	THDP (%) (s=)	Min. Starting Temp (°F/C)
E32T8	3	120	1.05	0.99	99	1.5	10
	2	277	1.08	0.98	98	1.5	10
	1	120	1.10	0.99	99	1.5	10
E32T8/MH	3	120	1.08	0.98	98	1.5	10
	2	277	1.12	0.97	97	1.5	10
	1	120	1.15	0.99	99	1.5	10
E28T8	3	120	1.04	0.98	98	1.5	10
	2	277	1.07	0.97	97	1.5	10
	1	120	1.10	0.99	99	1.5	10
E25T8	3	120	1.03	0.98	98	1.5	10
	2	277	1.06	0.97	97	1.5	10
	1	120	1.09	0.99	99	1.5	10

Other compatible lamps: F15T8, F18T8, F25T8, F32T8, F40T8

**Safety and performance**

## 71422 – GE332MAX-N+

UltraMax® Instant Start Multi-Voltage High-Efficiency 3 or 2 – F32/F18 120 to 277 "N+" 10.6F UltraMax®

General characteristics	
Ballast Type	Electronic - High-Efficiency Multi-Voltage Instant Start
Starting Method	Instant Start
Lamp Wiring	Parallel
Line Voltage Regulation (LVR)	100%
Case Temperature (T <sub>case</sub> )	70°C (158°F)
Case Temperature (T <sub>case</sub> ) (MAX)	100°C (212°F)
Mounting dimensions	
Mount Length (M)	8.8 in (224.80 mm)
Mount Width (W) or F)	1.1 in (28.20 mm)
Power Factor Correction	Active
Weight	1.40 lbs
Additional Info	Anti-stratton control, Auto-restart, Thermally protected
<b>Electrical characteristics</b>	
Est. Type	Side
Remote Mounting Distance to Lamp	18 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	25 in (635 mm)
White and Black	34 in (864 mm)
Blue	41 in (1041 mm)
Yellow	41 in (1041 mm)
<b>Order information</b>	
IP Pack	71422 (replaces 47562)
DIV Pack	
IP Pack	

Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%) (s=)	THDP (%) (s=)	Min. Starting Temp (°F/C)
E32T8	3	120	1.00	0.99	99	1.5	10
	2	277	1.03	0.98	98	1.5	10
	1	120	1.05	0.99	99	1.5	10
E32T8/MH	3	120	1.02	0.98	98	1.5	10
	2	277	1.06	0.97	97	1.5	10
	1	120	1.08	0.99	99	1.5	10
E28T8	3	120	0.99	0.98	98	1.5	10
	2	277	1.02	0.97	97	1.5	10
	1	120	1.04	0.99	99	1.5	10
E25T8	3	120	0.98	0.98	98	1.5	10
	2	277	1.01	0.97	97	1.5	10
	1	120	1.03	0.99	99	1.5	10

Other compatible lamps: F15T8, F18T8, F25T8, F32T8, F40T8

**Safety and performance**















ProLine® T8 Instant Start High Performance T8 Instant Start Ballasts For 46 – 59W 4 ft – 8 ft Slimline Lamps

23677 – GE-259-120-N

ProLine® T8 Instant Start High Performance 2 or 1 – P9018 1.20V Normal Light, 87 BF ProLine®

- High-performance electronic ballast for all general fluorescent applications
• Instant start electronic ballast for long lamp starting cycles and low initial cost
• Lightweight, low-profile housing
• < 10% THD, > 99% power factor
• Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 23677 ballast. Includes wire diameter, case dimensions, mounting dimensions, and electrical characteristics.

Specifications by lamp and wattage table for 23677 ballast. Lists lamp wattage, line volts, system watts, ballast efficacy, and THD%.

Safety and performance UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Listed, RoHS Compliant

23678 – GE-259-277-N

ProLine® T8 Instant Start High Performance 2 or 1 – P9018 277V 'N', 87 BF ProLine®

- High-performance electronic ballast for all general fluorescent applications
• Instant start electronic ballast for long lamp starting cycles and low initial cost
• Lightweight, low-profile housing
• < 10% THD, > 99% power factor
• Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 23678 ballast. Includes wire diameter, case dimensions, mounting dimensions, and electrical characteristics.

Specifications by lamp and wattage table for 23678 ballast. Lists lamp wattage, line volts, system watts, ballast efficacy, and THD%.

Safety and performance UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Listed, RoHS Compliant

ProLine® T8 Instant Start High Performance T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft), F40 (5 ft) Lamps

23675 – GE-432-120-N

ProLine® T8 Instant Start High Performance 4 or 3 – F3218 1.20V 'N', 87 BF ProLine®

- High-performance electronic ballast for all general fluorescent applications
• Instant start electronic ballast for long lamp starting cycles and low initial cost
• Lightweight, low-profile housing
• < 10% THD, > 99% power factor
• Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 23675 ballast. Includes wire diameter, case dimensions, mounting dimensions, and electrical characteristics.

Specifications by lamp and wattage table for 23675 ballast. Lists lamp wattage, line volts, system watts, ballast efficacy, and THD%.

Safety and performance UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Listed, RoHS Compliant

23676 – GE-432-277-N

ProLine® T8 Instant Start High Performance 4 or 3 – F3218 277V 'N', 87 BF ProLine®

- High-performance electronic ballast for all general fluorescent applications
• Instant start electronic ballast for long lamp starting cycles and low initial cost
• Lightweight, low-profile housing
• < 10% THD, > 99% power factor
• Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 23676 ballast. Includes wire diameter, case dimensions, mounting dimensions, and electrical characteristics.

Specifications by lamp and wattage table for 23676 ballast. Lists lamp wattage, line volts, system watts, ballast efficacy, and THD%.

Safety and performance UL Type I Outdoor, UL Type HL, FCC - CLASS A Non-Consumer, UL Listed, RoHS Compliant

# Electromagnetic T8 Ballasts

T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

## 87125 – GEM232T8RS120




Electromagnetic T8 Ballasts

2 - F32T8, RS, 120V, Magnetic Ballast (M232SR120C)

- Magnetic ballast construction for all general fluorescent lighting
- Extends lamp life in frequently switched applications
- Color coded ballast and package labels reduce misapplication errors (20V Yellow, 27V Red)
- Great for areas requiring no EMF/RFI noise

General characteristics	
Ballast Type	Magnetic - Rapid Start
Construction Method	Standard
Lamp Voltage Regulation (LVR)	5%
Line Voltage Regulation (LVR)	5%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	105°F (40°C)
Ballast Factor	Normal
Power Factor Correction	Auto-correct thermally protected
Mount Width (X or F)	1.1 in (28.0 mm)
Mount Width (X or F)	0.3 in (7.92 mm)
Weight	1.65 lbs
Dimensions	
Length	18 in
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG
Lead Lengths	
Blue and Red	35 in (893 mm)
White and Black	25 in (635 mm)
Yellow	38 in (965 mm)
Order information	
IP Pack	87125
Pallet Pack	87125
DIV Pack	87125

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor (%)	THD% (c.c.)	Min. Starting Temp (°F/C)
F32T8	2	277	60	0.98	98	1.7	20
F25T8	2	277	60	0.98	98	1.66	20
F17T8	2	277	60	0.98	98	1.69	20

Safety and performance    

General characteristics	
Ballast Type	Electronic - Standard Instant Start
Construction Method	Parallel
Lamp Voltage Regulation (LVR)	0%
Line Voltage Regulation (LVR)	0%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	105°F (40°C)
Ballast Factor	Normal
Power Factor Correction	Auto-correct thermally protected
Mount Width (X or F)	1.1 in (28.0 mm)
Mount Width (X or F)	0.3 in (7.92 mm)
Weight	1.65 lbs
Dimensions	
Length	18 in
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG
Lead Lengths	
Blue and Red	35 in (893 mm)
White and Black	25 in (635 mm)
Yellow	38 in (965 mm)
Order information	
IP Pack	87125
Pallet Pack	87125
DIV Pack	87125

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor (%)	THD% (c.c.)	Min. Starting Temp (°F/C)
F32T8	2	277	60	0.99	99	1.66	0/18
F25T8	2	277	60	0.99	99	1.66	0/18
F17T8	2	277	60	0.99	99	1.66	0/18

Safety and performance   

# Residential Grade ProLine® T8 120V

T8 Instant Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

## 97782 – GE32-120-RES

Residential Grade ProLine® T8 120V

2 or 1 - F32T8 120V "N" 87 BF Residential ProLine®

General characteristics	
Ballast Type	Electronic - Standard Instant Start
Construction Method	Parallel
Lamp Voltage Regulation (LVR)	0%
Line Voltage Regulation (LVR)	0%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	105°F (40°C)
Ballast Factor	Normal
Power Factor Correction	Auto-correct thermally protected
Mount Width (X or F)	1.1 in (28.0 mm)
Mount Width (X or F)	0.3 in (7.92 mm)
Weight	1.65 lbs
Dimensions	
Length	18 in
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG
Lead Lengths	
Blue and Red	35 in (893 mm)
White and Black	25 in (635 mm)
Yellow	38 in (965 mm)
Order information	
IP Pack	97782
Pallet Pack	97782
DIV Pack	97782

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor (%)	THD% (c.c.)	Min. Starting Temp (°F/C)
F32T8	2	120	108	0.99	99	1.70	0/18
F25T8	2	120	108	0.99	99	1.70	0/18
F17T8	2	120	108	0.99	99	1.70	0/18

Safety and performance   




## 97783 – GE432-120-RES

Residential Grade ProLine® T8 120V

4 or 3 – F32T8 120V "N" 87 BF Residential ProLine®

General characteristics	
Ballast Type	Electronic - Standard Instant Start
Construction Method	Parallel
Lamp Voltage Regulation (LVR)	0%
Line Voltage Regulation (LVR)	0%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	105°F (40°C)
Ballast Factor	Normal
Power Factor Correction	Auto-correct thermally protected
Mount Width (X or F)	1.1 in (28.0 mm)
Mount Width (X or F)	0.3 in (7.92 mm)
Weight	1.65 lbs
Dimensions	
Length	18 in
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG
Lead Lengths	
Blue and Red	31 in (792 mm)
White and Black	25 in (635 mm)
Yellow	38 in (965 mm)
Order information	
IP Pack	97783
Pallet Pack	97783
DIV Pack	97783

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor (%)	THD% (c.c.)	Min. Starting Temp (°F/C)
F32T8	4	120	108	0.99	99	1.70	0/18
F25T8	4	120	108	0.99	99	1.70	0/18
F17T8	4	120	108	0.99	99	1.70	0/18

Safety and performance   

## 87130 – GEM232T8RS277

Electromagnetic T8 Ballasts

2 - F32T8, RS, 277V, Magnetic Ballast (M232SR277C)

General characteristics	
Ballast Type	Magnetic - Rapid Start
Construction Method	Standard
Lamp Voltage Regulation (LVR)	5%
Line Voltage Regulation (LVR)	5%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	105°F (40°C)
Ballast Factor	Normal
Power Factor Correction	Auto-correct thermally protected
Mount Width (X or F)	1.1 in (28.0 mm)
Mount Width (X or F)	0.3 in (7.92 mm)
Weight	2.60 lbs
Dimensions	
Length	18 in
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG
Lead Lengths	
Blue and Red	35 in (893 mm)
White and Black	26 in (660 mm)
Yellow	36 in (914 mm)
Order information	
IP Pack	87130
Pallet Pack	87130
DIV Pack	87130

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor (%)	THD% (c.c.)	Min. Starting Temp (°F/C)
F32T8	2	277	60	0.98	98	1.7	20
F25T8	2	277	60	0.98	98	1.66	20
F17T8	2	277	60	0.98	98	1.69	20

Safety and performance    







UltraStart® T8 Programmed Start T8 Programmed Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

96721 – GE332-MVPS-L

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V Low Watts 71 BF <10% THD UltraStart®

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 96721 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 96721 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance

96722 – GE332-MVPS-XL

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V Ultra Low Watt 60 BF <10% THD

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V and XL series
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 96722 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 96722 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance

96715 – GE332-MVPS-N

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V Normal Light 88 BF <10% THD UltraStart®

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V and XL series
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 96715 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 96715 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance

UltraStart® T8 Programmed Start T8 Programmed Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

29676 – GE332-MVPS-H

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V High Light 1.15 BF <10% THD UltraStart®

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V and XL series
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 29676 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 29676 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance

UltraStart® T8 Programmed Start T8 Programmed Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

96721 – GE332-MVPS-L

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V Low Watts 71 BF <10% THD UltraStart®

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 96721 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 96721 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance

UltraStart® T8 Programmed Start T8 Programmed Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

96722 – GE332-MVPS-XL

UltraStart® T8 Programmed Start

3 – F32T8 120V-277V Ultra Low Watt 60 BF <10% THD

- A new generation of ultra-efficient Programmed Start ballasts (> 90% efficiency)
Anti-stratton control for better light quality, with no striations.
Extends lamp life in frequently switched applications > 100,000 on/off cycles
Multi-voltage technology handles voltage from 120 to 277V and XL series
Parallel lamp operation means system maintenance is easier to manage

General characteristics table for 96722 ballast including dimensions, electrical characteristics, and order information.

Specifications by lamp and wattage table for 96722 ballast across various lamp types and wattages.

Other compatible lamps: F17B, F32B, F32W

Safety and performance



## UltraStart® T8 Programmed Start Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

### 29678 – GE-432-MVPS-H

#### UltraStart® T8 Programmed Start

4 – F32T8 120V-277V High Light 1.15 BF <10% THD UltraStart®

General characteristics	
Ballast Type	Electronic - Programmed / Rapid Start
Control Method	Instant Start
Lamp Voltage Regulation (LVR)	±0.5%
Ambient Temperature (AMT)	105°F (41°C)
Ballast Factor Correction	Active
Power Factor Correction	Active
Sound Rating	A10-20, dBA (re 20 μPa)
Additional Info	Auto-resistor, thermally protected
Electrical characteristics	
Supply Current Frequency	50/60/Hz
IP Pack	IP Pack
29678	29657

General characteristics	
Ballast Type	Electronic - Dimming
Control Method	Starts
Lamp Voltage Regulation (LVR)	±0.5%
Ambient Temperature (AMT)	105°F (41°C)
Ballast Factor Correction	Active
Power Factor Correction	Active
Sound Rating	A10-20, dBA (re 20 μPa)
Additional Info	Auto-resistor, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
IP Pack	IP Pack
29678	29657

- A new generation of ultra-efficient Programmed Start ballasts (>90% efficiency)
- Extends lamp life in frequently switched applications (>100,000 on/off cycles)
- Starting time visually the same as instant start
- Multi-voltage technology handles voltage from 120 to 277V (H and XL series)
- Parallel lamp operation means system maintenance is easier to manage

## T8 Dimming Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

### 80353 – B132R120V5

#### T8 Dimming Ballasts

1 – F32T8 DIM 100 to 5% RS 120

General characteristics	
Ballast Type	Electronic - Dimming
Control Method	Starts
Lamp Voltage Regulation (LVR)	±0.5%
Ambient Temperature (AMT)	105°F (41°C)
Ballast Factor Correction	Active
Power Factor Correction	Active
Sound Rating	A10-20, dBA (re 20 μPa)
Additional Info	Auto-resistor, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
IP Pack	IP Pack
80353	80353

Dimensions	
Wire diagram - FT 3/8s - see example on page 74	
Wire diagram - Ref Drawing ST - see page 75	
Length (L)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (41.91 mm)
Mounting dimensions	
Mount Length (ML)	8.9 in (225.80 mm)
Mount Width (MWF)	1.7 in (42.92 mm)
Mount Spacing (MS)	0.3 in (7.92 mm)
Weight	2.30 lbs
Remote Mounting Distance (RD)	12 ft
Remote Mounting Wire Gauge	18 AWG
Wire and Cable	25 in (635 mm)
Blue and Red	
White and Black	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor% (p.f.)	Crest Factor (c.f.)	THDS% (c.f.)	Min. Starting Temp (F/C)
F32T8	1	120	0.98	0.90	99	1.6	10	50/10

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor% (p.f.)	Crest Factor (c.f.)	THDS% (c.f.)	Min. Starting Temp (F/C)
F32T8	2	120	0.98	0.90	99	1.6	10	50/10

Safety and performance	
UL	UL Type 1 Outdoor
UL	UL Class P
UL	UL Listed
UL	UL Class P
UL	UL Listed
UL	UL Class P
UL	UL Listed

### 80355 – B232SR120V5

#### T8 Dimming Ballasts

2 – F32T8 DIM 100 to 5% RS 120

General characteristics	
Ballast Type	Electronic - Dimming
Control Method	Rapid Start
Lamp Voltage Regulation (LVR)	±0.5%
Ambient Temperature (AMT)	105°F (41°C)
Ballast Factor Correction	Active
Power Factor Correction	Active
Sound Rating	A10-20, dBA (re 20 μPa)
Additional Info	Auto-resistor, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
IP Pack	IP Pack
80355	80355

Dimensions	
Wire diagram - FT 1/8 - see example on page 74	
Wire diagram - Ref Drawing ST - see page 75	
Length (L)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (41.91 mm)
Mounting dimensions	
Mount Length (ML)	8.9 in (225.80 mm)
Mount Width (MWF)	1.7 in (42.92 mm)
Mount Spacing (MS)	0.3 in (7.92 mm)
Weight	2.30 lbs
Remote Mounting Distance (RD)	12 ft
Remote Mounting Wire Gauge	18 AWG
Wire and Cable	25 in (635 mm)
Blue and Red	
White and Black	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor% (p.f.)	Crest Factor (c.f.)	THDS% (c.f.)	Min. Starting Temp (F/C)
F32T8	2	120	0.98	0.90	99	1.6	10	50/10

Safety and performance	
UL	UL Type 1 Outdoor
UL	UL Class P
UL	UL Listed
UL	UL Class P
UL	UL Listed

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

### 80355 – B232SR120V5

#### T8 Dimming Ballasts

2 – F32T8 DIM 100 to 5% RS 120

General characteristics	
Ballast Type	Electronic - Dimming
Control Method	Rapid Start
Lamp Voltage Regulation (LVR)	±0.5%
Ambient Temperature (AMT)	105°F (41°C)
Ballast Factor Correction	Active
Power Factor Correction	Active
Sound Rating	A10-20, dBA (re 20 μPa)
Additional Info	Auto-resistor, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
IP Pack	IP Pack
80355	80355

Dimensions	
Wire diagram - FT 1/8 - see example on page 74	
Wire diagram - Ref Drawing ST - see page 75	
Length (L)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (41.91 mm)
Mounting dimensions	
Mount Length (ML)	8.9 in (225.80 mm)
Mount Width (MWF)	1.7 in (42.92 mm)
Mount Spacing (MS)	0.3 in (7.92 mm)
Weight	2.30 lbs
Remote Mounting Distance (RD)	12 ft
Remote Mounting Wire Gauge	18 AWG
Wire and Cable	25 in (635 mm)
Blue and Red	
White and Black	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor% (p.f.)	Crest Factor (c.f.)	THDS% (c.f.)	Min. Starting Temp (F/C)
F32T8	2	120	0.98	0.90	99	1.6	10	50/10

Safety and performance	
UL	UL Type 1 Outdoor
UL	UL Class P
UL	UL Listed
UL	UL Class P
UL	UL Listed

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

### T8 Dimming Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

#### 80357 – B332SR120V5

T8 Dimming Ballasts  
3 – F32T8 DIM 100 to 5% RS 120

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

General characteristics	
Ballast Type	Electronic - Dimming
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	Series
Line Voltage Regulation (LVR)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (40.64 mm)
Operating Temperature (T <sub>OP</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	70°C (158°F)
Power Factor Correction	Active
Mount Width (X or F)	1.7 in (42.92 mm)
Mount Spacing (S)	0.3 in (7.62 mm)
Weight	2.29 lbs
Additional Info	AL02-20, decapack Auto-ester, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	Lengths 1 in
White and Red	25 in (635 mm)
Black/White	25 in (635 mm)
Yellow	25 in (635 mm)
Order information	
IP Pack	DIV Pack
80357	IP Pack

Specifications by lamp and wattage																	
Lamp	F32T8	# of Lamps	3	Line Volts	120	System Ballast Factor	0.88	Nom. Line Current	0.17 A	Ballast Efficiency Factor	0.95	Power Factor (%)	99	THD% (ca.)	1.6	Min. Starting Temp (°F/C)	50/10
Safety and performance																	

#### 80358 – B332SR27V5

T8 Dimming Ballasts  
3 – F32T8 DIM 100 to 5% RS 277

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

General characteristics	
Ballast Type	Electronic - Dimming
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	Series
Line Voltage Regulation (LVR)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (40.64 mm)
Operating Temperature (T <sub>OP</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	70°C (158°F)
Power Factor Correction	Normal
Mount Width (X or F)	1.7 in (42.92 mm)
Mount Spacing (S)	0.3 in (7.62 mm)
Weight	2.29 lbs
Additional Info	AL02-20, decapack Auto-ester, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	Lengths 1 in
White and Red	25 in (635 mm)
Black/White	25 in (635 mm)
Yellow	25 in (635 mm)
Order information	
IP Pack	DIV Pack
80358	IP Pack

Specifications by lamp and wattage																	
Lamp	F32T8	# of Lamps	3	Line Volts	277	System Ballast Factor	0.88	Nom. Line Current	0.33 A	Ballast Efficiency Factor	0.95	Power Factor (%)	99	THD% (ca.)	1.6	Min. Starting Temp (°F/C)	50/10
Safety and performance																	

### T8 Dimming Ballasts For F17 (2 ft), F25 (3 ft), F32 (4 ft) Lamps

#### 80362 – B332SR27V50

T8 Dimming Ballasts  
2 – F32T8 Switch 100/50% RS 277

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

General characteristics	
Ballast Type	Electronic - Dimming
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	Series
Line Voltage Regulation (LVR)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (40.64 mm)
Operating Temperature (T <sub>OP</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	70°C (158°F)
Power Factor Correction	Active
Mount Width (X or F)	1.7 in (42.92 mm)
Mount Spacing (S)	0.3 in (7.62 mm)
Weight	2.29 lbs
Additional Info	AL02-20, decapack Auto-ester, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	Lengths 1 in
White and Red	25 in (635 mm)
Black/White	25 in (635 mm)
Yellow	25 in (635 mm)
Order information	
IP Pack	DIV Pack
80362	IP Pack

Specifications by lamp and wattage																	
Lamp	F32T8	# of Lamps	2	Line Volts	277	System Ballast Factor	0.88	Nom. Line Current	0.18 A	Ballast Efficiency Factor	0.88	Power Factor (%)	99	THD% (ca.)	1.7	Min. Starting Temp (°F/C)	50/10
Safety and performance																	

#### 80356 – B332SR27V5

T8 Dimming Ballasts  
2 – F32T8 DIM 100 to 5% RS 277

- Integrate dimming ballasts with daylight harvesting for significant energy savings
- Greater control of workspace lighting, ability to create a mood, energy savings
- Designed to ensure optimum lamp performance with lamp current crest factor below the 1.7 ANSI standard
- Start lamps according to ANSI recommendations throughout the entire dimming range

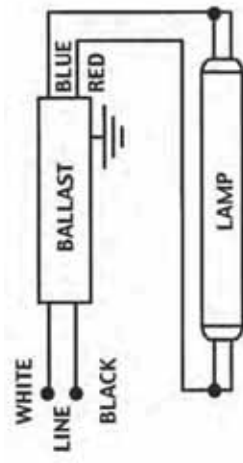
General characteristics	
Ballast Type	Electronic - Dimming
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	Series
Line Voltage Regulation (LVR)	9.5 in (241.30 mm)
Width (W)	2.4 in (60.95 mm)
Height (H)	1.6 in (40.64 mm)
Operating Temperature (T <sub>OP</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	105°F (41°C)
Case Temperature (T <sub>CA</sub> )	70°C (158°F)
Power Factor Correction	Normal
Mount Width (X or F)	1.7 in (42.92 mm)
Mount Spacing (S)	0.3 in (7.62 mm)
Weight	2.29 lbs
Additional Info	AL02-20, decapack Auto-ester, thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	Lengths 1 in
White and Red	25 in (635 mm)
Black/White	25 in (635 mm)
Yellow	25 in (635 mm)
Order information	
IP Pack	DIV Pack
80356	IP Pack

Specifications by lamp and wattage																	
Lamp	F32T8	# of Lamps	2	Line Volts	277	System Ballast Factor	0.88	Nom. Line Current	0.22 A	Ballast Efficiency Factor	0.88	Power Factor (%)	99	THD% (ca.)	1.6	Min. Starting Temp (°F/C)	50/10
Safety and performance																	

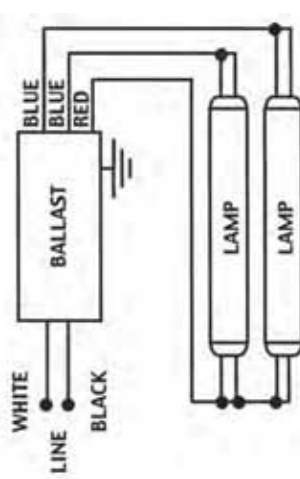
**Wiring Diagrams**  
T8 Fluorescent Ballasts

**Wiring Diagrams**  
T8 Fluorescent Ballasts

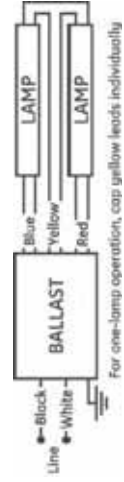
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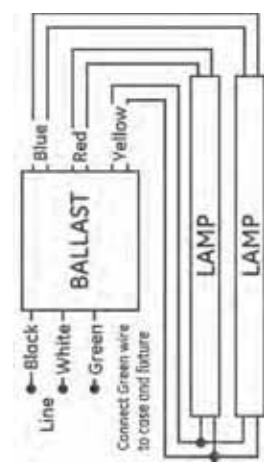
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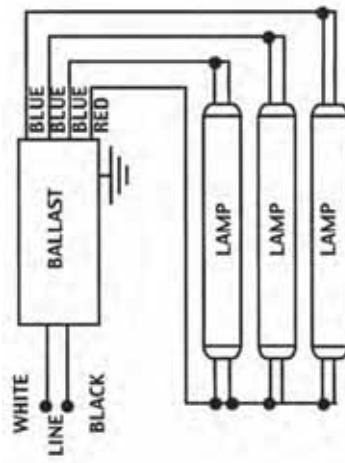
LFL 4a



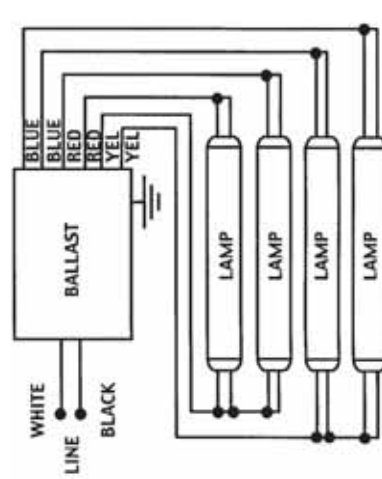
LFL PS2



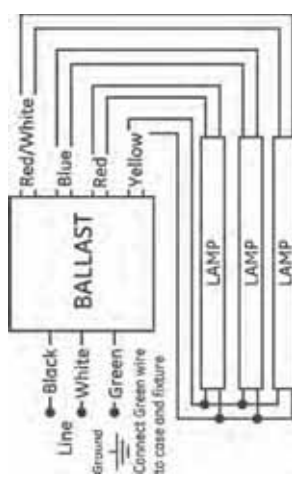
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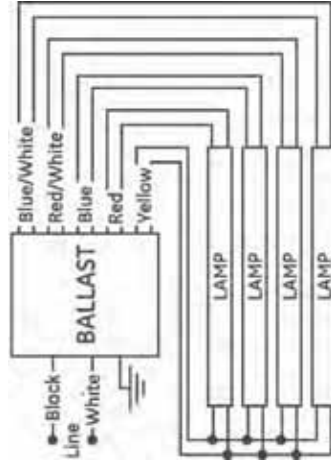
LFL 1D



LFL PS3

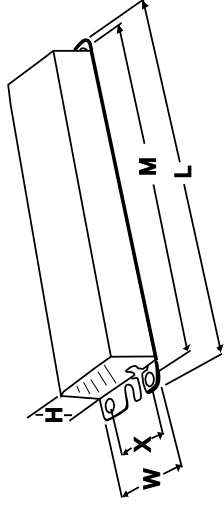


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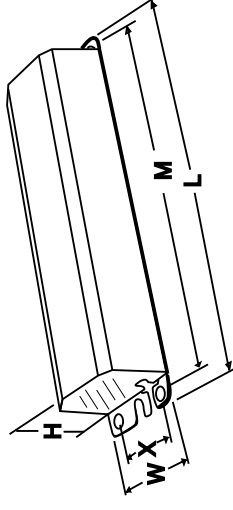


**Case Dimensions**  
T8 Fluorescent Ballasts

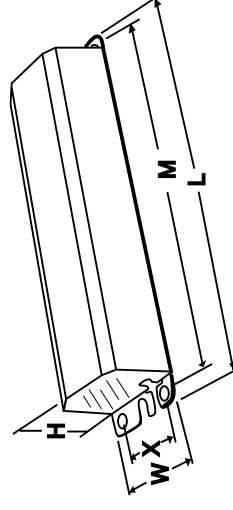
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ST

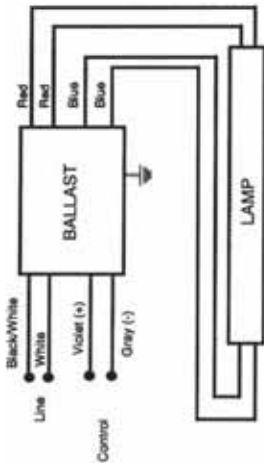


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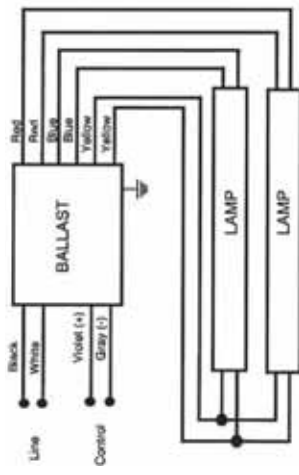


**Wiring Diagrams**  
T8 Fluorescent Ballasts

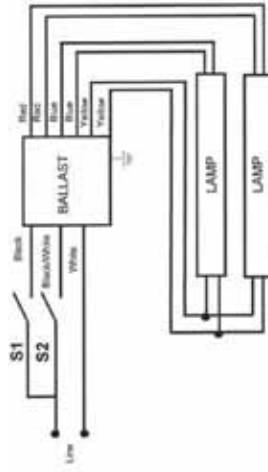
LFL 18b



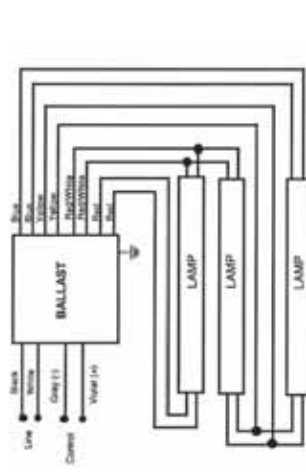
LFL 19



LFL 16



LFL 20



## T5 High Efficiency – Programmed Start T5 Electronic Programmed Start For F14 (2 ft), F21 (3 ft), F28 (4 ft), F35 (5 ft) HE T5 Lamps\*

### 99653 – GE228MVP5H-A

#### T5 High Efficiency – UltraStart® Programmed Start 2 or 1 – F14-F28T5HE, 120 to 277 UltraStar® PRS High Light 1.15 BF A Cam

General characteristics	
Ballast Type	Electronic – Programmed / Rapid Start
Starting Method	Programmed Start
Lamp Voltage	Parallel
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	104°F (40°C)
Case Temperature (MAX)	90°C (195°F)
Power Factor Correction	Active
Sound Rating	A102-20 decibels
Additional Info	Auto-restore: End-of-life Protection (EOL), Thermally protected, Universal voltage, Anti-saturation control
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
IP Pack	D17Pack
99653	99653

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Voltage	Min. Line Current (A)	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (p-f)	Min. Starting Temp (°F/°C)
F14	2	120	118	0.64	1.15	1.66	97	9
F14	1	277	270	0.84	1.15	1.66	99	9
F21	2	120	118	0.74	1.36	3.02	99	10
F21	1	277	270	0.74	1.36	3.02	99	10
F28	2	120	118	0.84	1.57	5.13	96	10
F28	1	277	270	0.84	1.57	5.13	99	10
F35	2	120	118	0.94	1.78	7.24	95	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	95	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10

Other compatible lamps: F28T5HE, F35T5HE, F28T5HM, F35T5HM, F28T5HE, F35T5HE, F28T5HM, F35T5HM.

#### Safety and performance

- UL Type HL, UL Type CC, UL Type L, Outdoor, UL Listed, UL Class P
- RoHS Compliant, Meets ANSI Standard G82.11-cons 2002

### 99655 – GE228MVP5-A

#### T5 High Efficiency – UltraStart® Programmed Start 2 or 1 – F14-F35T5HE, 120 – 277 UltraStar® PRS Normal Light – 95 BF A Cam

General characteristics	
Ballast Type	Electronic – Programmed / Rapid Start
Starting Method	Programmed Start
Lamp Voltage	Parallel
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	104°F (40°C)
Case Temperature (MAX)	90°C (195°F)
Power Factor Correction	Normal
Sound Rating	Active
Additional Info	Auto-restore: End-of-life Protection (EOL), Thermally protected, Universal voltage, Anti-saturation control
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
IP Pack	D17Pack
99655	99655

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Voltage	Min. Line Current (A)	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (p-f)	Min. Starting Temp (°F/°C)
F14	2	120	118	0.64	1.15	1.66	99	9
F14	1	277	270	0.84	1.15	1.66	99	9
F21	2	120	118	0.74	1.36	3.02	99	10
F21	1	277	270	0.74	1.36	3.02	99	10
F28	2	120	118	0.84	1.57	5.13	96	10
F28	1	277	270	0.84	1.57	5.13	99	10
F35	2	120	118	0.94	1.78	7.24	95	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	95	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10
F35	1	277	270	0.94	1.78	7.24	99	10

Other compatible lamps: F28T5HE, F35T5HE, F28T5HM, F35T5HM, F28T5HE, F35T5HE, F28T5HM, F35T5HM.

#### Safety and performance

- UL Type HL, UL Type CC, UL Type L, Outdoor, UL Listed, UL Class P
- RoHS Compliant, Meets ANSI Standard G82.11-cons 2002

See page 195 for warranty information.

\*T5 lamp lengths are noted to nearest foot and are not exact lengths as noted in feet. See GE Lamp Catalog for exact lamp length.

## Understanding T5 Electronic Programmed Start Ballasts

### UltraStart® T5 programmed start ballasts for T5 fluorescent lamps.

GE has developed a line of T5 ballasts that incorporate the benefits of programmed start ballasts with the energy savings, fast starting and parallel lamp operation of instant start ballasts. GE's UltraStart® T5 ballasts use low energy loss, high efficiency components along with continuous cathode cutout (CCO) technology—resulting in 8 fewer watts than standard 4-lamp 54 watt T5 ballasts. GE's UltraStart® T5 ballasts offer a 44% improvement over standard T5 ballasts and create a new industry threshold for high efficiency ballasts.

#### The GE UltraStart® Watt-Miser® T5 Lamp and Ballast System Advantage

- 18 watts lower than standard 4-lamp, 54 watt T5 systems with the same light output
- Operates lamps in parallel (which means if one lamp fails, the other lamps remain on)
- significantly reduces lamp maintenance costs
- Fast starting programmed start ballast < 700 milliseconds compared to standard T5 at > 1.1 to 1.5 seconds

GE UltraStart® T5 programmed start ballasts use a control circuit to apply very precise cathode heat to ensure lamp cathodes have reached optimum temperature during lamp starting. Precise starting reduces the amount of cathode degradation associated with each start and increases lamp life significantly. After starting the lamps, continuous cathode cutout technology (CCCO) is applied—which eliminates wasted power to the lamps, resulting in high efficiencies. GE UltraStart® systems also have the advantage of operating lamps in parallel. Parallel (versus series) lamp operation ballasts typically reduce spot relamping costs by 50% or extend group relamping by 15% or more due to average lamp mortality early failures.

### T5 Lamps

GE T5 lamps can be electrically characterized into two groups:

**High Efficiency (HE) Lamps (F14T5, F21T5, F28T5, F35T5) – standard, high-lumen and Watt-Miser®**

These lamps are high efficiency (HE), delivering around 100 lumens per watt and, while operating at the same lamp arc current, can be operated on the same ballast if the ballast system power and starting voltage are appropriate for the lamp load.

**High Output (HO) Lamps (F24T5, F39T5, F54T5, F49T5, F80T5) – standard and Watt-Miser®**

These lamps are driven for high light output and are slightly less efficient (LPW) than HE lamps. They have unique lamp arc currents and starting voltages by wattage that require a specific ballast for each HO lamp wattage.





## T5 High Output – Programmed Start

### T5 Electronic Programmed Start For F24 (2 ft), F39 (3 ft), F54 (4 ft), F80 (5 ft) HO T5 Lamps\*

#### 47534 – B224PUNV-COGIC

#### T5 High Output – Programmed Start

2 – F24T5HO PRS UNV 50/60 Hz C Can

- Electronic ballasts for all general fluorescent applications
- Extends lamp life in frequently switched applications
- Reduced lamp replacement cost; ideal for use with occupancy sensors

General characteristics	
Ballast Type	Electronic - Programmed / Rapid Start
Start Method	Start Method
Lamp Warnings	Start Method
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	105°C (158°F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A10-24 decibels
Additional Info	Auto-reset / End-of-Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge

Dimensions	
Wiring Diagram - E14	See example on page 82
Case Dimensions - Ref Drawing - C Can - see page 83	
Width (W)	1.6 in (41.3 mm)
Height (H)	1.0 in (25.4 mm)
Mounting Dimensions	
Mount Length (ML)	1.8 in (46.2 mm)
Mount Spacing (MS)	0.75 in (19.1 mm)
Weight	1.0 lb
Exit Type	End of Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG

Electrical characteristics	
Supply Current Frequency	50 Hz/60 Hz

Order information	
10 Pack	IP Pack
47534	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
F24T5/HO	2	120	0.98	0.63 A	1.84	1.7	10	0 / -18
	1	277	0.98	0.34 A	0.98	1.7	10	0 / -18
F39T5/HO	2	120	0.98	0.84 A	2.45	1.7	10	0 / -18
	1	277	0.98	0.46 A	1.28	1.7	10	0 / -18
F54T5/HO	2	120	0.98	1.14 A	3.25	1.7	10	0 / -18
	1	277	0.98	0.63 A	1.84	1.7	10	0 / -18
F80T5/HO	2	120	0.98	1.54 A	4.45	1.7	10	0 / -18
	1	277	0.98	0.84 A	2.45	1.7	10	0 / -18

Order information	
10 Pack	IP Pack
47534	

Other compatible lamps: F39W/650

Other compatible lamps: F39W/650

Safety and performance

Safety and performance

#### 47540 – B239PUNV-DOGIC

#### T5 High Output – Programmed Start

2 – F39T5HO PRS UNV 50/60 Hz C Can

- Electronic ballasts for all general fluorescent applications
- Extends lamp life in frequently switched applications
- Reduced lamp replacement cost; ideal for use with occupancy sensors

General characteristics	
Ballast Type	Electronic - Programmed / Rapid Start
Start Method	Start Method
Lamp Warnings	Start Method
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	105°C (158°F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A10-24 decibels
Additional Info	Auto-reset / End-of-Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge

Dimensions	
Wiring Diagram - E14	See example on page 82
Case Dimensions - Ref Drawing - D Can - see page 83	
Width (W)	1.6 in (41.3 mm)
Height (H)	1.0 in (25.4 mm)
Mounting Dimensions	
Mount Length (ML)	1.8 in (46.2 mm)
Mount Spacing (MS)	0.75 in (19.1 mm)
Weight	1.0 lb
Exit Type	End of Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG

Electrical characteristics	
Supply Current Frequency	50 Hz/60 Hz

Order information	
10 Pack	IP Pack
47540	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
F39T5/HO	2	120	0.98	0.84 A	2.45	1.7	10	0 / -18
	1	277	0.98	0.46 A	1.28	1.7	10	0 / -18
F54T5/HO	2	120	0.98	1.14 A	3.25	1.7	10	0 / -18
	1	277	0.98	0.63 A	1.84	1.7	10	0 / -18
F80T5/HO	2	120	0.98	1.54 A	4.45	1.7	10	0 / -18
	1	277	0.98	0.84 A	2.45	1.7	10	0 / -18

Order information	
10 Pack	IP Pack
47540	

Safety and performance

Safety and performance

## T5 High Efficiency – Programmed Start

### T5 Electronic Programmed Start For F14 (2 ft), F21 (3 ft), F28 (4 ft), F35 (5 ft) HE T5 Lamps\*

#### 47536 – B228PUNV-COGIC

#### T5 High Efficiency – Programmed Start

2 – F28T5 PRS UNV 50/60 Hz, C Can

- Electronic ballasts for all general fluorescent applications
- Extends lamp life in frequently switched applications
- Reduced lamp replacement cost; ideal for use with occupancy sensors

General characteristics	
Ballast Type	Electronic - Programmed / Rapid Start
Start Method	Start Method
Lamp Warnings	Start Method
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	105°C (158°F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A10-24 decibels
Additional Info	Auto-reset / End-of-Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge

Dimensions	
Wiring Diagram - E14	See example on page 82
Case Dimensions - Ref Drawing - C Can - see page 83	
Width (W)	1.6 in (41.3 mm)
Height (H)	1.0 in (25.4 mm)
Mounting Dimensions	
Mount Length (ML)	1.7 in (43.2 mm)
Mount Spacing (MS)	0.75 in (19.1 mm)
Weight	1.0 lb
Exit Type	End of Life Protection (EOL), Thermally protected, Remote Mounting Distance to Lamp, Remate Mounting Wire Gauge
Remate Mounting Distance to Lamp	18 in
Remate Mounting Wire Gauge	18 AWG

Electrical characteristics	
Supply Current Frequency	50 Hz/60 Hz

Order information	
10 Pack	IP Pack
47536	

Specifications by lamp and wattage								
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
F14T5/HE	2	120	0.98	0.38 A	1.15	1.7	10	0 / -18
	1	277	0.98	0.21 A	0.68	1.7	10	0 / -18
F21T5/HE	2	120	0.98	0.51 A	1.65	1.7	10	0 / -18
	1	277	0.98	0.28 A	0.92	1.7	10	0 / -18
F28T5/HE	2	120	0.98	0.68 A	2.25	1.7	10	0 / -18
	1	277	0.98	0.38 A	1.15	1.7	10	0 / -18
F35T5/HE	2	120	0.98	0.84 A	2.85	1.7	10	0 / -18
	1	277	0.98	0.46 A	1.28	1.7	10	0 / -18

Order information	
10 Pack	IP Pack
47536	

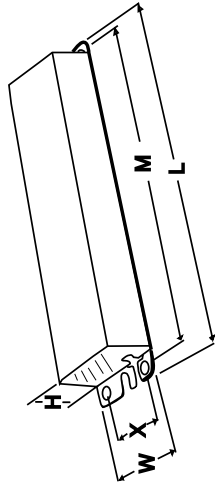
Safety and performance

Safety and performance

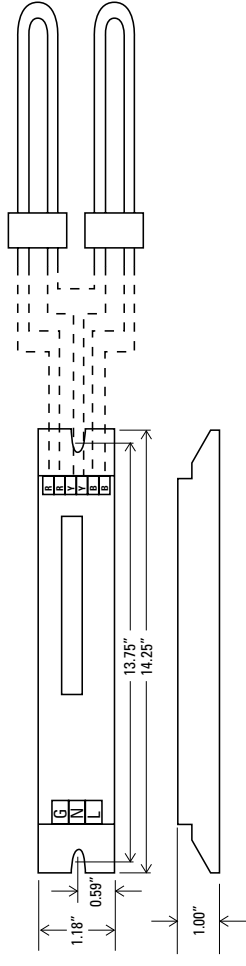


### Case Dimensions T5 Fluorescent Ballasts

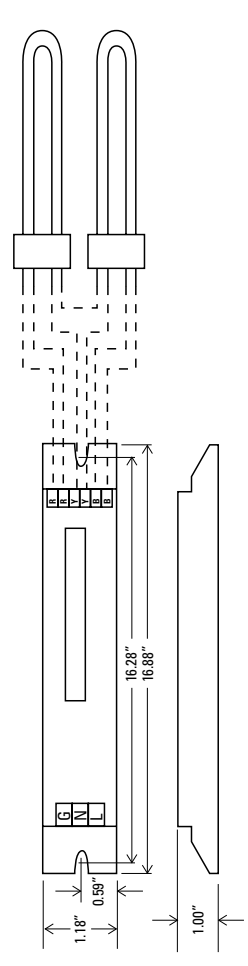
-A Can, -E, -F



-C Can



-D Can

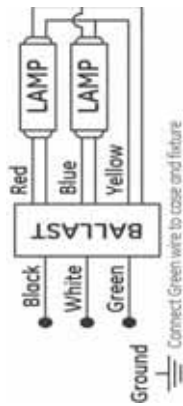


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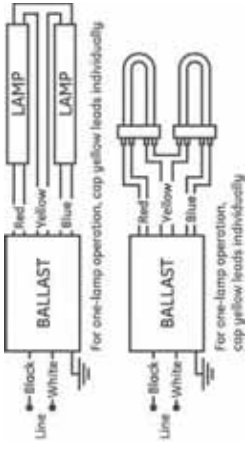


### Wiring Diagrams T5 Fluorescent Ballasts

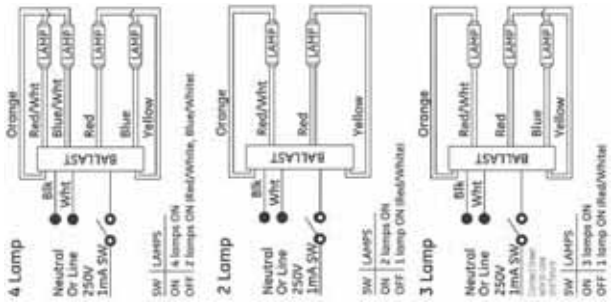
LFL 4a



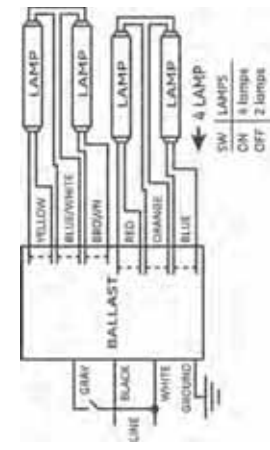
LFL 4b



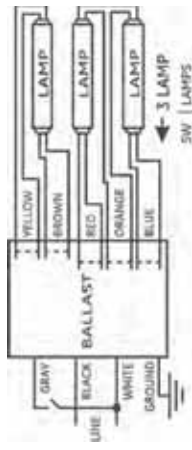
LFL 4c



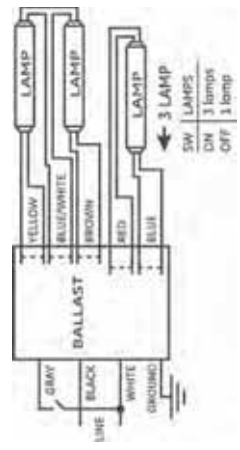
LFL 62-1



LFL 62-2



LFL 62-3



ProLine® T12 Multivolt 120V – 277V  
T12 Electronic Ballasts For F20 (2 ft), F30 (3 ft), F34/F40 (4 ft) T12 Lamps

- High-performance electronic ballast for all general fluorescent applications
- Multi-voltage technology handles voltage from 120 to 277V
- Light weight, low-profile housing
- Parallel lamp operation means maintenance is easier to manage

24107 – GE-240-RS-MV-N

ProLine® T12 Multivolt 120V – 277V

2 or 1 – F40 or F34T12 Rapid Start 120 to 277 V N° BF ProLine® T12

General characteristics

Table with columns for characteristics like Electronic Programming, Rapid Start, Start Method, Lamp Voltage, etc.

Electrical characteristics

Table with columns for Electrical Characteristics like Supply Current Frequency, System Voltage, etc.

Order information

Table with columns for Order Information like S&P pack, D1Y Pack, IP Pack.

Specifications by lamp and wattage

Large table listing specifications for various lamp models like E40T10, E40T12, F34T12, F30T12.

Other compatible lamps: F20T12, F30T12, W8

Safety and performance

- Parallel operation – if one lamp fails, others remain lit
- Significantly quieter than magnetic
- High-frequency operation virtually eliminates lamp flickering typical in T12 electromagnetic systems
- Five-year limited ballast warranty

97498 – GE240RS120

ProLine® T12 120V – 277V

2 – F40 or F34T12 Rapid Start 120V N° BF ProLine® T12

General characteristics

Table with columns for General Characteristics like Lamp Type, Start Method, Lamp Voltage, etc.

Electrical characteristics

Table with columns for Electrical Characteristics like Supply Current Frequency, System Voltage, etc.

Order information

Table with columns for Order Information like S&P pack, D1Y Pack, IP Pack.

Specifications by lamp and wattage

Table listing specifications for various lamp models like E39T12, E39T10, F30T12, F34T12, F30T10, F34T10, F30T12, F34T12, F30T10, F34T10.

Other compatible lamps: F20T12, F30T12, W8

Safety and performance

- Parallel operation – if one lamp fails, others remain lit
- Significantly quieter than magnetic
- High-frequency operation virtually eliminates lamp flickering typical in T12 electromagnetic systems
- Five-year limited ballast warranty



Understanding T12  
Electronic Ballasts

Electronic T12

GE multivolt and dedicated voltage ProLine® T12 high-performance ballasts are designed for replacement of magnetic T12 electronic ballasts during maintenance or retrofits. GE multivolt ProLine® T12 ballasts have the same wiring and mounting requirements as standard magnetic ballasts and provide up to 20% energy savings by simply replacing the ballast.

The DOE ballast ruling effective April 1, 2005, prevents the sale of 4 foot and 8 foot lamp electromagnetic ballasts that operate T12 lamps and do not meet federal ballast efficiency requirements. GE ProLine® T12 electronic ballasts meet the DOE minimum ballast efficiency requirements and also allow facility managers to reduce ballast maintenance inventories by consolidating the number of ballasts needed. GE ProLine® T12 ballasts operate both energy-saving and standard wattage lamps and are also multi-voltage (120-277V). With 2 ballasts, the multi-voltage ProLine® T12 can consolidate over 40 different magnetic ballasts.

Performance Features

- GE240RSMVN and GE240RS120 comply with FCC for residential use
- Low-profile and lightweight housing simplifies installation and reduces transportation costs (GE240 = 1.3 lbs. lighter than magnetic; GE260 = 5.3 lbs. lighter than magnetic)
- Parallel operation – if one lamp fails, others remain lit
- Significantly quieter than magnetic
- High-frequency operation virtually eliminates lamp flickering typical in T12 electromagnetic systems
- Five-year limited ballast warranty

Electromagnetic T12

- Complete line of ballasts for 2-to-8 foot lamps, circled and high-output lamps
- 100% thermally protected
- High-grade lamination steel assures lowest wattage loss
- UL, CSA and/or cUL approved
- 888-GEBALLAST on every ballast
- Two-year limited ballast warranty

GE Ballast LFL magnetic nomenclature

Diagram showing nomenclature breakdown for GE Ballast LFL magnetic nomenclature (GEM-232HORS-120-DIY) with detailed descriptions for each character.















ge lighting.com

## T12 Magnetic Ballasts

### For T12 High Output Lamps

### 86164 – GEM296HORS120IP

#### T12 Magnetic Ballasts

2 - F96T12HO, F96T8HO, F72T12HO, R5, 120V, Magnetic Ballast (480SLHTCPI)

- Magnetic ballast construction for all general fluorescent lighting
- Instant start ballast for long lamp starting cycles and low initial cost
- Color-coated ballast and package labels reduce misapplication errors (120V Yellow, 277V Red)

General characteristics	
Ballast Type	Magnetic - Standard Instant Start
Starting Method	Instant Start
Lamp Voltage	120V, 277V
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	90°C (194°F)
Ballast Factor	Normal
Power Factor Correction	B12-30 (electro)
Sound Rating	Auto-ester, thermally protected
Additional Info	
Electrical Characteristics	
Supply Current Frequency	60/50 Hz
Order Information	
Std. pack	Pallet Pack
DW Pack	46855
IP Pack	86360

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Power Factor % (b=)	Ballast Efficiency Factor	Ballast Efficiency Factor	THD (%)	Min. Starting Temp (°F/°C)
F96T12HO	2	120	0.93	1.1A	96	0.71	0.95	30	50/10
F96T8HO	2	120	0.93	1.08A	95	0.72	0.95	30	50/10
F72T12HO	2	120	0.93	1.08A	87	0.96	0.95	30	50/10

Safety and performance Ⓚ UL Type 1 Outdoor Ⓜ UL Type HL Ⓟ UL Class P Ⓒ UL, Type HL Ⓡ CSA Ⓜ UL Listed

## T12 Magnetic Ballasts

### For T12 4 ft – 8 ft Slimline Lamps

### 86379 – GEM296IS277IP

#### T12 Magnetic Ballasts

2 - F96T12, IS, 120V, Magnetic Ballast, (806SLHTCPI)

General characteristics	
Ballast Type	Magnetic - Standard Instant Start
Starting Method	Instant Start
Lamp Voltage	120V, 277V
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	90°C (194°F)
Ballast Factor	Normal
Power Factor Correction	B12-30 (electro)
Sound Rating	Auto-ester, thermally protected
Additional Info	
Electrical Characteristics	
Supply Current Frequency	60/50 Hz
Order Information	
Std. pack	Pallet Pack
DW Pack	46855
IP Pack	86360

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Power Factor % (b=)	Ballast Efficiency Factor	Ballast Efficiency Factor	THD (%)	Min. Starting Temp (°F/°C)
F96T12	2	120	0.93	1.1A	96	0.71	0.95	30	50/10
F96T8	2	120	0.93	1.08A	95	0.72	0.95	30	50/10
F72T12	2	120	0.93	1.08A	87	0.96	0.95	30	50/10

Safety and performance Ⓚ UL Type 1 Outdoor Ⓜ UL Type HL Ⓟ UL Class P Ⓒ UL, Type HL Ⓡ CSA Ⓜ UL Listed

### 86379 – GEM296IS277IP

#### T12 Magnetic Ballasts

2 - F96T12, IS, 277V, Magnetic Ballast (827SLHTCPI)

- Magnetic ballast construction for all general fluorescent lighting
- Instant start ballast for long lamp starting cycles and low initial cost
- Color-coated ballast and package labels reduce misapplication errors (120V Yellow, 277V Red)

General characteristics	
Ballast Type	Magnetic - Standard Instant Start
Starting Method	Instant Start
Lamp Voltage	120V, 277V
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (40°C)
Case Temperature (MAX)	90°C (194°F)
Ballast Factor	Normal
Power Factor Correction	B12-30 (electro)
Sound Rating	Auto-ester, thermally protected
Additional Info	
Electrical Characteristics	
Supply Current Frequency	60/50 Hz
Order Information	
Std. pack	Pallet Pack
DW Pack	46855
IP Pack	86373

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Ballast Factor	Nom. Line Current	Power Factor % (b=)	Ballast Efficiency Factor	Ballast Efficiency Factor	THD (%)	Min. Starting Temp (°F/°C)
F96T12	2	277	0.93	0.60A	96	0.71	0.95	30	50/10
F96T8	2	277	0.93	0.57A	94	0.72	0.95	30	50/10
F72T12	2	277	0.93	0.57A	86	0.96	0.95	30	50/10

Safety and performance Ⓚ UL Type 1 Outdoor Ⓜ UL Type HL Ⓟ UL Class P Ⓒ UL, Type HL Ⓡ CSA Ⓜ UL Listed

98

99

See page 195 for warranty information.

See page 195 for warranty information.

# T12 Magnetic Ballasts

For T12 High Output Lamps

80664 - 493B2

T12 Magnetic Ballasts

2 - F7312/BL/HO, Sunton, 120, Magnetic Ballast

General characteristics	
Ballast Type	Electronic - Standard Instant Start
Lamp Method	Instant Start
Lamp Wattage	100
Line Voltage Regulation (%)	10%
Case Temperature (T <sub>case</sub> )	105°F (41°C)
Ambient Temperature (T <sub>amb</sub> )	80°C (194°F)
Case Temperature (T <sub>case</sub> )	Passive
Power Factor Correction	AL02-24, decibels
Source Rating	Thermally protected
Additional Info	
Electrical characteristics	60/12
Supply Current Efficiency	
Order information	
10 Pack	IP Pack
Pallet Pack	DM Pack
80664	

### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%)	THD (%)	Min. Starting Temp (°C)
F7312/HO	2	120	144	1.00	1.00	80	1.7	5
F7312/HO	2	120	144	1.00	1.00	80	1.7	5
F7312/HO	2	120	144	1.00	1.00	80	1.7	5

Safety and performance

- Electronic ballasts for all general fluorescent applications
- Instant start electronic ballast for long lamp starting cycles and low initial cost

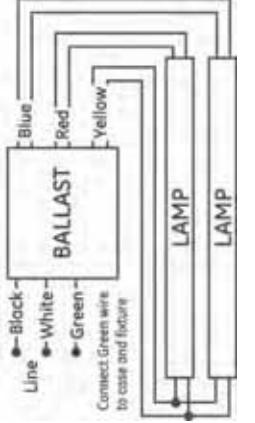
Dimensions	
Wiring diagram - LFL PS2 - see example on page 101	
Case dimensions - See Drawing S1 - see page 104	
Width (mm)	95.1 in (24.30 mm)
Depth (mm)	2.3 in (60.45 mm)
Height (in)	1.5 in (38.37 mm)
Mounting dimensions	
Mounting hole (mm)	4.8 in (122.80 mm)
Mount width (mm)	1.6 in (41.32 mm)
Mount distance (mm)	9.3 in (237.8 mm)
Mount width (mm)	2.9 in (76.2 mm)
Mount distance (mm)	12 in
Mount distance (mm)	18 in (457.2 mm)
Mount distance (mm)	30 in (762 mm)
Mount distance (mm)	45 in (1143 mm)
Mount distance (mm)	60 in (1524 mm)

Lead lengths	
Lead length (mm)	18 in (457.2 mm)
Lead length (mm)	30 in (762 mm)
Lead length (mm)	45 in (1143 mm)
Lead length (mm)	60 in (1524 mm)

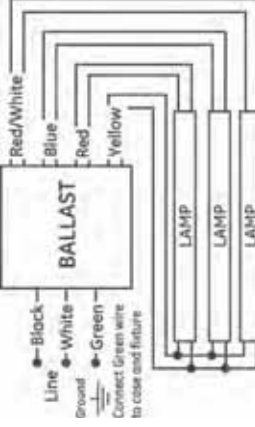
# Wiring Diagrams

T12 Fluorescent Ballasts

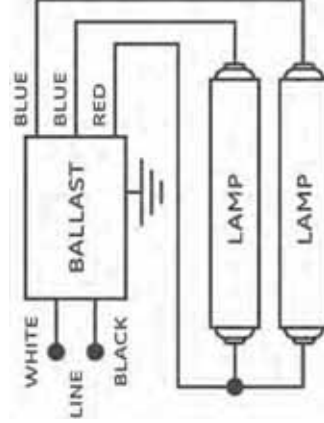
LFL PS2



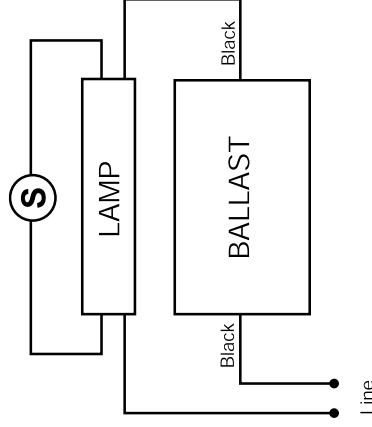
LFL PS3



LFL 14



LFL 21



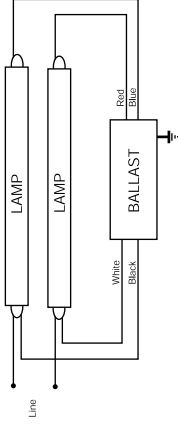
# Fluorescent Accessories

Fluorescent Accessories	Prod Code	Description	Application	Units Per Carton
Starters	80619	FS-2-C	Starters for 14, 15 & 20 Watt Flu. Lamps	24
	80620	FS-4-C	Starters for 30 & 40 Watt Flu. Lamps	24
	80621	FS-5-C	Starters for 4, 6 & 8 Watt Flu. Lamps	24
	80622	FS-25-C	Starters for 22 & 25 Watt Flu. Lamps	24
	80629	FS-12-C	Starters for 32 Watt Circular Flu. Lamps	24
Sockets	80623	BP-SKT	Socket Set w/ Starter for Bi-Pin Flu. Lamps	12
	80624	BP	Socket Set for Bi-Pin Flu. Lamps	12
	80625	SL-SS	Socket Set for Slimline Flu. Lamps	12
	80627	BP-FM	Face Mount Socket Set for Bi-Pin Flu. Lamps	12
	80628	BP-LP	Low-Profile Socket Set for Bi-Pin Flu. Lamps	12

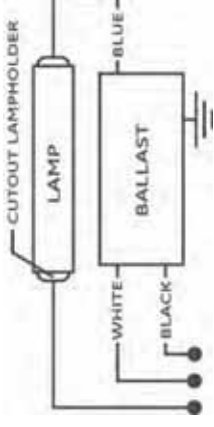
**Wiring Diagrams**  
T12 Fluorescent Ballasts

**Wiring Diagrams**  
T12 Fluorescent Ballasts

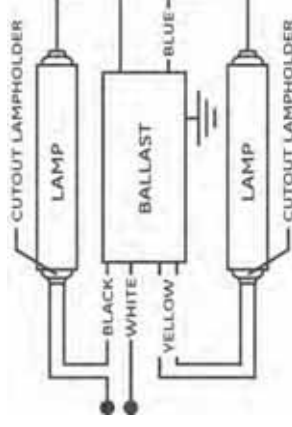
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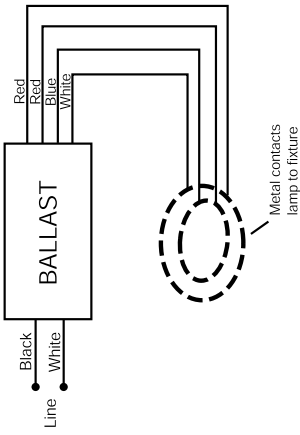
LFL 014



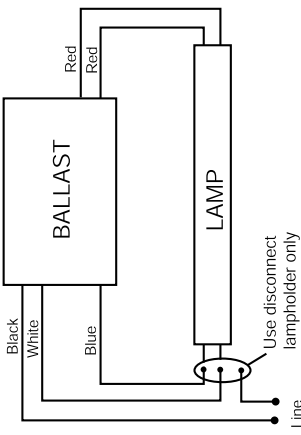
LFL 025



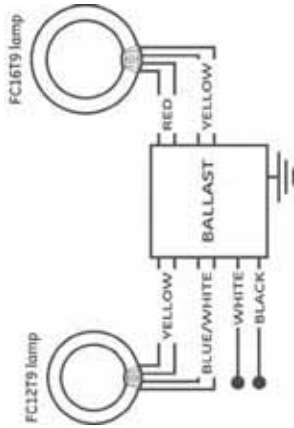
LFL 29



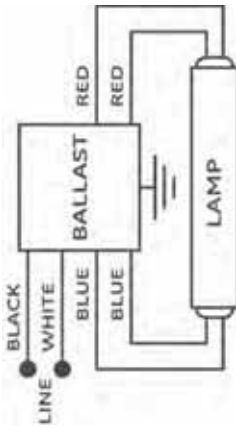
LFL 8



LFL 037

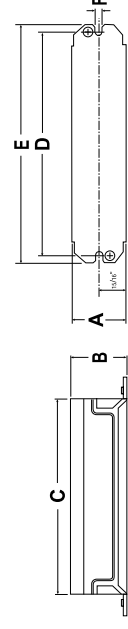


LFL 2



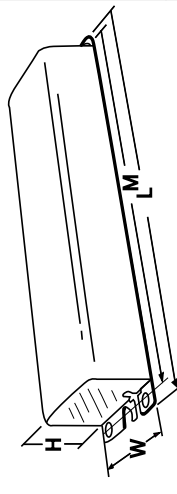
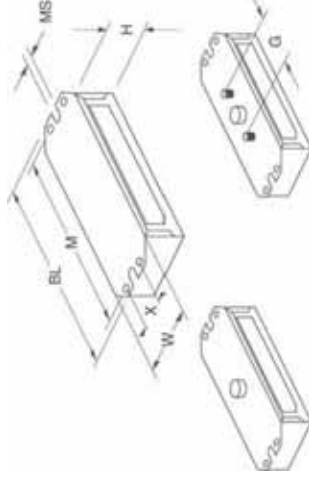
### Case Dimensions T12 Fluorescent Ballasts

9



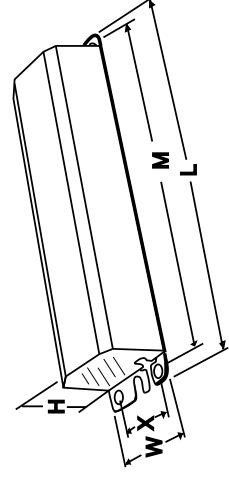
10

D10, 15, 29

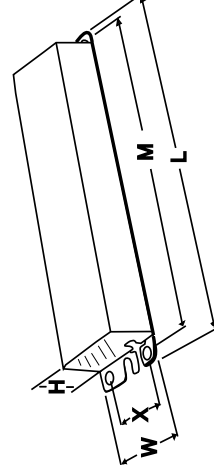


### Case Dimensions T12 Fluorescent Ballasts

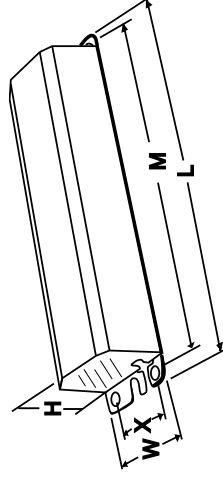
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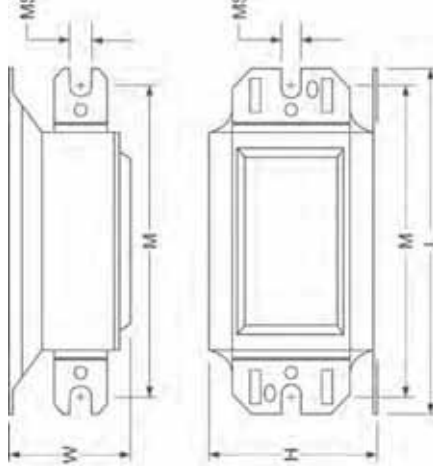
B1



SL



2



# Sign Ballasts

## For T12 High Output Lamps

### 72103 – GESB-0412-12-IP

#### Sign Ballasts

T12HO Sign Ballast 4 to 12 ft. 1 to 2 lamps

General characteristics	
Ballast Type	Nonpulsed - T12 Sign Illumination
Starting Method	Soft Start
Lamp Wireing	Series
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	105°C (221°F)
Power Factor Correction	Active
Source Rating	Thermally protected
Additional Info	
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
30 Pack	IP Pack
2103	IP Pack

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting - as low as -20°F
- Ideal for high-moisture environments - UL Type 2 Outdoor and HL rating
- Class P thermal protection

Dimensions	
Wire diameters - Sign (AWG) - see example on page 117	
Case dimensions - Refer drawing S1 - see page 119	
Width (W)	11.75 in (298.45 mm)
Height (H)	3.19 in (80.98 mm)
Depth (D)	2.61 in (66.26 mm)
Mounting dimensions	
Mount Length (L)	
Mount Width (W)	11.0 in (279.40 mm)
Mount Spacing (S)	3.19 in (80.98 mm)
Case Type	5/8" lbs.
Remate Mounting Distance to Lamp	Varies
Remate Mounting Wire Gauge	Varies
Lead lengths	
Lead Length (L)	
Black and Blue	60 in (1524 mm)
Orange and Yellow	60 in (1524 mm)
Blue and White	72 in (1829 mm)

Specifications by lamp and wattage										
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (p.f.)	CRF Factor (c.f.)	HL (c.f.)	Min. Starting Temp (°F/C)
F21212HO	2	120	120	0.89 A	0.89	0.81	98	1.9	15	-20/-29
F261212HO	1	120	120	0.92 A	0.81	0.81	92	2.0	35	-20/-29
F361212HO	1	120	120	1.03 A	0.89	0.70	86	2.0	75	-20/-29
F481212HO	1	120	120	1.20 A	0.72	0.56	84	2.1	55	-20/-29
F241212HO	2	120	90	0.90 A	0.78	0.87	84	2.1	55	-20/-29

**Safety and performance** UL Type 2 Outdoor cUL Listed 3-Year Warranty

### 72104 – GESB-0620-24-IP

#### Sign Ballasts

T12HO Sign Ballast 6 to 20 ft. 2 to 4 lamps

General characteristics	
Ballast Type	Nonpulsed - T12 Sign Illumination
Starting Method	Rugged Start
Lamp Wireing	Series
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	105°C (221°F)
Power Factor Correction	Normal
Source Rating	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz/50 Hz
Order information	
30 Pack	IP Pack
2104	IP Pack

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting - as low as -20°F
- Ideal for high-moisture environments - UL Type 2 Outdoor and HL rating
- Class P thermal protection

Dimensions	
Wire diameters - Sign (AWG) - see example on page 118	
Case dimensions - Ref. drawing S1 - see page 119	
Width (W)	11.75 in (298.45 mm)
Height (H)	3.19 in (80.98 mm)
Depth (D)	2.61 in (66.26 mm)
Mounting dimensions	
Mount Length (L)	
Mount Width (W)	11.0 in (279.40 mm)
Mount Spacing (S)	3.19 in (80.98 mm)
Case Type	16.00 lbs.
Remate Mounting Distance to Lamp	Varies
Remate Mounting Wire Gauge	Varies
Lead lengths	
Lead Length (L)	
White and Black	24 in (610 mm)
Brown and Blue	80 in (2032 mm)
Orange and Yellow	60 in (1524 mm)
Blue and White	72 in (1829 mm)

Specifications by lamp and wattage										
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (p.f.)	CRF Factor (c.f.)	HL (c.f.)	Min. Starting Temp (°F/C)
F21212HO	4	120	300	2.36 A	1.08	0.15	95	1.6	15	-20/-29
F261212HO	2	120	115	1.41 A	0.87	0.16	87	2.0	45	-20/-29

**Safety and performance** UL Type 2 Outdoor cUL Listed 3-Year Warranty



## Understanding Sign Ballasts

GE sign ballasts are transitioning from USB to GESB ballast descriptions. These ballasts are electromagnetic technology for T12 high output lamps. The sign ballasts are high output (HO) ballasts for rugged outdoor sign cabinet applications. They will start lamps in cold temperatures down to -20°F. GE sign ballasts are ideal for high moisture environments with a UL Type 2 Outdoor and type HL rating. They are 1.20-volt series rapid start and have Class P thermal protection.

Sign Ballast for T12HO, 1.20 volt

GE Description	Total Lamp Footage																											
	#	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48			
Code GESB	Footage	lamps																										
72103	GE58	-0412	-12	IP																								
88921	GE58	-0620	-24	IP																								
88931	GE58	-1224	-24	IP																								
88936	GE58	-2040	-24	IP																								
88920	GE58	-1240	-46	IP																								
88934	GE58	-2448	-46	IP																								

Sign Ballast for T12HO, 1.20 volt

GE Description	#	Footage <th rowspan="2">lamps <th colspan="6"># of Lamps</th> </th>	lamps <th colspan="6"># of Lamps</th>	# of Lamps						
				1	2	3	4	5	6	
72103	GE58	-0412	-12	IP						
88921	GE58	-0620	-24	IP						
88931	GE58	-1224	-24	IP						
88936	GE58	-2040	-24	IP						
88920	GE58	-1240	-46	IP						
88934	GE58	-2448	-46	IP						

The best way to select or provide cross-reference to competition ballasts is to understand the sign ballast nomenclature.

#### GE Sign Ballast nomenclature



**Examples:**  
GESB-0620-24-IP can operate a minimum of two lamps at a total length of 6 feet, up to four lamps at a total length of 20 feet.

GESB-2040-46-IP can operate a minimum of four lamps at a total length of 20 feet, up to six lamps at a total length of 40 feet.

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## Sign Ballasts

### For T12 High Output Lamps

#### 72107 – GESB-2040-24-IP

#### Sign Ballasts

T12HO Sign Ballast 20 to 40 ft, 4 to 6 lamps

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting – as low as -20°F
- Ideal for high-moisture environments – UL Type 2 Outdoor and HL rating
- Class P thermal protection

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

#### 72105 – GESB-1224-24-IP

#### Sign Ballasts

T12HO Sign Ballast 12 to 24 ft, 2 to 4 lamps

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting – as low as -20°F
- Ideal for high-moisture environments – UL Type 2 Outdoor and HL rating
- Class P thermal protection

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (°F/C)
E12012HO	4	120	285	2.20 A	0.84	99	1.7	10
	2	120	210	1.60 A	0.82	96	1.8	15
	2	120	170	1.00 A	0.82	87	1.9	25

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (°F/C)
E12012HO	4	120	285	2.20 A	0.86	98	1.7	10
	2	120	210	1.60 A	0.82	95	1.8	15
	2	120	170	1.00 A	0.86	78	1.8	25

#### Safety and performance

UL Type 2 Outdoor cUL Listed Class P 3-Year Warranty

UL Type 2 Outdoor cUL Listed Class P 3-Year Warranty

#### 72106 – GESB-1240-46-IP

#### Sign Ballasts

T12HO Sign Ballast 12 to 40 ft, 4 to 6 lamps

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting – as low as -20°F
- Ideal for high-moisture environments – UL Type 2 Outdoor and HL rating
- Class P thermal protection

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

General characteristics	
Ballast Type	Rugged, T12 Sign Illumination
Starting Method	Rapid Start
Lamp Voltage Regulation (LVR)	10%
Line Voltage Regulation (LVR)	10%
Ambient Temperature (MAX)	95°F (35°C)
Case Temperature (MAX)	95°F (35°C)
Power Factor Correction	Active
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/Hz
Order information	
IP Pack	IP Pack
Pallet Pack	DIV Pack

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (°F/C)
E18112HO	6	120	350 A	3.00 A	0.78	98	1.6	15
E1812HO	5	120	350	3.20 A	0.72	95	1.7	10
E1812HO	5	120	252	2.20 A	0.78	82	1.8	20
E1812HO	4	120	183	2.00 A	0.75	65	1.9	35

#### Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (°F/C)
E18112HO	6	120	350	3.00 A	0.86	96	1.6	10
E1812HO	5	120	350	3.20 A	0.89	92	1.8	20
E1812HO	4	120	310	3.00 A	0.89	85	1.8	20

#### Safety and performance

UL Type 2 Outdoor cUL Listed Class P 3-Year Warranty

UL Type 2 Outdoor cUL Listed Class P 3-Year Warranty







# Sign Ballasts

For T12 High Output Lamps

## 88920 – USB-1232-16-IP

### Sign Ballasts

Max 3, 12 to 32 ft, 1 to 6 lamps

General characteristics	
Ballast Type	Nonpulsed – T12 Sign Illumination
Lamp Voltage	280V AC
Line Voltage Regulation (%)	±1%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	80°C (194°F)
Power Factor Correction	Power Factor Correction
Additional Info	Thermally protected
Electrical characteristics	
Supply Current Frequency	60/50 Hz
Order information	
IP Pack	IP Pack
DW Pack	DW Pack
88920	

### Specifications by lamp and wattage

Lamp	# of Lamps	Line Voltage	System Voltage	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor (%)	THD (%)	Min. Starting Temp (°C)
E812/160	6	120	120	3.50A	1.00	0.24	90		-20/-29

### Safety and performance

UL Type 2 Outdoor, UL Type HL, CSA, UL Listed

- High-output ballasts for rugged outdoor sign cabinet applications
- Reliable low-temperature starting – as low as -20°F
- Ideal for high-moisture environments – UL Type 2 Outdoor and HL rating
- Class P thermal protection

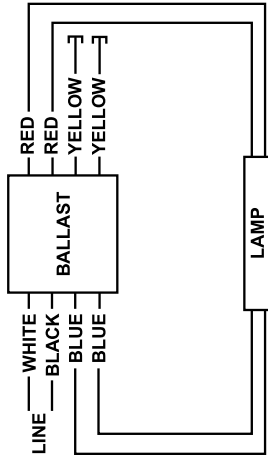
Dimensions	
Wire dimensions - Sign S3, Sign S4, Sign S5, Sign S6, Sign S7, Sign S8 - see example on pages 116-117	
Case dimensions - See Drawing S1 - see page 119	
Width (W)	13.19 in (334.96 mm)
Height (H)	3.94 in (99.96 mm)
Depth (D)	2.6 in (66.26 mm)
Mounting dimensions	
Mounting hole diameter (Ø)	13.7 in (347.8 mm)
Mounting hole spacing (S)	13.75 in (349.25 mm)
Mount Width (W) or F	
Mount Spacing (S)	
Case Type	16/20 lbs
Case Weight	5 lbs
Removal Mounting Distance to Lamp	Varies
Removal Mounting Wire Gauge	Varies
Lead lengths	
Line (L)	13.7 in (347.8 mm)
Ground (G)	20 in (508.2 mm)
Orange/Black	60 in (1524 mm)
Orange/Red and Yellow	60 in (1524 mm)
Blue/White	72 in (1829 mm)

# Wiring Diagrams

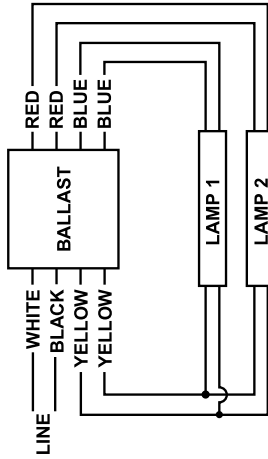
Sign Ballasts

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**SIGN S1A**

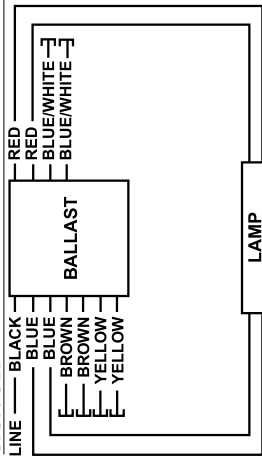


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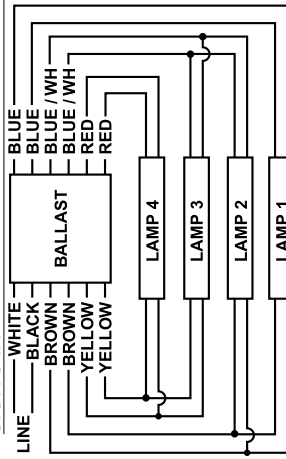


MOUNT LAMPS WITHIN 1 OF GROUNDED METAL REFLECTOR

**SIGN S1B**

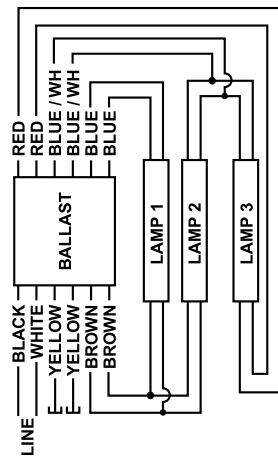


**SIGN S4A**



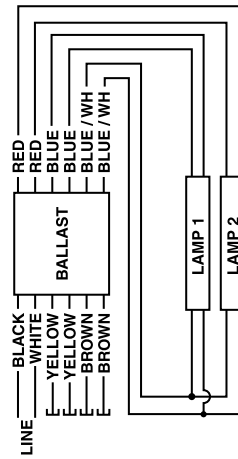
MOUNT LAMPS WITHIN 1 OF GROUNDED METAL REFLECTOR

**SIGN S6A**



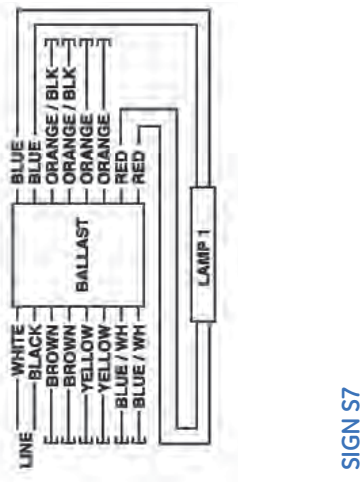
INDIVIDUALLY CAP THE YELLOW LEADS

**SIGN S9**

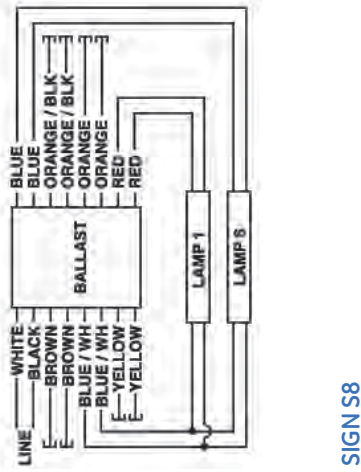


Wiring Diagrams  
Sign Ballasts

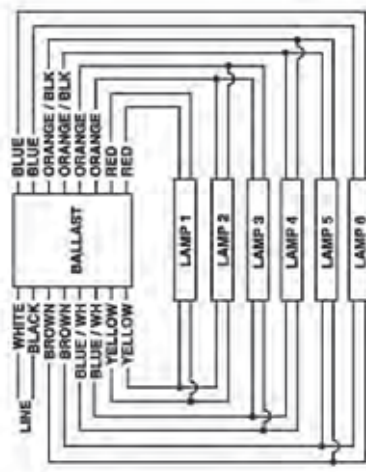
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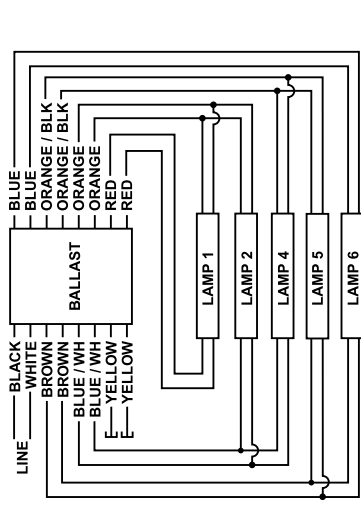
SIGN S6



SIGN S8

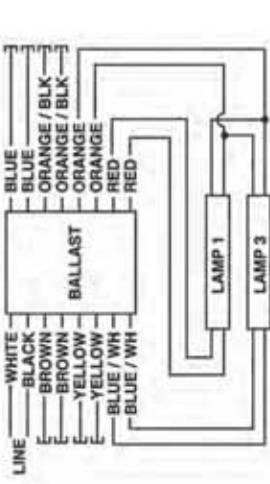


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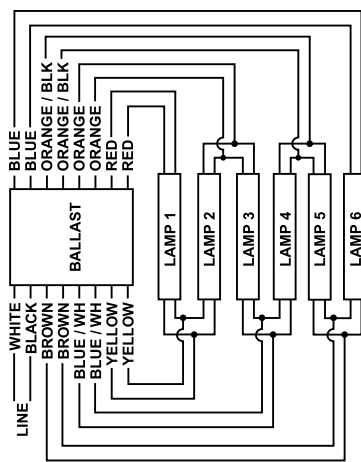


INDIVIDUALLY CAP THE YELLOW LEADS

SIGN S2

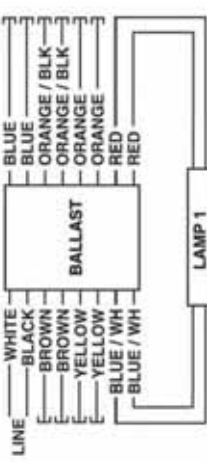


SIGN S5A

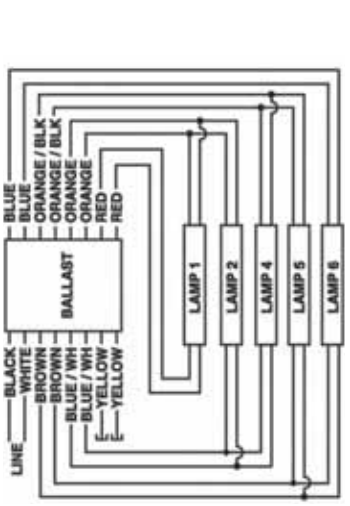


MOUNT LAMPS WITHIN 1 OF GROUNDED METAL REFLECTOR

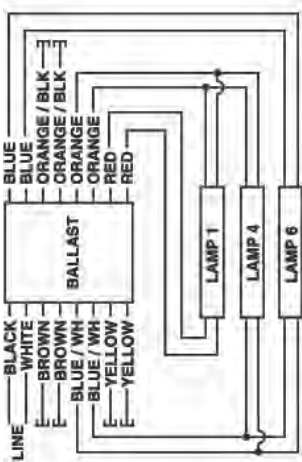
SIGN S1



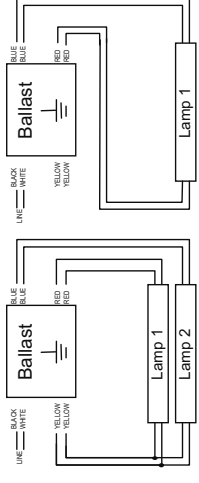
SIGN S4



SIGN S3

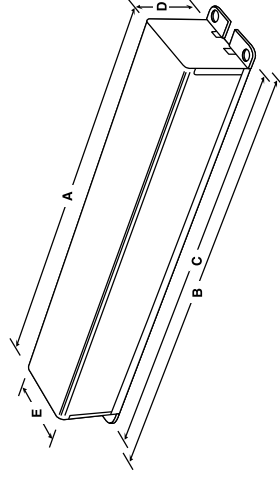


SIGN 0412



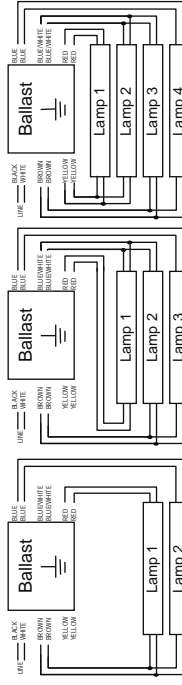
# Case Dimensions Sign Ballasts

S1

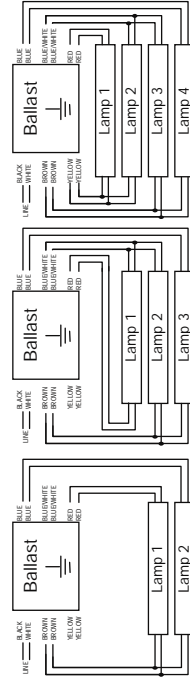


# Wiring Diagrams Sign Ballasts

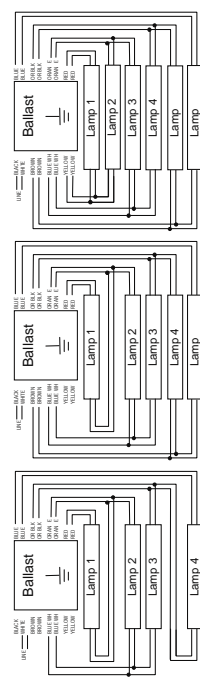
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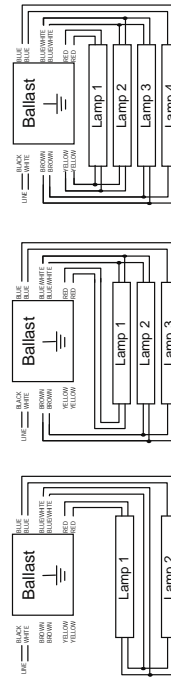
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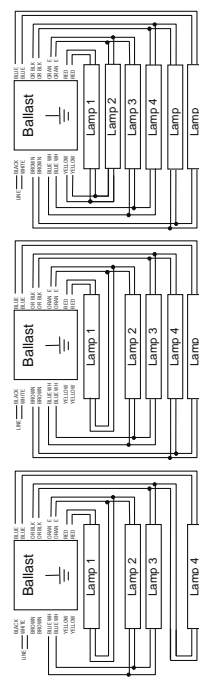
**SIGN 1240**



**SIGN 2040**



**SIGN 2448**



GE Multivolt ProLine® CFL Multi-Lamp Capability

Lamp Type	GE C213-MVPS	GE C218-MVPS	GE C226-MVPS	GE C240-MV
1 x 13W (CFO/G24q, CFR/G24q)	X			
2 x 13W (CFO/G24q, CFR/G24q)	X			
1 x 18W (CFO/G24q, CFR/G24q)	X	X		
2 x 18W (CFO/G24q, CFR/G24q)	X	X		
1 x 26W (CFO/G24q, CFR/G24q)	X	X	X	
2 x 26W (CFO/G24q, CFR/G24q)	X	X	X	
1 x 32W (CFO/G24q, CFR/G24q)	X	X	X	
2 x 32W (CFO/G24q, CFR/G24q)	X	X	X	
1 x 42W (CFO/G24q, CFR/G24q)	X	X	X	
2 x 42W (CFO/G24q, CFR/G24q)	X	X	X	
1 x 22W (FC915)				X
1 x 22W + 1 x 40W (FC915 + FC12T5)				X
1 x FC1619			X	
2 x 24 / 27W (FT2611)			X	
1 x FT36W (ZG11)			X	
2 x FT36W (ZG11)			X	
1 x 40W (FT2611) & Energy Saving 28W			X	X
2 x 40W (FT2611) & Energy Saving 28W			X	X
3 x 40W (FT2611) & Energy Saving 28W			X	
1 x 10W (CFS/GRI0q)	X			
2 x 10W (CFS/GRI0q)	X			
1 x 16W (CFS/GRI0q)	X			
2 x 16W (CFS/GRI0q)	X			
1 x 21W (CFS/GRI0q)	X			
2 x 21W (CFS/GRI0q)	X			
1 x 28W (CFS/GRI0q)	X			
2 x 28W (CFS/GRI0q)	X			
1 x 38W (CFS/GRI0q)	X			
2 x 38W (CFS/GRI0q)	X			
1 x 57W (CFR/GX24q)				X
1 x 70W (CFR/GX24q)				X

CFL – Cross Reference Chart

GE	Universal	Advance	Oslam	Robertson	ESU
GE C213-MVPS-3W	C213UNV/SE/BE/BES	ICF-2513-HI-LD	QTP-1/2X13CF/UNV	PSM213COMY	ES-27L-CFO-13/10-UNV-C/D ES-4-ZD-16/10-UNV-D
GE C218-MVPS-3W	C218UNV/SE/BE/BES	ICF-2518-HI-LD REL-2018 V-2018-4P-TP R-2018-4P-TP V-2018-4P-TP	QTP-1/2X18CF/UNV	PSM218COMY	ES-27L-CFO-18-UNV-C/D ES-4-ZD-21-UNV-D
GE C226-MVPS-3W	C226UNV/SE/BE/BES C226SR120BE C226SR27BE	ICF-2526-HI-LD REL-1132 REL-1192 REL-1192	QTP-2X26/UNV QTP-1/2X26/UNV	PSM226COMY	ES-27L-CFO-26-UNV-C/D ES-4-CPH-4625226-UNV-C/D ES-4-15C-40722-UNV-D

## Understanding Compact Fluorescent Ballasts

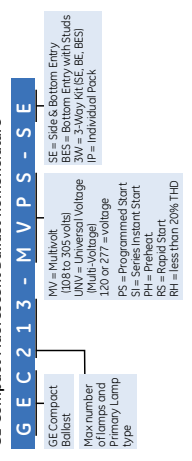
GE compact fluorescent (CFL) ballasts provide energy saving alternatives to halogen, incandescent or HID light sources. GE Multivolt ProLine® CFL programmed start ballasts combine universal voltage (108-305V) technology with multi-lamp capability, dual entry color-coded connectors and ultra system reliability to create an industry leading CFL solution for commercial and residential applications.

Multivolt ProLine® CFL ballasts are offered in three different configurations:  
 1) -SE description - dual entry (side or bottom) connectors; 2) -BES - bottom entry with studs for mounting to junction boxes and 3) -3W - 3-way mounting kits that allow you to have all three mounting options with one kit.

Multivolt ProLine® CFL ballasts come with a five-year ballast and one-year lamp limited warranty. These ballasts also meet the EPA's ENERGY STAR® fixture program requirements with a Consumer Class B EMI rating for residential applications, as well as a high power factor ballast design.

Use the GE Multivolt ProLine® CFL Multi-Lamp compatibility chart (page 121) to find the right ballast for your need.

### GE Compact Fluorescent Ballast nomenclature





### ProLine® CFL Electronic Ballasts For 40W BiaX® CFL Ballasts

- 80683 – C240PUNVHP-B-IP
- ProLine® CFL Electronic Ballasts  
2 or 1 – F140WZG11PS UNV

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic - Program / Remote Start
Starting Method	Programmed Start
Lamp Wattage	40W
Line Voltage Regulation (V)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	175°F (79°F)
Power Factor Correction	Active
Source Rating	A102-24 (electro)
Additional Info	Auto-Reset, Thermally Protected, Universal Voltage
Electrical characteristics	
Supply Current Frequency	50/60Hz
Order information	
IP Pack	DIV Pack
80683	

Dimensions	
Wire diameter - CFL 20C - see example on page 131	
Case dimensions - Ref Drawing 9 - see page 133	
Width (W)	3.5 in (89.14 mm)
Height (H)	1.5 in (38.10 mm)
Mounting dimensions	
Mount Length (L)	8.8 in (224.80 mm)
Mount Width (W) or F	0.8 in (20.32 mm)
Mount Spacing (S)	0.3 in (7.62 mm)
Case Type	1.00 lbs
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead lengths	
Blue and Red	31 in (787.62 mm)
White	48 in (1219.20 mm)
Black	25 in (635.00 mm)

Specifications by lamp and wattage						
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (ca)
F140W/HP	2	120	0.96	0.98	98	1.5
	1	120	0.96	0.98	98	1.5
	1	277	0.96	0.98	98	1.5
	1	277	0.96	0.98	95	1.5

Safety and performance	
UL Type I Outdoor	UL Type HL
UL Class P	UL Listed
UL Class P	UL Listed
UL Class P	UL Listed

### ProLine® CFL Electronic Ballasts For 13 – 42W T4 CFL Lamps

- 71443 – GEC226-MVPS-BES
- 71444 – GEC226-MVPS-SE
- 71445 – GEC226-MVPS-3W
- ProLine® CFL Electronic Ballasts  
2 – CF026W FT24 or 1 – 24W CFTR32 120-227V ProLine® PS

- Multi-voltage technology means a single ballast handles voltage from 108V to 305V
- Programmed starting for extended lamp life
- End-of-lamp-life protection
- Color coded poke-in connector simplifies wiring

General characteristics	
Ballast Type	Electronic - Program / Remote Start
Starting Method	Programmed Start
Lamp Wattage	13W
Line Voltage Regulation (V)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	175°F (79°F)
Power Factor Correction	Active
Source Rating	A102-24 (electro)
Additional Info	Auto-Reset, Thermally Protected, Universal Voltage
Electrical characteristics	
Supply Current Frequency	50/60Hz
Order information	
IP Pack	DIV Pack
71443, 71444, 71445	

Dimensions	
Wire diameter - CFL 12 - see example on page 132	
Case dimensions - Ref Drawing 13 - see page 133	
Width (W)	1.0 in (25.40 mm)
Height (H)	2.4 in (60.96 mm)
Mounting dimensions	
Mount Length (L)	4.63 in (117.60 mm)
Mount Width (W) or F	2.4 in (60.96 mm)
Mount Spacing (S)	0.57 lbs
Case Type	12 ft
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG

Specifications by lamp and wattage						
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (ca)
CFTR24/MVPS24	1	120	0.94	0.98	98	1.5
	1	277	0.94	0.98	98	1.5
	1	277	0.94	0.98	95	1.5
	1	277	0.94	0.98	95	1.5

Safety and performance	
UL Type I Outdoor	UL Type HL
UL Class P	UL Type CC
UL Class P	UL Listed
UL Class P	UL Listed

### 47506 – C242UNVBES-IP 47509 – C242UNVSE-IP

ProLine® CFL Electronic Ballasts  
2 – 42/36/32/26/24 watt CFL UNV Side Exit

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic - Program / Remote Start
Starting Method	Programmed Start
Lamp Wattage	24W
Line Voltage Regulation (V)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	175°F (79°F)
Power Factor Correction	Active
Source Rating	A102-24 (electro)
Additional Info	Auto-Reset, Thermally Protected, Universal Voltage
Electrical characteristics	
Supply Current Frequency	50/60Hz
Order information	
IP Pack	DIV Pack
47506, 47509	

Dimensions	
Wire diameter - CFL 5 - see example on page 132	
Case dimensions - Ref Drawing 13 - see page 133	
Width (W)	4.3 in (109.54 mm)
Height (H)	3.0 in (76.20 mm)
Mounting dimensions	
Mount Length (L)	4.9 in (124.47 mm)
Mount Width (W) or F	4.6 in (117.32 mm)
Mount Spacing (S)	1.6 in (40.64 mm)
Case Type	0.90 lbs
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG

Specifications by lamp and wattage						
Lamp	# of Lamps	Line Volts	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (ca)
CFR24/24W/HP	1	120	0.98	0.98	98	1.6
	1	277	0.98	0.98	98	1.6
	1	277	0.98	0.98	95	1.6
	1	277	0.98	0.98	95	1.6

Safety and performance	
UL Type I Outdoor	UL Type HL
UL Class P	UL Type CC
UL Class P	UL Listed
UL Class P	UL Listed



## ProLine® CFL Electronic Ballasts For 40W Biax® CFL Ballasts

### 80691 – C340SI277RH-IP

#### ProLine® CFL Electronic Ballasts 3 – FT40W/ZG11 IS 277

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic – Standard Instant Start
Starting Method	Start
Lamp Voltage	120V
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	125°C (158°F)
Power Factor Correction	Passive
Mounting (UL or ETL)	UL, Class P
Mounting Distance to Lamp	Remote Mounting Wire Gauge
Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	White 33 in (838 mm)
Black 25 in (635 mm)	
Order information	
10 Pack	IP Pack
80691	

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (%)	Min. Starting Temp (°F/°C)
FT40W/MP	2	277	275	0.17 A	0.99	1.32	90	1.7	50/10

**Safety and performance** UL Type 1 Outdoor UL Class P CSA UL Listed

## ProLine® CFL Electronic Ballasts For 40W Biax® CFL Ballasts

### 80681 – C240SI277RH-IP

#### ProLine® CFL Electronic Ballasts 2 – FT40W/ZG11 – IS 277

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic – Standard Instant Start
Starting Method	Start
Lamp Voltage	120V
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	125°C (158°F)
Power Factor Correction	Passive
Mounting (UL or ETL)	UL, Class P
Mounting Distance to Lamp	Remote Mounting Wire Gauge
Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	White 33 in (838 mm)
Black 25 in (635 mm)	
Order information	
10 Pack	IP Pack
80681	

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (%)	Min. Starting Temp (°F/°C)
FT40W/MP	2	277	275	0.17 A	0.99	1.32	90	1.7	50/10

**Safety and performance** UL Type 1 Outdoor UL Class P CSA UL Listed

## ProLine® CFL Electronic Ballasts For 40W Biax® CFL Ballasts

### 80690 – C340SI120RH-IP

#### ProLine® CFL Electronic Ballasts 3 – FT40W/ZG11 IS 120

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic – Standard Instant Start
Starting Method	Start
Lamp Voltage	120V
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	125°C (158°F)
Power Factor Correction	Passive
Mounting (UL or ETL)	UL, Class P
Mounting Distance to Lamp	Remote Mounting Wire Gauge
Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	White 33 in (838 mm)
Black 25 in (635 mm)	
Order information	
10 Pack	IP Pack
80690	

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (%)	Min. Starting Temp (°F/°C)
FT40W/MP	2	277	275	0.17 A	0.99	1.32	90	1.7	50/10

**Safety and performance** UL Type 1 Outdoor UL Class P CSA UL Listed

## ProLine® CFL Electronic Ballasts For 40W Biax® CFL Ballasts

### 80692 – C340SI277RH-IP

#### ProLine® CFL Electronic Ballasts 3 – FT40W/ZG11 IS 277

- Electronic compact fluorescent ballasts for all general fluorescent applications
- Low-profile case

General characteristics	
Ballast Type	Electronic – Standard Instant Start
Starting Method	Start
Lamp Voltage	120V
Line Voltage Regulation (%)	10%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	125°C (158°F)
Power Factor Correction	Passive
Mounting (UL or ETL)	UL, Class P
Mounting Distance to Lamp	Remote Mounting Wire Gauge
Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead Lengths	White 33 in (838 mm)
Black 25 in (635 mm)	
Order information	
10 Pack	IP Pack
80692	

Specifications by lamp and wattage									
Lamp	# of Lamps	Line Volts	System Volts	Nom. Line Current	System Ballast Factor	Ballast Efficiency Factor	Power Factor % (b=)	THD (%)	Min. Starting Temp (°F/°C)
FT40W/MP	2	277	275	0.17 A	0.99	1.32	90	1.7	50/10

**Safety and performance** UL Type 1 Outdoor UL Class P CSA UL Listed

## CFL Magnetic Ballasts

### For 5 – 26W Preheat CFL Lamps

#### 87655 – GEM2CF13PH277

### CFL Magnetic Ballasts

#### 2 – CF1/Q13W/GX23 Pre Heat 277 (4214PBES)

• Magnetic compact fluorescent ballast construction for all general fluorescent lighting

General characteristics	
Ballast Type	Magnetic - Preheat
Starting Method	Preheat
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Width (mm)	2.1 (0.83 in)
Height (mm)	1.6 (0.63 in)
Case Temperature (MAX)	95°C (193°F)
Power Factor Correction	Normal
Mount Width (X or F)	4.3 (1.70 in)
Mount Spacing (S)	0.2 (0.08 in)
Additional Info	Auto-ester. Thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
IP Pack	IP Pack
87655	

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
CF13W/2P	2	277	33	0.90	95	1.7	30
CF13W/2P	2	277	33	0.90	95	1.7	30

**Safety and performance**    

## ProLine® CFL Electronic Ballasts

### For 5 – 26W Preheat CFL Lamps

#### 87634 – GEM1CF579PH277

### ProLine® CFL Electronic Ballasts

#### 1 – CF15799W/G23 Pre Heat 277 (4205F2P)

• Magnetic compact fluorescent ballast construction for all general fluorescent lighting

General characteristics	
Ballast Type	Magnetic - Preheat
Starting Method	Preheat
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Width (mm)	2.1 (0.83 in)
Height (mm)	1.6 (0.63 in)
Case Temperature (MAX)	95°C (193°F)
Power Factor Correction	Normal
Mount Width (X or F)	4.3 (1.70 in)
Mount Spacing (S)	0.2 (0.08 in)
Additional Info	Auto-ester. Thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
IP Pack	IP Pack
87634	

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
CF15W/2P	1	277	11	0.83	50	1.7	15
CF15W/2P	1	277	11	0.83	50	1.7	15
CF15W/2P	1	277	10	0.83	50	1.7	15
CF15W/2P	1	277	8	0.83	40	1.7	15

**Safety and performance**    

#### 87533 – GEM1CF13PH120

### ProLine® CFL Electronic Ballasts

#### 1 – CF1/Q13W/GX23 Pre Heat 120 (4111H2P)

• Magnetic compact fluorescent ballast construction for all general fluorescent lighting

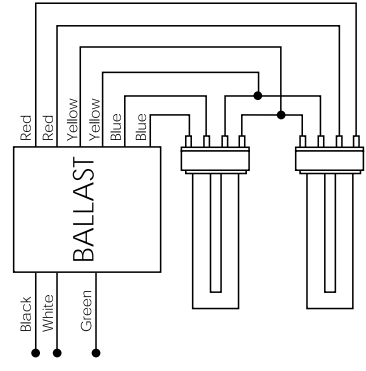
General characteristics	
Ballast Type	Magnetic - Preheat
Starting Method	Preheat
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Width (mm)	3.0 (1.18 in)
Height (mm)	1.7 (0.67 in)
Case Temperature (MAX)	95°C (193°F)
Power Factor Correction	Normal
Mount Width (X or F)	4.3 (1.70 in)
Mount Spacing (S)	0.2 (0.08 in)
Additional Info	Auto-ester. Thermally protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
IP Pack	IP Pack
87533	

Specifications by lamp and wattage							
Lamp	# of Lamps	Line Volts	System Volts	Ballast Efficiency Factor	Power Factor % (p-f)	THD (%)	Min. Starting Temp (F/C)
CF13W/2P	1	120	15	0.90	50	1.7	10
CF13W/2P	1	120	15	0.90	50	1.7	10

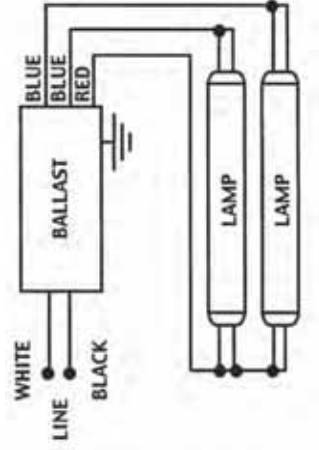
**Safety and performance**   

# Wiring Diagrams Compact Fluorescent Ballasts

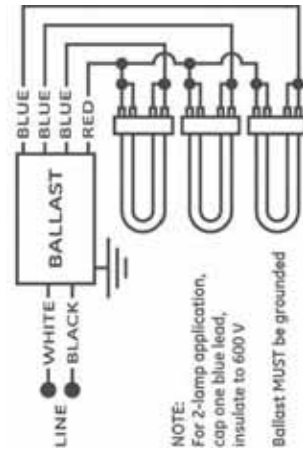
**CFL 20C**



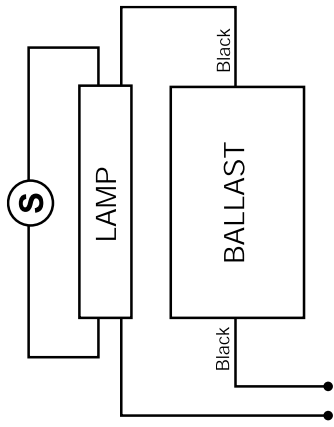
**CFL 1B**



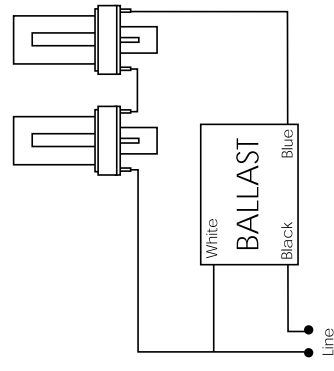
**CFL 51**



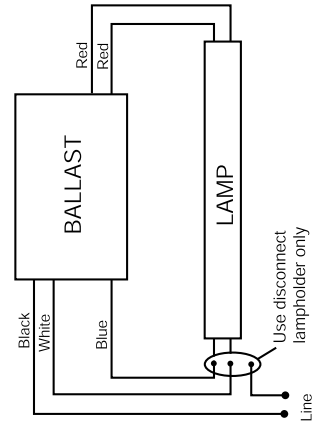
**CFL 21**



**CFL 9**



**CFL 8**



• Magnetic compact fluorescent ballast construction for all general fluorescent lighting

Dimensions	
Wire diameter - CFLs - see sample on page 132	
Case dimensions - Ref. Drawing S1 - see page 133	
Width (W)	9.5 in (241.30 mm)
Height (H)	2.3 in (60.45 mm)
Mounting dimensions	
Mounting hole diameter (Ø)	1.5 in (38.13 mm)
Mounting hole spacing (S)	8.8 in (224.80 mm)
Mounting hole offset (O)	1.6 in (41.27 mm)
Mounting hole diameter (Ø)	0.3 in (7.62 mm)
Mounting hole depth (D)	3.38 lbs
Case type	10 ft
Removal distance (R)	18.4 AVG
Removal distance (R)	Length (L) in
Removal distance (R)	20 in (508 mm)
Removal distance (R)	20 in (508 mm)
Removal distance (R)	Yellow
Power Factor (%)	93
Ballast Efficiency Factor	1.7
THD (%)	20
Min. Starting Temp (°F/C)	50/10

General characteristics	
Ballast Type	Magnetic - Rapid Start
Starting Method	Rapid Start
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	90°C (194°F)
Power Factor Correction	Normal
Source Rating	A102-20 decibels
Additional Info	Auto-resistor thermally protected
Electrical characteristics	
Supply Current Efficiency	60Hz
Order information	
10 Pack	IP Pack
DM Pack	
Specifications by lamp and wattage	
Lamp	2
# of Lamps	2
Line Volts	120
System Volts	78
System Ballast Factor	0.98
Ballast Efficiency Factor	1.7
Power Factor (%)	93
THD (%)	20
Min. Starting Temp (°F/C)	50/10
Safety and performance	
UL Type 1 Outdoor	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL

• Magnetic compact fluorescent ballast construction for all general fluorescent lighting

Dimensions	
Wire diameter - CFLs - see sample on page 132	
Case dimensions - Ref. Drawing S1 - see page 133	
Width (W)	9.5 in (241.30 mm)
Height (H)	2.3 in (60.45 mm)
Mounting dimensions	
Mounting hole diameter (Ø)	1.5 in (38.13 mm)
Mounting hole spacing (S)	8.8 in (224.80 mm)
Mounting hole offset (O)	1.6 in (41.27 mm)
Mounting hole diameter (Ø)	0.3 in (7.62 mm)
Mounting hole depth (D)	3.38 lbs
Case type	10 ft
Removal distance (R)	18.4 AVG
Removal distance (R)	Length (L) in
Removal distance (R)	20 in (508 mm)
Removal distance (R)	20 in (508 mm)
Removal distance (R)	Yellow
Power Factor (%)	98
Ballast Efficiency Factor	1.7
THD (%)	20
Min. Starting Temp (°F/C)	50/10

General characteristics	
Ballast Type	Magnetic - Rapid Start
Starting Method	Rapid Start
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	90°C (194°F)
Power Factor Correction	Normal
Source Rating	A102-20 decibels
Additional Info	Auto-resistor thermally protected
Electrical characteristics	
Supply Current Efficiency	60Hz
Order information	
10 Pack	IP Pack
DM Pack	
Specifications by lamp and wattage	
Lamp	2
# of Lamps	2
Line Volts	120
System Volts	81
System Ballast Factor	1.00
Ballast Efficiency Factor	1.7
Power Factor (%)	98
THD (%)	20
Min. Starting Temp (°F/C)	50/10
Safety and performance	
UL Type 1 Outdoor	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL

# CFL Magnetic Ballasts For 36 - 40W CFL Lamps

## 87623 - GEM2FT36RS120

### CFL Magnetic Ballasts

2 - FT36W/2G11 RS 120 (4150P)

General characteristics	
Ballast Type	Magnetic - Rapid Start
Starting Method	Rapid Start
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	90°C (194°F)
Power Factor Correction	Normal
Source Rating	A102-20 decibels
Additional Info	Auto-resistor thermally protected
Electrical characteristics	
Supply Current Efficiency	60Hz
Order information	
10 Pack	IP Pack
DM Pack	
Specifications by lamp and wattage	
Lamp	2
# of Lamps	2
Line Volts	120
System Volts	78
System Ballast Factor	0.98
Ballast Efficiency Factor	1.7
Power Factor (%)	93
THD (%)	20
Min. Starting Temp (°F/C)	50/10
Safety and performance	
UL Type 1 Outdoor	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL

## 87625 - GEM2FT40RS120

### CFL Magnetic Ballasts

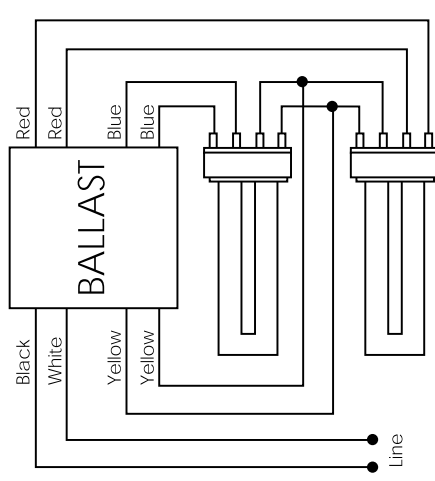
2 - FT40W/2G11RS 120 (4152P)

General characteristics	
Ballast Type	Magnetic - Rapid Start
Starting Method	Rapid Start
Lamp Voltage	Series
Line Voltage Regulation (%)	5%
Ambient Temperature (MAX)	105°F (41°C)
Case Temperature (MAX)	90°C (194°F)
Power Factor Correction	Normal
Source Rating	A102-20 decibels
Additional Info	Auto-resistor thermally protected
Electrical characteristics	
Supply Current Efficiency	60Hz
Order information	
10 Pack	IP Pack
DM Pack	
Specifications by lamp and wattage	
Lamp	2
# of Lamps	2
Line Volts	120
System Volts	81
System Ballast Factor	1.00
Ballast Efficiency Factor	1.7
Power Factor (%)	98
THD (%)	20
Min. Starting Temp (°F/C)	50/10
Safety and performance	
UL Type 1 Outdoor	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL
UL Type HL	UL Type HL

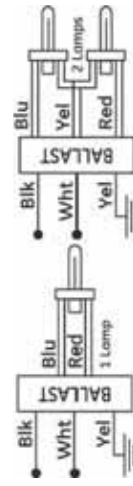
**Case Dimensions**  
Compact Fluorescent Ballasts

**Wiring Diagrams**  
Compact Fluorescent Ballasts

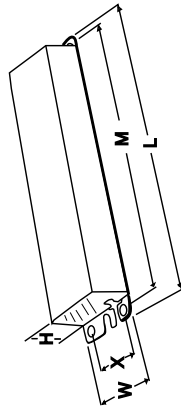
**CFL 5**



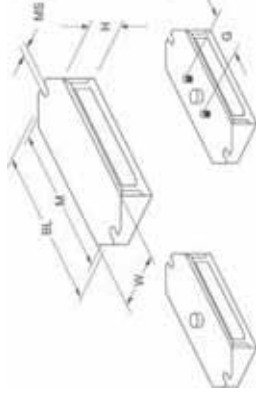
**CFL 1-2**



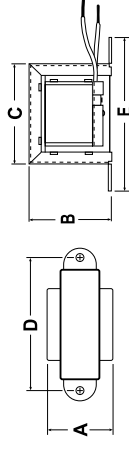
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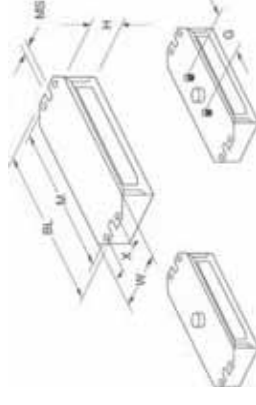
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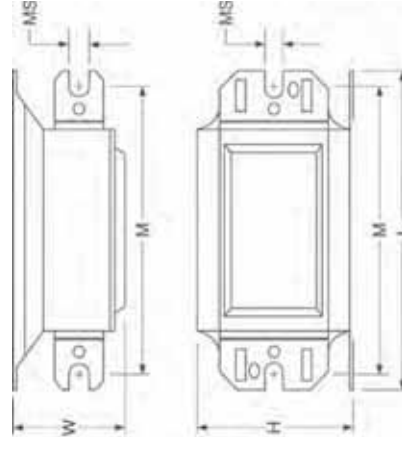
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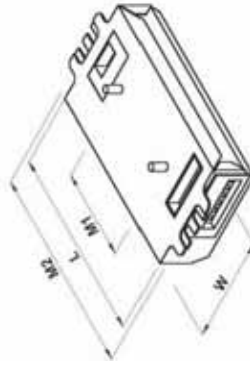
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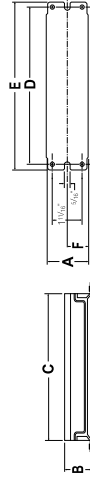
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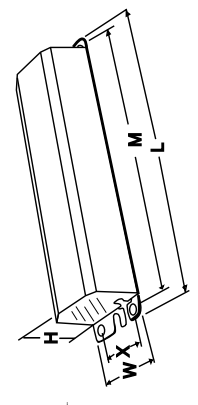
**13**



**C6**



**ST**



gelifighting.com

## Electronic HID For 20 – 150W Pulse Start HID Lamps

### 87490 – GEMH20-MLF-120

#### Electronic HID 1 – 20W M156 120V Electronic HID

- Light weight, low-profile housing
- Superior low-frequency square-wave-frequency design maximizes performance and life of ceramic metal halide lamps
- Ultra-slim can size for fixture design flexibility

Dimensions	
Wiring Diagrams: <a href="#">Wiring Diagrams</a> - see completion page 140	
Case Dimensions - Ref Drawing MSF - see page 141	
Length (mm)	3.7 in (94.99 mm)
Width (mm)	1.5 in (38.27 mm)
Height (mm)	1.0 in (25.40 mm)
Mounting Dimensions	
Mounting Hole Spacing (mm)	3.3 in (85.34 mm)
Mounting Hole Diameter (mm)	1.1 in (27.93 mm)
Mounting Hole Depth (mm)	0.3 in (7.62 mm)
Weight	0.38 lbs
End Type	586
Remote Mounting Distance to Lamp	8 ft
Lead Length	18 AWG
Lead Length	18 AWG
Color	Black
Color	Brown
Color	White
Color	Red

General characteristics	
ANSI Type	Electronic - low frequency
ANSI Lamp Codes	M156
Wattage	120
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Ballast Capacitor	
Capacitance	
Voltage (VAC)	113 V (65.9°C)
Capacitor Temperature Rating	105°C (221°F)
Case Temperature (MAX)	85°C (185°F)
Sound Rating	A102-24 (electrical)
Additional Info	End-of-life protection (EOL) inherent thermal protection.
Electrical characteristics	
Input Power Factor	1.0
Supply Current Frequency	60 Hz (50/60 Hz Supply Current Frequency (MIN)) 50 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	12
No. Items Per Standard Package	12

Specifications by lamp and line voltage	
Lamp	M156
System Voltage (V)	120
Rated Current	0.97 A
Ballast Efficiency Factor	0.89
Open-Circuit Voltage	4000V
Zero-Ohm Voltage	95V
Power Factor (%)	95
THD (%)	1.6
Min. Starting Temp. (°F/C)	0 / -18
Fuse Rating	3
UL Break Trip Size	3

RoHS Compliant: ANSI-C62.41 UL1029 Listed FCC-CLASS A Non-Consumer cUL Listed

### 87501 – GEMH39-MSF-120

#### Electronic HID 1 – 39W M130 120V Electronic HID

- Light weight, low-profile housing
- Superior low-frequency square-wave-frequency design maximizes performance and life of ceramic metal halide lamps
- Ultra-slim can size for fixture design flexibility

Dimensions	
Wiring Diagrams: <a href="#">Wiring Diagrams</a> - see completion page 140	
Case Dimensions - Ref Drawing MSF - see page 141	
Length (mm)	3.7 in (94.99 mm)
Width (mm)	1.2 in (30.48 mm)
Height (mm)	1.2 in (30.48 mm)
Mounting Dimensions	
Mounting Hole Spacing (mm)	3.3 in (85.34 mm)
Mounting Hole Diameter (mm)	1.1 in (27.93 mm)
Mounting Hole Depth (mm)	0.3 in (7.62 mm)
Weight	0.38 lbs
End Type	586
Remote Mounting Distance to Lamp	8 ft
Lead Length	18 AWG
Lead Length	18 AWG
Color	Black
Color	White
Color	Red

General characteristics	
ANSI Type	Electronic - low frequency
ANSI Lamp Codes	M130
Wattage	120
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Ballast Capacitor	
Capacitance	
Voltage (VAC)	113 V (65.9°C)
Capacitor Temperature Rating	105°C (221°F)
Case Temperature (MAX)	85°C (185°F)
Sound Rating	A102-24 (electrical)
Additional Info	End-of-life protection (EOL) inherent thermal protection.
Electrical characteristics	
Input Power Factor	1.0
Supply Current Frequency	60 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	10
No. Items Per Standard Package	10

RoHS Compliant: ANSI-C62.41 UL1029 Listed FCC-CLASS A Non-Consumer cUL Listed

## Understanding Electronic UltraMax® HID Ballasts

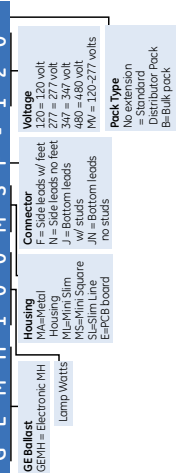
GE offers a complete line of electronic ballasts for HID lighting systems. Electronic HID, like **electronic fluorescent systems that preceded it**, significantly improve the performance of HID lighting. Electronic UltraMax® eHID Ballasts use solid-state components to start and operate HID lamps. Electronic eHID ballasts use IC chips to control and give feedback for optimal performance of the lighting system. GE eHID ballasts improve the efficiency, maintain higher lumens, enhance lamp life and color control, and operate more quietly than the magnetic core and coil ballast that they replace.

GE's line of UltraCool™ UltraMax® eHID ballasts can provide up to 70% energy savings and four times the life of standard halogen. End users can meet strict watts per square foot requirements while achieving significant wattage savings and color control with ceramic metal halide lamps and GE eHID ballasts.

GE's UltraMax® eHID ballasts operate **only pulse start and ceramic metal halide lamps**. **GE UltraMax® eHID ballasts operate lamps at a low frequency square wave** to maximize lamp performance. Extensive analysis of all brands of lamps suggests that the most compatible driving waveform for an electronic HID electronic ballast is a low-frequency square wave (L.F.S.W.) with higher order harmonic content. L.F.S.W. has been established as a dependable method of ballasting low-wattage HID lamps with significant industry support. Analysis of lamp data has shown that there are limited operating bands between 1 kHz to 200 kHz in which electronic ballast could operate a lamp, wattage family without causing unacceptable arc instability due to acoustic resonance. GE's UltraMax® eHID constantly measures and adjusts the wattage, optimizing the ceramic metal halide lamp performance.

**GE high-wattage eHID ballasts will operate 250, 300, 320, 350 or 400 watt pulse start or ceramic metal halide lamps with one ballast.** The eHID Ballast with a PulseArc lamp will produce 70% more lumens per watt than the obsolete probe start magnetic core and coil system. Variable dimming to 50% power reduction is an option with GE eHID high wattage ballast.

### GE eHID Electronic nomenclature



See page 195 for warranty information.



# Electronic HID

## For 20 – 150W Pulse Start HID Lamps

### 87546 – GEMH70-SLJ-MV

#### Electronic HID

1 – 70W, M98, M/C143, 120V, Electronic HID

General characteristics	
Wiring diagram: <b>VP4-HID-MV/MSF</b> - see example on page 140	
ANSI Lamp Codes	M98, M143, C143, C139
Voltage	120/277
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Type of Capacitor	
Capacitance	
Voltage (Vrms)	131V (55°C)
Mounting Position	90° (194°F)
Ambient Temperature (MAX)	90°C (194°F)
Case Temperature (MAX)	90°C (194°F)
Source Rating	A100 - 2A (see table)
Additional Info	End of Life Protection (EOL) Thermally protected
Electrical characteristics	
Lamp Operating Frequency	130 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	1
No. Items Per Standard Package	10

Specifications by lamp and line voltage		
Lamp	System Voltage (V)	Part No.
M98, M143, C139	120	277
C143, C139	277	77
70W Ceramic Metal Halide	0.66 A	0.30 A
Ballast Efficiency Factor	0.91	0.91
Open-Circuit Voltage	96V	96V
Drop-Out Voltage	99	99
Power Factor (%)	99	99
THD % (L)	1.4	1.4
Min. Starting Temp (T <sub>FC</sub> )	0/-18	0/-18
Fuse Rating		
UL Recognized Fuse		

**Safety and performance** RoHS Compliant UL Type 1 Outdoor ANSI - C62.41 UL 1029 listed FCC-CLASS A Non-Consumer cUL Listed

### 87561 – GEMH100-SLJ-MV

#### Electronic HID

1 – 100W, M90, M/C140, 120V-277V, Electronic HID

General characteristics	
Wiring diagram: <b>WD-HID-MV/MSF</b> - see example on page 140	
ANSI Lamp Codes	M90, M140, C140
Voltage	120/277
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Type of Capacitor	
Capacitance	
Voltage (Vrms)	131V (55°C)
Mounting Position	90° (194°F)
Ambient Temperature (MAX)	90°C (194°F)
Case Temperature (MAX)	90°C (194°F)
Source Rating	A100 - 2A (see table)
Additional Info	End of Life Protection (EOL) Thermally protected
Electrical characteristics	
Lamp Operating Frequency	130 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	1
No. Items Per Standard Package	10

Specifications by lamp and line voltage		
Lamp	System Voltage (V)	Part No.
M90, M140	120	277
C140	277	77
100W Ceramic Metal Halide	0.93 A	0.41 A
Ballast Efficiency Factor	0.91	0.91
Open-Circuit Voltage	96V	96V
Drop-Out Voltage	99	99
Power Factor (%)	99	99
THD % (L)	1.4	1.4
Min. Starting Temp (T <sub>FC</sub> )	0/-18	0/-18
Fuse Rating		
UL Recognized Fuse		

**Safety and performance** RoHS Compliant UL Type 1 Outdoor ANSI - C62.41 UL 1029 listed FCC-CLASS A Non-Consumer cUL Listed

See page 195 for warranty information.

# Electronic HID

## For 20 – 150W Pulse Start HID Lamps

### 87516 – GEMH50-MSF-120

#### Electronic HID

1 – 50W, M110, M/C148, 120V, Electronic HID

General characteristics	
Wiring diagram: <b>VP4-HID-MV/MSF</b> - see example on page 140	
ANSI Lamp Codes	M110, M148, C148
Voltage	120
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Type of Capacitor	
Capacitance	
Voltage (Vrms)	131V (55°C)
Mounting Position	90° (194°F)
Ambient Temperature (MAX)	90°C (194°F)
Case Temperature (MAX)	90°C (194°F)
Source Rating	A100 - 2A (see table)
Additional Info	End of Life Protection (EOL) Thermally protected
Electrical characteristics	
Lamp Operating Frequency	130 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	1
No. Items Per Standard Package	10

Specifications by lamp and line voltage		
Lamp	System Voltage (V)	Part No.
M110	120	120
C148	277	58
50W Quartz Metal Halide	0.48 A	0.48 A
Ballast Efficiency Factor	0.86	0.86
Open-Circuit Voltage	96V	96V
Drop-Out Voltage	99	99
Power Factor (%)	99	99
THD % (L)	6.9	6.9
Min. Starting Temp (T <sub>FC</sub> )	0/-18	0/-18
Fuse Rating		
UL Recognized Fuse		

**Safety and performance** RoHS Compliant UL Type 1 Outdoor ANSI - C62.41 UL 1029 listed FCC-CLASS A Non-Consumer cUL Listed

### 87531 – GEMH70-MSF-120

#### Electronic HID

1 – 70W, M98, M/C143, 120V, Electronic HID

General characteristics	
Wiring diagram: <b>WD-HID-MV/MSF</b> - see example on page 140	
ANSI Lamp Codes	M98, M143, M139, C143, C139
Voltage	120
Line Voltage Regulation (%)	10%
Circuit Type	Electronic
Type of Capacitor	
Capacitance	
Voltage (Vrms)	131V (55°C)
Mounting Position	90° (194°F)
Ambient Temperature (MAX)	90°C (194°F)
Case Temperature (MAX)	90°C (194°F)
Source Rating	A100 - 2A (see table)
Additional Info	End of Life Protection (EOL) Thermally protected
Electrical characteristics	
Lamp Operating Frequency	130 Hz
Order information	
Type	
Case	
No. Items Per Sales Unit	1
No. Items Per Standard Package	10

Specifications by lamp and line voltage		
Lamp	System Voltage (V)	Part No.
M98, M143, M139, C143, C139	120	77
70W Ceramic Metal Halide	0.66 A	0.30 A
Ballast Efficiency Factor	0.91	0.91
Open-Circuit Voltage	96V	96V
Drop-Out Voltage	99	99
Power Factor (%)	99	99
THD % (L)	1.4	1.4
Min. Starting Temp (T <sub>FC</sub> )	0/-18	0/-18
Fuse Rating		
UL Recognized Fuse		

**Safety and performance** RoHS Compliant UL Type 1 Outdoor ANSI - C62.41 UL 1029 listed FCC-CLASS A Non-Consumer cUL Listed

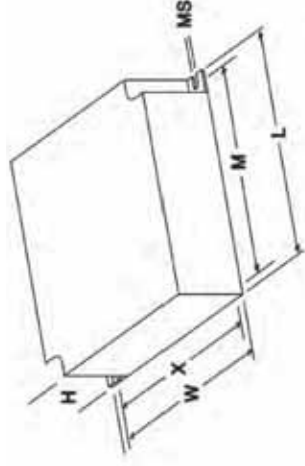
See page 195 for warranty information.



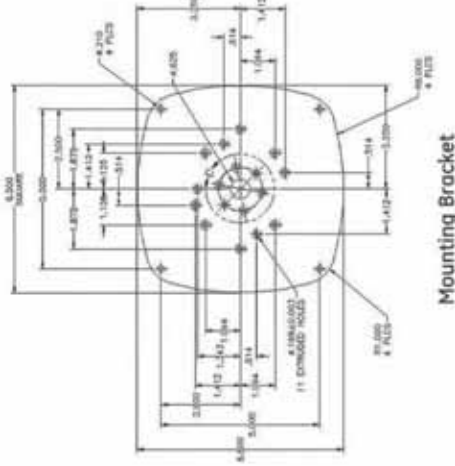
**Case Dimensions**  
HID Electronic

**Wiring Diagrams**  
HID Electronic

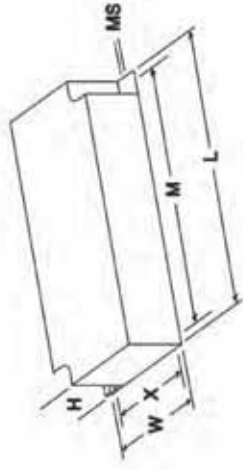
MSF



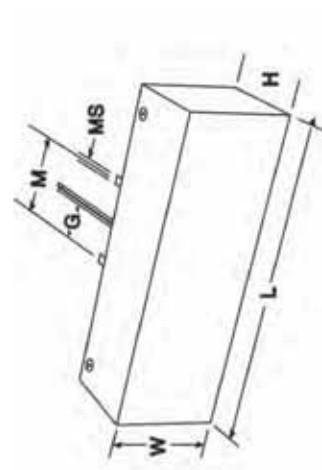
eHID-Bracket



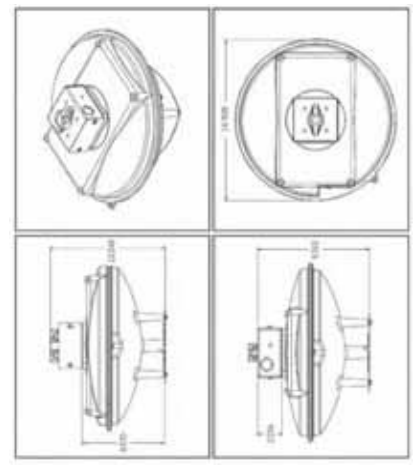
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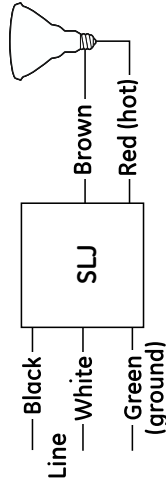
SLJ



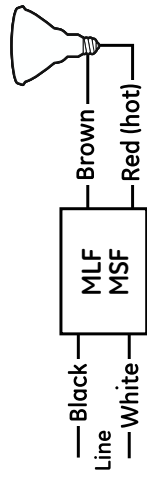
eHID-DIM



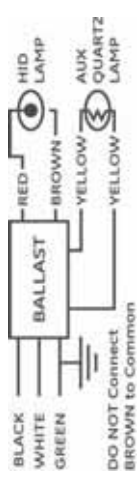
WD-eHID-SLJ



WD-eHID MLF/MSF



eHID







## Understanding Electromagnetic HID Ballasts

GE offers High Intensity Discharge (HID) ballasts for mercury, probe start metal halide, pulse start metal halide and high pressure sodium lamps. Standard metal halide lamps or probe start metal halide over 150 watts, like fluorescent, are electric discharge lamps and require an open circuit voltage of nearly two times the operating voltage to initiate the arc between the two electrodes in the arc tube. High pressure sodium, pulse start metal halide and probe start metal halide lamps 150 watts or less require an ignitor to initiate the high voltage to start the lamps. The ballasts provide the starting voltage with the ignitor, where required, and provides stability for the lamp. HID lamps have negative impedance characteristics and would draw current until destruction unless a ballast was in place to regulate the current.

HID lamps take several minutes to warm-up and reach full light output. If power is interrupted between the lamp and the ballast, the arc will extinguish and lamp will go out. The lamp must cool down and reduce the vapor pressure before it will re-start. Typical warm-up and restrike times are as follows:

Light Source	Warm-Up Time	Restrike Time
Mercury	5-7 minutes	3-6 minutes
Metal Halide (Probe Start)	3-4 minutes	10-20 minutes
Metal Halide (Pulse Start)	2 minutes	3-4 minutes
High Pressure Sodium	7-10 minutes	1/2-1 minute

### GE HID Ballast Types

#### CORE AND COIL

The most common HID ballasts are the core and coil and is used in 90% of the fixture applications. Core and coil ballasts consist of one, two or three copper (or aluminum) coils on a core of electrical-grade steel laminations. HID ballasts are classified by the kind of circuit they use: Reactor (R), High Reactance autotransformer (HX), Constant Wattage Autotransformer (CWA), Regulated lag (Reg Lag) or Electronic. HID ballast are also classified as high power factor (HPF) or normal power factor (NPF).

**GE HID Ballast** 150 watts or less have High Reactance Autotransformer circuits and high power factor (HX-HPF). GE HID ballast greater than 150 watts have Constant Wattage Autotransformer circuits and are high power factor (HPF).

CWA ballast is the most common circuit for core and coil ballast. CWA circuits provide for stable light regulation. The CWA circuit consists of a high reactance autotransformer with a capacitor in series with the lamp resulting with high power factor ballast. In most CWA ballast capacitor a 10% drop in line voltage will only reduce the light output and wattage by 5%. The CWA circuit ballast requires an ignitor for QMH pulse start, ceramic metal halide and HPS lamps. Igniters are also required for QMH lamps 150 watts or less.



#### Distributor Ballast Kits

GE stocks a comprehensive inventory of **quad and 5-tap HID voltage ballast kits**. The kits contain the appropriate core and coil, capacitor, ignitor (where required), mounting bracket, mounting hardware and instructions to allow the stocking distributor to meet the needs of their customer while minimizing their investment in component parts.

The quad ballast kit has color-coded leads to identify voltages and operates at 120/208/240/277. **The 5-tap HID ballast kits also include 480-volt applications** and are listed as ML5, though GE also offers single-voltage kits for 480-volt with 120-volt taps for stand-by lighting.

Also available for metal halide and high pressure sodium applications is the **5-tap ballast-lamp replacement kit listed as -55**. This easy-to-carry, convenient, all-in-one kit, ensures ballast-lamp compatibility by including the lamp as well.

Igniters and capacitors, where required, are included with the quad and 5-tap ballast kits.

#### Capacitors

Most GE capacitors and ignitors are sold in ballast kits that come pre-wired and reduce labor cost. Capacitors and ignitors are also sold separately.

Power factor capacitors are used to reduce the negative effects that inductive devices (HID ballasts) have on power factor ratings. GE sells a complete line of capacitors that must be properly matched to the lamp and HID ballast. GE capacitors have bleed-in resistors and use biodegradable, nontoxic (no PCBs) dielectric fluid.

**GE Oil-Filled Capacitors** are packaged in metal cases (up to 520V ratings). All GE capacitors are designed for 60,000 hours of continuous life.

**Dry Capacitors** do not contain oil and are manufactured with plastic casing. Dry casings are rated up 100°C maximum. Dry capacitors are designed and rated for AC voltages below 400V at 50 or 60Hz.

#### Igniters

Igniters are also sold in individual cartons for replacement needs. Igniters supply a high voltage pulse to ionize the gas creating the glow discharge. Once the lamp is started the ignitor stops providing the pulse. Igniters are designed to last thousand of hours; however, if the lamp fails or the socket is empty, the ignitor will continue to pulse. The lamps should be replaced or the fixture turned off to prevent premature failure of the ignitor.

Standard igniters are supplied with metal halide ballast 150 watts or less, pulse start metal halide and high-pressure sodium ballast. There are several different igniters that meet the needs of many GE lamp and ballast combinations. The appropriate ignitor is listed in the catalog under the ballast specifications.

#### Potted Core and Coil Ballast

GE potted core and coil ballasts are designed for applications requiring quieter or cooler operation than provided by standard coil and coil ballast. The potting material is sona-filled polyester which provides excellent sound-decending and heat-transfer qualities.

#### F-Can Ballast

GE F-Can ballast is recommended for indoor applications and where ballast noise must be minimized. F-Can ballast are enclosed in fluorescent ballast-type cans and potted with asphalt insulating materials to minimize noise.

## Ballast Date and Temperature Codes

#### Date Codes

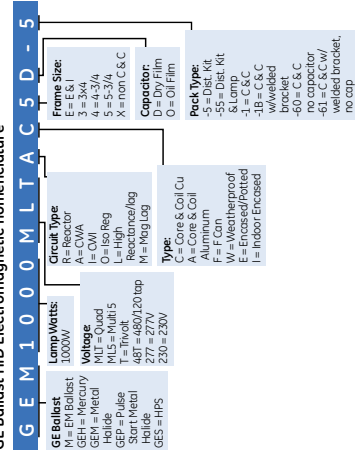
GE HID core and coil ballast manufacturing date codes are located on the top end of the core. They are printed in white and indicate year, month manufactured, and order the ballast was manufactured in the month. A code of 070100001 would indicate manufacture date of 07 (year 2007), 01 (month of January), and 00001 would be the manufacturing sequence.

#### UL Bench Top Temperature Code

To help with UL inspection, the UL Bench top code is listed on the GE label on the core and coil ballast as 1029X. X is the temperature code and represented by the following temperature classifications: A, B, C, D, E and F.

UL Bench Top Letter Code	Temperature Range for Class H (180C) Ballast
A	Less than 75C
B	75C < 80C
C	80C < 85C
D	85C < 90C
E	90C < 95C
F	95C < 100C

### GE Ballast HID Electromagnetic nomenclature



Metal Halide

For 20 - 175W Metal Halide HID Lamps

86839 - GEM7048TLC3D-5

Metal Halide

1 - 70W MH M98 or M143 480

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
• Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
• Quad ballast (120, 208, 240, 277)

Dimensions table for GEM7048TLC3D-5. Columns: Winding diagram, Dimensions, Mounting dimensions, Electrical characteristics.

General characteristics table for GEM7048TLC3D-5. Columns: Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Type of Capacitor, Voltage (Min), Capacitor Temperature Rating, Sound Rating, Additional Info.

Order information table for GEM7048TLC3D-5. Columns: Type, Distributor Kit, No. Items Per Sales Unit, No. Items Per Standard Package.

Specifications by lamp and line voltage table for GEM7048TLC3D-5. Columns: Lamp, Specifications by line voltage.

Safety and performance

86847 - GEM70MLTLC3D-5

Metal Halide

1 - 70W MH M98 or M143 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
• Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
• Quad ballast (120, 208, 240, 277)

Dimensions table for GEM70MLTLC3D-5. Columns: Winding diagram, Dimensions, Mounting dimensions, Electrical characteristics.

General characteristics table for GEM70MLTLC3D-5. Columns: Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Insulation Class, Type of Capacitor, Voltage (Min), Capacitor Temperature Rating, SE Number, Sound Rating, Additional Info.

Order information table for GEM70MLTLC3D-5. Columns: Type, Distributor Kit, No. Items Per Sales Unit, No. Items Per Standard Package.

Specifications by lamp and line voltage table for GEM70MLTLC3D-5. Columns: Lamp, Specifications by line voltage.

Safety and performance

86824 - GEM50MLTLC3D-5

Metal Halide

1 - 50W MH M110 or M148 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
• Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
• Quad ballast (120, 208, 240, 277)

Dimensions table for GEM50MLTLC3D-5. Columns: Winding diagram, Dimensions, Mounting dimensions, Electrical characteristics.

General characteristics table for GEM50MLTLC3D-5. Columns: Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Type of Capacitor, Voltage (Min), Capacitor Temperature Rating, Sound Rating, Additional Info.

Order information table for GEM50MLTLC3D-5. Columns: Type, Distributor Kit, No. Items Per Sales Unit, No. Items Per Standard Package.

Specifications by lamp and line voltage table for GEM50MLTLC3D-5. Columns: Lamp, Specifications by line voltage.

Safety and performance

Metal Halide

For 20 - 175W Metal Halide HID Lamps

86839 - GEM7048TLC3D-5

Metal Halide

1 - 70W MH M98 or M143 480

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
• Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
• Quad ballast (120, 208, 240, 277)

Dimensions table for GEM7048TLC3D-5. Columns: Winding diagram, Dimensions, Mounting dimensions, Electrical characteristics.

General characteristics table for GEM7048TLC3D-5. Columns: Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Type of Capacitor, Voltage (Min), Capacitor Temperature Rating, Sound Rating, Additional Info.

Order information table for GEM7048TLC3D-5. Columns: Type, Distributor Kit, No. Items Per Sales Unit, No. Items Per Standard Package.

Specifications by lamp and line voltage table for GEM7048TLC3D-5. Columns: Lamp, Specifications by line voltage.

Safety and performance

86675 - GEM100MLTLC3D-5

Metal Halide

1 - 100W MH M90 or M140 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
• Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
• Quad ballast (120, 208, 240, 277)

Dimensions table for GEM100MLTLC3D-5. Columns: Winding diagram, Dimensions, Mounting dimensions, Electrical characteristics.

General characteristics table for GEM100MLTLC3D-5. Columns: Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Insulation Class, Type of Capacitor, Voltage (Min), Capacitor Temperature Rating, SE Number, Sound Rating, Additional Info.

Order information table for GEM100MLTLC3D-5. Columns: Type, Distributor Kit, No. Items Per Sales Unit, No. Items Per Standard Package.

Specifications by lamp and line voltage table for GEM100MLTLC3D-5. Columns: Lamp, Specifications by line voltage.

Safety and performance



# Metal Halide

For 20 – 175W Metal Halide HID Lamps

## 86741 – GEM175MLTAC3-5

Metal Halide

1 – 175W MH M57 or H39 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (120, 208, 240, 277)

Dimensions	
Wiring Diagram Part No.	MH175-5668-86741 - see example on page 181
Dimensions - Ref Drawing Part No.	See page 181
Length (mm)	1,25 mm (0.5 in)
Width (mm)	4,6 mm (0.18 in)
Mounting dimensions	
Mount Width (mm)	4,6 mm (0.18 in)
Mount Spacing (mm)	3,0 mm (0.12 in)
Mount Height (mm)	3,0 mm (0.12 in)
Capacitance	400
Capacitor Temperature Rating	105°C (217°F)
Sound Rating	5 dBA
Additional Info.	

Electrical characteristics	
Supply Current Frequency	60 Hz

Order information	
Type	
Distributor Kit	
No. Items Per Sales Unit	1
No. Items Per Standard Package	6

Specifications by line voltage				
Lamp	120	208	240	277
System Voltage (V)	120	208	240	277
Rated Current	1.80 A	1.00 A	0.90 A	0.80 A
Ballast Factor	1	1	1	1
Ballast Efficiency Factor	0.83	0.83	0.83	0.83
Starting Current	1.80 A	1.00 A	0.90 A	0.80 A
Open-Circuit Voltage	302V	302V	302V	302V
Drop-Out Voltage	96V	165V	150V	222V
Power Factor (>=)	0.90	0.90	0.90	0.90
Max. Start-Up Temperature	-27/-30	-27/-30	-27/-30	-27/-30
Fuse Rating	5	3	3	3
UL Branch Tap Rise	B	B	B	C

Safety and performance	
UL Listed	UL Listed

# Metal Halide

For 250 – 1500W Metal Halide HID Lamps

## 87211 – GEM250ML5AC3-5

Metal Halide

1 – 250W MH M58 or H37 5-Top (120/208/240/277/480V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- 5-top ballast (120, 208, 240, 277, or 480 volt) featuring a 480-volt tap

Dimensions	
Wiring Diagram Part No.	MH250-5720-87211 - see example on page 181
Dimensions - Ref Drawing Part No.	See page 181
Length (mm)	1,25 mm (0.5 in)
Width (mm)	4,6 mm (0.18 in)
Mounting dimensions	
Mount Width (mm)	4,6 mm (0.18 in)
Mount Spacing (mm)	3,0 mm (0.12 in)
Mount Height (mm)	3,0 mm (0.12 in)
Capacitance	400
Capacitor Temperature Rating	105°C (217°F)
Sound Rating	5 dBA
Additional Info.	

Electrical characteristics	
Supply Current Frequency	60 Hz

Order information	
Type	
Distributor Kit	
No. Items Per Sales Unit	1
No. Items Per Standard Package	6

Specifications by line voltage					
Lamp	120	208	240	277	480
System Voltage (V)	120	208	240	277	480
Rated Current	2.50 A	1.40 A	1.25 A	1.10 A	0.65 A
Ballast Factor	1	1	1	1	1
Ballast Efficiency Factor	0.89	0.89	0.89	0.89	0.89
Starting Current	2.50 A	1.40 A	1.25 A	1.10 A	0.65 A
Open-Circuit Voltage	290V	290V	290V	290V	290V
Drop-Out Voltage	96V	165V	150V	222V	389V
Power Factor (>=)	0.90	0.90	0.90	0.90	0.90
Max. Start-Up Temperature	-27/-30	-27/-30	-27/-30	-27/-30	-27/-30
Fuse Rating	5	3	3	3	3
UL Branch Tap Rise	B	B	B	B	C

Safety and performance	
UL Listed	UL Listed

## 86765 – GEM250MLTAC3-5

Metal Halide

1 – 250W MH M58 or H37 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (120, 208, 240, 277)

Dimensions	
Wiring Diagram Part No.	MH250-5675-86765 - see example on page 181
Dimensions - Ref Drawing Part No.	See page 181
Length (mm)	1,25 mm (0.5 in)
Width (mm)	4,6 mm (0.18 in)
Mounting dimensions	
Mount Width (mm)	4,6 mm (0.18 in)
Mount Spacing (mm)	3,0 mm (0.12 in)
Mount Height (mm)	3,0 mm (0.12 in)
Capacitance	400
Capacitor Temperature Rating	105°C (217°F)
Sound Rating	5 dBA
Additional Info.	

Electrical characteristics	
Supply Current Frequency	60 Hz

Order information	
Type	
Distributor Kit	
No. Items Per Sales Unit	1
No. Items Per Standard Package	6

Specifications by lamp and line voltage				
Lamp	120	208	240	277
System Voltage (V)	120	208	240	277
Rated Current	2.50 A	1.40 A	1.25 A	1.10 A
Ballast Factor	1	1	1	1
Ballast Efficiency Factor	0.85	0.85	0.85	0.85
Starting Current	2.50 A	1.40 A	1.25 A	1.10 A
Open-Circuit Voltage	280V	280V	280V	280V
Drop-Out Voltage	96V	165V	150V	222V
Power Factor (>=)	0.90	0.90	0.90	0.90
Max. Start-Up Temperature	-27/-30	-27/-30	-27/-30	-27/-30
Fuse Rating	5	3	3	3
UL Branch Tap Rise	B	B	B	C

Safety and performance	
UL Listed	UL Listed













# Pulse Start

## For 175 – 1000W Pulse Start Metal Halide HID Lamps

### 72281 – GEP1000MLTAC5-5

#### Pulse Start

1 – 1000W PS M141 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

**Dimensions**

Wiring diagram: HID (W) 401-46934-46935 - see example on page 181

Case dimensions - Ref Drawing PC-1 - see page 182

Length (in)	7.5 in (193.65 mm)
Width (in)	2.75 in (69.85 mm)
Mounting dimensions	
Mount Width (in)	6.1 in (154.94 mm)
Mount Width (in) (F)	6.1 in (154.94 mm)
Mount Spacing (in)	0.2 in (5.08 mm)
A	2.83
B	3.08
Weight	5.46 lbs (2.48 kg)
Ballast Length	4.2 in (107.35 mm)
Form Size (in x l)	4.2 in x 6.0 in

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Codes	M141
Voltage	120/208/240/277
Line Voltage Regulation (%)	10%
Circuit Type	CWA
Type of Capacitor	Oil filled
Capacitance	24 MFD
Voltage (Vrms)	480
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	PH125/1A
Additional Info.	D137-42, electronic

**Electrical characteristics**

Supply Current Frequency	60 Hz
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**Order information**

Type		No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit		1	4

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Factor	Rated Current (A)	Open Circuit Voltage (V)	Power Factor (L-Ph)	Min. Starting Temp (°F/°C)	UL Bench Test Rise
M141	120	1.00	0.93	420	0.90	-22/ -30	A
	208	1.00	0.93	420	0.90	-22/ -30	B
	240	1.00	0.93	420	0.90	-22/ -30	C
	277	1.00	0.93	420	0.90	-22/ -30	D

**Safety and performance** UL Listed

### 72282 – GEP1000ML5AC5-5

#### Pulse Start

1 – 1000W PS M141 5-Tap (120/208/240/277/480V)

**Dimensions**

Wiring diagram: HID (W) 401-46934-46935 - see example on page 181

Case dimensions - Ref Drawing PC-1 - see page 182

Length (in)	7.5 in (193.65 mm)
Width (in)	2.75 in (69.85 mm)
Mounting dimensions	
Mount Length (in)	6.1 in (154.94 mm)
Mount Width (in) (F)	6.1 in (154.94 mm)
Mount Spacing (in)	0.2 in (5.08 mm)
A	5.20
Weight	21.60 lbs
Ballast Length	5.46
Form Size (in x l)	4.2 in x 6.0 in

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Codes	M141
Voltage	120/208/240/277/480
Line Voltage Regulation (%)	10%
Circuit Type	CWA
Insulation Class	180C
Type of Capacitor	Oil filled
Capacitance (µF)	24 MFD
Voltage (Vrms)	480
Capacitor Temperature Rating	-30°C (-20°F)
Sound Rating	HPS1000-4B
Additional Info.	D137-42, electronic

**Electrical characteristics**

Supply Current Frequency	60 Hz
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**Order information**

Type		No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit		1	2

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Factor	Rated Current (A)	Open Circuit Voltage (V)	Power Factor (L-Ph)	Min. Starting Temp (°F/°C)	UL Bench Test Rise
M141	120	1.00	0.93	420	0.90	-22/ -30	A
	208	1.00	0.93	420	0.90	-22/ -30	B
	240	1.00	0.93	420	0.90	-22/ -30	C
	277	1.00	0.93	420	0.90	-22/ -30	D
	480	1.00	0.93	420	0.90	-22/ -30	E

**Safety and performance** UL Listed

# Pulse Start

## For 175 – 1000W Pulse Start Metal Halide HID Lamps

### 46936 – GEP75048TAC5-5

#### Pulse Start

1 – 750W PS M149 480

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

**Dimensions**

Wiring diagram: HID (W) 201-27208-27209 - see example on page 181

Case dimensions - Ref Drawing PC-2 - see page 182

Length (in)	7.5 in (193.65 mm)
Width (in)	2.75 in (69.85 mm)
Mounting dimensions	
Mount Width (in)	6.1 in (154.94 mm)
Mount Width (in) (F)	6.1 in (154.94 mm)
Mount Spacing (in)	0.2 in (5.08 mm)
A	3.0
B	3.0
Weight	5.46 lbs (2.48 kg)
Ballast Length	4.2 in (107.35 mm)
Form Size (in x l)	4.2 in x 6.0 in

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Codes	M149
Voltage	480
Line Voltage Regulation (%)	10%
Circuit Type	CWA
Type of Capacitor	Oil filled
Capacitance	24 MFD
Voltage (Vrms)	480
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	PH125/1A
Additional Info.	

**Electrical characteristics**

Supply Current Frequency	60 Hz
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**Order information**

Type		No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit		1	4

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Factor	Rated Current (A)	Open Circuit Voltage (V)	Power Factor (L-Ph)	Min. Starting Temp (°F/°C)	UL Bench Test Rise
M149	480	1.00	0.93	420	0.90	-22/ -30	A

**Safety and performance** UL Listed

### 46934 – GEP750MLTAC5-5

#### Pulse Start

1 – 750W PS M149 Quad (120/208/240/277V)

**Dimensions**

Wiring diagram: HID (W) 401-46934-46935 - see example on page 181

Case dimensions - Ref Drawing PC-1 - see page 182

Length (in)	7.5 in (193.65 mm)
Width (in)	2.75 in (69.85 mm)
Mounting dimensions	
Mount Length (in)	6.1 in (154.94 mm)
Mount Width (in) (F)	6.1 in (154.94 mm)
Mount Spacing (in)	0.2 in (5.08 mm)
A	5.0
Weight	22.00 lbs
Ballast Length	5.46
Form Size (in x l)	4.2 in x 6.0 in

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Codes	M149
Voltage	120/208/240/277
Line Voltage Regulation (%)	10%
Circuit Type	CWA
Insulation Class	180C
Type of Capacitor	Oil filled
Capacitance (µF)	24 MFD
Voltage (Vrms)	480
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	MH750-A
Additional Info.	

**Electrical characteristics**

Supply Current Frequency	60 Hz
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**Order information**

Type		No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit		1	2

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Factor	Rated Current (A)	Open Circuit Voltage (V)	Power Factor (L-Ph)	Min. Starting Temp (°F/°C)	UL Bench Test Rise
M149	120	1.00	0.93	420	0.90	-22/ -30	A
	208	1.00	0.93	420	0.90	-22/ -30	B
	240	1.00	0.93	420	0.90	-22/ -30	C
	277	1.00	0.93	420	0.90	-22/ -30	D
	480	1.00	0.93	420	0.90	-22/ -30	E

**Safety and performance** UL Listed

## High Pressure Sodium For 50 – 150W High Pressure Sodium HID Lamps


### 86456 – GES7048TLC3D-5 High Pressure Sodium 1 – 70W HPS 562 480V

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (1120, 208, 240, 277)

General characteristics	
Ballast Type	Magnetic - Core and Coil
Line Voltage Codes	120/208/240/277
Line Voltage Regulation (%)	5%
Ground Type	HK-HFF
Type of Capacitor	Dry Film
Capacitance	5.1µF
Voltage (Min)	0.25 in (6.35 mm)
Voltage (Max)	1.0
Power Factor (PF)	0.93
Conductor Temperature Rating	105°C (212°F)
Sound Rating	TPH 150-2486513
Additional Info.	UL, ENEC, CE, RoHS
Normal Length	2.7 in (69.85 mm)
Frame Size (H x L)	2.8 in x 3.93 in
Supply Current Frequency	60 Hz

Order information	
Type	1
Distributor Kit	No. Items Per Sales Unit
	No. Items Per Standard Package

Specifications by lamp and line voltage	
Lamp	Specifications by line voltage
562	480
70W High Pressure Sodium	System Voltage (V)
	0.20A
	Ballast Factor
	1
	Ballast Efficiency Factor
	0.72
	Maximum Current
	0.93A
	Open Circuit Voltage
	120V
	Drop Out Voltage
	380V
	Power Factor (PF)
	0.93
	Line Starting Temp (°C)
	-22.2-50
	UL, Bench Top Rise
	A

Safety and performance  UL Listed


### 87074 – GES100MLTLC3D-5 High Pressure Sodium 1 – 100W HPS 554 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (1120, 208, 240, 277)

General characteristics	
Ballast Type	Magnetic - Core and Coil
Line Voltage Codes	120/208/240/277
Line Voltage Regulation (%)	5%
Ground Type	HK-HFF
Type of Capacitor	Dry Film
Capacitance	3.0
Voltage (Min)	0.25 in (6.35 mm)
Voltage (Max)	1.0
Power Factor (PF)	0.93
Conductor Temperature Rating	105°C (212°F)
Sound Rating	HPS 150-2486513
Additional Info.	UL, ENEC, CE, RoHS
Normal Length	2.8 in (71.12 mm)
Frame Size (H x L)	2.8 in x 3.93 in
Supply Current Frequency	60 Hz

Order information	
Type	1
Distributor Kit	No. Items Per Sales Unit
	No. Items Per Standard Package

Specifications by lamp and line voltage	
Lamp	Specifications by line voltage
554	120
100W High Pressure Sodium	System Voltage (V)
	1.23
	1.0A
	0.90A
	Ballast Efficiency Factor
	1.22
	Max. Input Current
	1.13 A
	Starting Current
	0.74 A
	Open Circuit Voltage
	118V
	Drop Out Voltage
	90
	Power Factor (PF)
	0.93
	Line Starting Temp (°C)
	-22.2-50
	UL, Bench Top Rise
	B

Safety and performance  UL Listed

See page 195 for warranty information.

## High Pressure Sodium For 50 – 150W High Pressure Sodium HID Lamps


### 87152 – GES50MLTLC3D-5 High Pressure Sodium 1 – 50W HPS 568 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (1120, 208, 240, 277)

General characteristics	
Ballast Type	Magnetic - Core and Coil
Line Voltage Codes	120/208/240/277
Line Voltage Regulation (%)	5%
Ground Type	HK-HFF
Type of Capacitor	Dry Film
Capacitance	5.1µF
Voltage (Min)	0.25 in (6.35 mm)
Voltage (Max)	1.0
Power Factor (PF)	0.93
Conductor Temperature Rating	105°C (212°F)
Sound Rating	TPH 150-2486513
Additional Info.	UL, ENEC, CE, RoHS
Normal Length	2.7 in (69.85 mm)
Frame Size (H x L)	2.8 in x 3.93 in
Supply Current Frequency	60 Hz

Order information	
Type	1
Distributor Kit	No. Items Per Sales Unit
	No. Items Per Standard Package

Specifications by lamp and line voltage	
Lamp	Specifications by line voltage
568	120
50W High Pressure Sodium	System Voltage (V)
	0.20A
	0.30A
	0.30A
	Ballast Factor
	1
	Ballast Efficiency Factor
	0.72
	Maximum Current
	0.93A
	Open Circuit Voltage
	120V
	Drop Out Voltage
	380V
	Power Factor (PF)
	0.93
	Line Starting Temp (°C)
	-22.2-50
	UL, Bench Top Rise
	B

Safety and performance  UL Listed


### 86587 – GES70MLTLC3D-5 High Pressure Sodium 1 – 70W HPS 562 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color-coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad ballast (1120, 208, 240, 277)

General characteristics	
Ballast Type	Magnetic - Core and Coil
Line Voltage Codes	120/208/240/277
Line Voltage Regulation (%)	5%
Ground Type	HK-HFF
Type of Capacitor	Dry Film
Capacitance	3.0
Voltage (Min)	0.25 in (6.35 mm)
Voltage (Max)	1.0
Power Factor (PF)	0.93
Conductor Temperature Rating	105°C (212°F)
Sound Rating	HPS 150-2486513
Additional Info.	UL, ENEC, CE, RoHS
Normal Length	2.8 in (71.12 mm)
Frame Size (H x L)	2.8 in x 3.93 in
Supply Current Frequency	60 Hz

Order information	
Type	1
Distributor Kit	No. Items Per Sales Unit
	No. Items Per Standard Package

Specifications by lamp and line voltage	
Lamp	Specifications by line voltage
562	120
70W High Pressure Sodium	System Voltage (V)
	0.50A
	0.40A
	0.40A
	Ballast Efficiency Factor
	0.72
	Max. Input Current
	0.72 A
	Starting Current
	0.46A
	Open Circuit Voltage
	118V
	Drop Out Voltage
	90
	Power Factor (PF)
	0.93
	Line Starting Temp (°C)
	-22.2-50
	UL, Bench Top Rise
	B

Safety and performance  UL Listed

See page 195 for warranty information.

## High Pressure Sodium

### For 50 – 150W High Pressure Sodium HID Lamps

#### 87087 – GES15048TLC3D-5

#### High Pressure Sodium

##### 1 – 150W HPS S55 480V

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

General characteristics		
Ballast Type	Magnetic - Core and Coil	
Line Voltage	480	
Line Voltage Regulation (%)	5%	
Control Type	HR-HPF	
Type of Capacitor	Dry Film	
Capacitance	10 MFD	
Voltage (Min)	780	
Capacitor Temperature Rating	105°C (212°F)	
Sound Rating	TPH 150-2486631	
Additional Info.	Safe	
Electrical characteristics		
Supply Current Frequency	60 Hz	
Order information		
Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	6

Specifications by lamp and line voltage		
Lamp	Specifications by line voltage	
S55	System Voltage (V)	480
Pressure Sodium	Max. Inrush Current	0.60A
250W Quartz	Ballast Factor	1
Mercury Halide	Ballast Efficiency Factor	1.33
	Operating Current	0.33A
	Open Circuit Voltage	110V
	Drop Out Voltage	380V
	Power Factor (L-F)	90
	Min. Starting Temp (°F/C)	-27/-30
	Fuse Rating	5A
	UL Branch Tap Base	F

Safety and performance  UL Listed

## High Pressure Sodium

### For 50 – 150W High Pressure Sodium HID Lamps

#### 87068 – GES10048TLC3D-5


#### High Pressure Sodium

##### 1 – 100W HPS S54 480V

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

General characteristics		
Ballast Type	Magnetic - Core and Coil	
Line Voltage	480	
Line Voltage Regulation (%)	5%	
Control Type	HR-HPF	
Type of Capacitor	Dry Film	
Capacitance	10 MFD	
Voltage (Min)	780	
Capacitor Temperature Rating	105°C (212°F)	
Sound Rating	TPH 150-2486631	
Additional Info.	Safe	
Electrical characteristics		
Supply Current Frequency	60 Hz	
Order information		
Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	6

Specifications by lamp and line voltage		
Lamp	Specifications by line voltage	
S54	System Voltage (V)	480
100W High Pressure Sodium	Max. Inrush Current	0.60A
250W High Pressure Sodium	Ballast Factor	1.11
	Ballast Efficiency Factor	1.33
	Operating Current	0.33A
	Open Circuit Voltage	110V
	Drop Out Voltage	380V
	Power Factor (L-F)	90
	Min. Starting Temp (°F/C)	-27/-30
	Fuse Rating	5A
	UL Branch Tap Base	C

Safety and performance  UL Listed

#### 87094 – GES150MLTLC3D-5

#### High Pressure Sodium

##### 1 – 150W HPS S55 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- Quad Ballast (120, 208, 240, 277V)

General characteristics		
Ballast Type	Magnetic - Core and Coil	
Line Voltage	120/208/240/277	
Line Voltage Regulation (%)	5%	
Control Type	HR-HPF	
Type of Capacitor	Dry Film	
Capacitance	10 MFD	
Voltage (Min)	780	
Capacitor Temperature Rating	105°C (212°F)	
Sound Rating	HPS150-3A	
Additional Info.	Safe	
Electrical characteristics		
Supply Current Frequency	60 Hz	
Order information		
Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	6

Specifications by lamp and line voltage		
Lamp	Specifications by line voltage	
S55	System Voltage (V)	120
150W High Pressure Sodium	Max. Inrush Current	1.75
250W Quartz Mercury Halide	Ballast Factor	1.60
	Ballast Efficiency Factor	1.43
	Operating Current	1.03A
	Open Circuit Voltage	277A
	Drop Out Voltage	164A
	Power Factor (L-F)	90
	Min. Starting Temp (°F/C)	-27/-30
	Fuse Rating	10
	UL Branch Tap Base	B

Safety and performance  UL Listed

### High Pressure Sodium For 250 – 1000W High Pressure Sodium HID Lamps

#### 87215 – GES400ML5AC4-5 High Pressure Sodium

- 1 – 400W HPS 551 5-Top (1/20/208/240/277/480V)

#### 87214 – GES250ML5AC4-5 High Pressure Sodium

- 1 – 250W HPS 550 5-Top (1/20/208/240/277/480V)

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Code	551
Voltage	120/208/240/277/480
Line Voltage Regulation (%)	10%
Circuit Type	CVLA
Type of Capacitor	Oil Filled
Capacitance	55.7µF
Voltage (Min)	740
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	TP-3000-A, 8656A
Additional Info.	60 Hz

**Electrical characteristics**

Supply Current Frequency	60 Hz
Type	A
Distributor Kit	1
No. Items Per Sales Unit	3
No. Items Per Standard Package	3

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Code	550
Voltage	120/208/240/277/480
Line Voltage Regulation (%)	10%
Circuit Type	CVLA
Type of Capacitor	Oil Filled
Capacitance	33.9µF
Voltage (Min)	740
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	TP-3000-A
Additional Info.	60 Hz

**Electrical characteristics**

Supply Current Frequency	60 Hz
Type	A
Distributor Kit	1
No. Items Per Sales Unit	3
No. Items Per Standard Package	3

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Current (A)	Ballast Efficiency Factor	Operating Current (A)	Open Circuit Voltage (V)	Drop Out Voltage (V)	Power Factor @ 5%	Minimum Temp (°F/°C)	UL Bench Top Base
551	120	208	0.86	1.30	1860	1920	90	-27 / -30	C
551	240	240	0.86	1.30	1860	1920	90	-27 / -30	C
551	277	277	0.86	1.30	1860	1920	90	-27 / -30	C
551	480	480	0.86	1.30	1860	1920	90	-27 / -30	C

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Ballast Current (A)	Ballast Efficiency Factor	Operating Current (A)	Open Circuit Voltage (V)	Drop Out Voltage (V)	Power Factor @ 5%	Minimum Temp (°F/°C)	UL Bench Top Base
550	120	208	0.86	1.30	1860	1920	90	-27 / -30	B
550	240	240	0.86	1.30	1860	1920	90	-27 / -30	B
550	277	277	0.86	1.30	1860	1920	90	-27 / -30	B
550	480	480	0.86	1.30	1860	1920	90	-27 / -30	B

Safety and performance UL Listed

Safety and performance UL Listed

#### 87164 – GES400MLTAC4-5 High Pressure Sodium

- 1 – 400W HPS 551 Quad (1/20/208/240/277V)

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Code	551
Voltage	120/208/240/277
Line Voltage Regulation (%)	10%
Circuit Type	CVLA
Type of Capacitor	Oil Filled
Capacitance	55.7µF
Voltage (Min)	740
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	HPS4000-A, 8656A
Additional Info.	60 Hz

**Electrical characteristics**

Supply Current Frequency	60 Hz
Type	A
Distributor Kit	1
No. Items Per Sales Unit	3
No. Items Per Standard Package	3

#### 87121 – GES250MLTAC4-5 High Pressure Sodium

- 1 – 250W HPS 550 Quad (1/20/208/240/277V)

**General characteristics**

Ballast Type	Magnetic - Core and Coil
ANSI Lamp Code	550
Voltage	120/208/240/277
Line Voltage Regulation (%)	10%
Circuit Type	CVLA
Type of Capacitor	Oil Filled
Capacitance	33.9µF
Voltage (Min)	740
Capacitor Temperature Rating	105°C (219°F)
Sound Rating	HPS4000-A
Additional Info.	60 Hz

**Electrical characteristics**

Supply Current Frequency	60 Hz
Type	A
Distributor Kit	1
No. Items Per Sales Unit	3
No. Items Per Standard Package	3

**Dimensions**

Wiring diagram: HID W-1A1-9796-87121-87164 - see example on page 181

Case dimensions - Refer drawing PC-7 - see page 185

Length (L)	5.2 in (133.35 mm)
Height (H)	1.2 in (31.75 mm)
Mounting dimensions	
Mount Length (M)	4.6 in (116.84 mm)
Mount Width (W) or F	0.25 in (6.35 mm)
Mount Spacing (S)	4.0
B	4.0
Weight	13.60 lbs
Frame Size (H x L)	5.54 x 4.26 in (141.26 mm x 108.15 mm)
Frame Size (W x H)	4.26 in (108.15 mm) x 4.6 in (116.84 mm)

**Dimensions**

Wiring diagram: HID W-1A1-9796-87121-87164 - see example on page 181

Case dimensions - Refer drawing PC-7 - see page 185

Length (L)	5.2 in (133.35 mm)
Height (H)	1.2 in (31.75 mm)
Mounting dimensions	
Mount Length (M)	4.6 in (116.84 mm)
Mount Width (W) or F	0.25 in (6.35 mm)
Mount Spacing (S)	4.0
B	4.0
Weight	11.00 lbs
Frame Size (H x L)	5.54 x 4.26 in (141.26 mm x 108.15 mm)
Frame Size (W x H)	4.26 in (108.15 mm) x 4.6 in (116.84 mm)

Safety and performance UL Listed

Safety and performance UL Listed

High Pressure Sodium

For 250 – 1000W High Pressure Sodium HID Lamps

87218 – GES1000ML5AC5-5

High Pressure Sodium

1 – 1000W HPS S52 5-Top (120/208/240/277/480V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

Dimensions table with columns for Magnetic Core and Coil, Line Voltage, Mounting Dimensions, and Order Information.

General characteristics table including Ballast Type, System Voltage, Nominal Current, and Electrical characteristics.

Specifications by lamp and line voltage table for the 87218 ballast.

Safety and performance cat, Listed UL, UL Listed

87056 – GES1000MLTAC5-5

High Pressure Sodium

1 – 1000W HPS S52 Quad (120/208/240/277V)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

Dimensions and General characteristics tables for the 87056 ballast.

Specifications by lamp and line voltage table for the 87056 ballast.

Safety and performance cat, Listed UL, UL Listed

High Pressure Sodium

For 250 – 1000W High Pressure Sodium HID Lamps

87198 – GES40048TAC4-5

High Pressure Sodium

1 – 400W HPS S51 480V in smaller frame

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

Dimensions, General characteristics, and Order information tables for the 87198 ballast.

Specifications by lamp and line voltage table for the 87198 ballast.

Safety and performance cat, Listed UL, UL Listed

87048 – GES100048TAC5-5

High Pressure Sodium

1 – 1000W HPS S52 480V

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement

Dimensions and General characteristics tables for the 87048 ballast.

Specifications by lamp and line voltage table for the 87048 ballast.

Safety and performance cat, Listed UL, UL Listed

geighting.com

### High Intensity Discharge Lamp Ballast Kits

#### 71701 – GEM175ML5AC3-55

##### High Intensity Discharge Lamp Ballast Kits

1 – 175W/MH M57 or H39 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (-55)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- 5-top ballast (1120, 208, 240, 277, or 480 volt) featuring a 480-volt tap

**General characteristics**

Ballast Type: Magnetic-Core and Coil  
 ANSI Lamp Codes: M57, H39  
 Voltage: 120/208/240/277/480  
 Line Voltage Regulation (%): 10%  
 Circuit Type: CWA  
 Type of Capacitor: Oil-filled  
 Capacitance: 10 µF  
 Voltage (V/Min): 400  
 Capacitor Temperature Rating: 100°C (212°F)  
 Sound Rating: Safe  
 Additional Info. None  
**Electrical characteristics**  
 Supply Current Frequency: 60 Hz

**Order information**

Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	6

**General characteristics**

Ballast Type: Magnetic-Core and Coil  
 ANSI Lamp Codes: M59, H35  
 Voltage: 120/208/240/277/480  
 Line Voltage Regulation (%): 10%  
 Circuit Type: CWA  
 Type of Capacitor: Oil-filled  
 Capacitance: 24 µF  
 Voltage (V/Min): 400  
 Capacitor Temperature Rating: 100°C (212°F)  
 Sound Rating: Safe  
 Additional Info. None  
**Electrical characteristics**  
 Supply Current Frequency: 60 Hz

**Order information**

Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	3

### High Intensity Discharge Lamp Ballast Kits

#### 71703 – GEM400ML5AC4-55

##### High Intensity Discharge Lamp Ballast Kits

1 – 400W/MH M59 or H35 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (-55)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- 5-top ballast (1120, 208, 240, 277, or 480 volt) featuring a 480-volt tap

**General characteristics**

Ballast Type: Magnetic-Core and Coil  
 ANSI Lamp Codes: M59, H35  
 Voltage: 120/208/240/277/480  
 Line Voltage Regulation (%): 10%  
 Circuit Type: CWA  
 Type of Capacitor: Oil-filled  
 Capacitance: 24 µF  
 Voltage (V/Min): 400  
 Capacitor Temperature Rating: 100°C (212°F)  
 Sound Rating: Safe  
 Additional Info. None  
**Electrical characteristics**  
 Supply Current Frequency: 60 Hz

**Order information**

Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	3

**Dimensions**

Wiring Diagram: HD-WJ-18698-8720-8721-1 - see example on page 183  
 Case dimensions - Ref Drawing PCL - see page 183  
 Length (L): 5.1 in (131.35 mm)  
 Width (W): 1.3 in (31.75 mm)  
 Mounting dimensions  
 Mount Length (M): 4.6 in (116.84 mm)  
 Mount Width (X or F): 0.3 in (6.35 mm)  
 Mount Width (Y or F): 0.3 in (6.35 mm)  
 A: 2.0  
 B: 2.0  
 C: 4.0  
 D: 4.0  
 E: 4.0  
 F: 5.6  
 Height (H): 4.8  
 Case Depth: 4.8  
 Base to Top of Ballast: 5.6  
 Nominal Length: 5.1  
 Frame Size (H x L): 7.2 in (182.55 mm)  
**Lead Lengths**  
 Lead A: 4.2 in (106.7 in)  
 Lead B: 4.2 in (106.7 in)  
 Lead C: 4.2 in (106.7 in)  
 Lead D: 4.2 in (106.7 in)  
 Lead E: 4.2 in (106.7 in)  
 Lead F: 4.2 in (106.7 in)  
 Color: Black  
 Voltage: Yellow  
 White/White  
 Yellow

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Normal Current	Ballast Factor	Ballast Efficiency Factor	Open Circuit Voltage	Drop Out Voltage	Power Factor (%)	Minimum Thermal (°C)	UL Bench Top Base
M57, H39	120	1.00A	0.90A	0.87	0.87	0.87	90	-27.5	F
	240	1.00A	0.90A	0.87	0.87	0.87	90	-27.5	F
	480	1.00A	0.90A	0.87	0.87	0.87	90	-27.5	F

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Normal Current	Ballast Factor	Ballast Efficiency Factor	Open Circuit Voltage	Drop Out Voltage	Power Factor (%)	Minimum Thermal (°C)	UL Bench Top Base
M59, H35	120	2.00A	1.90A	0.92	0.92	0.92	90	-27.5	F
	240	2.00A	1.90A	0.92	0.92	0.92	90	-27.5	F
	480	2.00A	1.90A	0.92	0.92	0.92	90	-27.5	F

##### Safety and performance

cUL Listed U.L. Listed

#### 71702 – GEM250ML5AC3-55

##### High Intensity Discharge Lamp Ballast Kits

1 – 250W/MH M58 or H37 5-Top (120/208/240/277/480V) Lamp & Ballast Kit (-55)

- Magnetic ballast construction ideal for a wide variety of lighting applications
- Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity
- Distributor replacement kit contains the appropriate core and coil with color coded leads, a properly rated capacitor and ignitor (if required) and all other components required for ballast replacement
- 5-top ballast (1120, 208, 240, 277, or 480 volt) featuring a 480-volt tap

**General characteristics**

Ballast Type: Magnetic-Core and Coil  
 ANSI Lamp Codes: M58, H37  
 Voltage: 120/208/240/277/480  
 Line Voltage Regulation (%): 10%  
 Circuit Type: CWA  
 Type of Capacitor: Oil-filled  
 Capacitance: 24 µF  
 Voltage (V/Min): 400  
 Capacitor Temperature Rating: 100°C (212°F)  
 Sound Rating: Safe  
 Additional Info. None  
**Electrical characteristics**  
 Supply Current Frequency: 60 Hz

**Order information**

Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	6

**General characteristics**

Ballast Type: Magnetic-Core and Coil  
 ANSI Lamp Codes: M57, H39  
 Voltage: 120/208/240/277/480  
 Line Voltage Regulation (%): 10%  
 Circuit Type: CWA  
 Type of Capacitor: Oil-filled  
 Capacitance: 10 µF  
 Voltage (V/Min): 400  
 Capacitor Temperature Rating: 100°C (212°F)  
 Sound Rating: Safe  
 Additional Info. None  
**Electrical characteristics**  
 Supply Current Frequency: 60 Hz

**Order information**

Type	No. Items Per Sales Unit	No. Items Per Standard Package
Distributor Kit	1	3

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Normal Current	Ballast Factor	Ballast Efficiency Factor	Open Circuit Voltage	Drop Out Voltage	Power Factor (%)	Minimum Thermal (°C)	UL Bench Top Base
M58, H37	120	1.25A	1.10A	0.85	0.85	0.85	90	-27.5	F
	240	1.25A	1.10A	0.85	0.85	0.85	90	-27.5	F
	480	1.25A	1.10A	0.85	0.85	0.85	90	-27.5	F

**Specifications by lamp and line voltage**

Lamp	System Voltage (V)	Normal Current	Ballast Factor	Ballast Efficiency Factor	Open Circuit Voltage	Drop Out Voltage	Power Factor (%)	Minimum Thermal (°C)	UL Bench Top Base
M59, H35	120	2.50A	2.30A	0.90	0.90	0.90	90	-27.5	F
	240	2.50A	2.30A	0.90	0.90	0.90	90	-27.5	F
	480	2.50A	2.30A	0.90	0.90	0.90	90	-27.5	F

##### Safety and performance

cUL Listed U.L. Listed

High Intensity Discharge Lamp Ballast Kits

71707 – GES400ML5AC4-55

High Intensity Discharge Lamp Ballast Kits

1 – 4000W HPS 551 5-Tap (120/208/240/277/480V) Lamp & Ballast Kit (1-55)

71707 – GES400ML5AC4-55

High Intensity Discharge Lamp Ballast Kits

1 – 4000W HPS 551 5-Tap (120/208/240/277/480V) Lamp & Ballast Kit (1-55)

71705 – GES100MLTLC3D-55

High Intensity Discharge Lamp Ballast Kits

1 – 100W HPS 554 Quad (120/208/240/277V) Lamp & Ballast Kit (1-55)

71705 – GES100MLTLC3D-55

High Intensity Discharge Lamp Ballast Kits

1 – 100W HPS 554 Quad (120/208/240/277V) Lamp & Ballast Kit (1-55)

71705 – GES100MLTLC3D-55

High Intensity Discharge Lamp Ballast Kits

1 – 100W HPS 554 Quad (120/208/240/277V) Lamp & Ballast Kit (1-55)

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity

Table with 3 columns: Item, Description, and Unit. Rows include Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Base of Capacitor, Mount Size, Voltage, Capacity, and Dimensions.

General characteristics

Table with 3 columns: Item, Description, and Unit. Rows include Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Base of Capacitor, Mount Size, Voltage, Capacity, and Dimensions.

Electrical characteristics

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Order information

Table with 3 columns: Type, No. Items Per Standard Package, and Description. Row includes Distribution Kit.

Specifications by lamp and line voltage

Table with 3 columns: Lamp, Specifications by line voltage, and Unit. Rows include Lamp 554 and 551 with various electrical parameters.

Order information

Table with 3 columns: Type, No. Items Per Standard Package, and Description. Row includes Distribution Kit.

Specifications by lamp and line voltage

Table with 3 columns: Lamp, Specifications by line voltage, and Unit. Rows include Lamp 554 and 551 with various electrical parameters.

Order information

Table with 3 columns: Type, No. Items Per Standard Package, and Description. Row includes Distribution Kit.

Electrical characteristics

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Dimensions

Table with 3 columns: Item, Description, and Unit. Rows include Wiring Diagram, Length, Width, Mounting dimensions, and Lead Lengths.

Dimensions

Table with 3 columns: Item, Description, and Unit. Rows include Wiring Diagram, Length, Width, Mounting dimensions, and Lead Lengths.

Order information

Table with 3 columns: Type, No. Items Per Standard Package, and Description. Row includes Distribution Kit.

Specifications by lamp and line voltage

Table with 3 columns: Lamp, Specifications by line voltage, and Unit. Rows include Lamp 554 and 551 with various electrical parameters.

Electrical characteristics

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Order information

Table with 3 columns: Type, No. Items Per Standard Package, and Description. Row includes Distribution Kit.

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity

Table with 3 columns: Item, Description, and Unit. Rows include Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Base of Capacitor, Mount Size, Voltage, Capacity, and Dimensions.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Safety and performance cUL Listed UL Listed

71706 – GES250ML5AC4-55 High Intensity Discharge Lamp Ballast Kits

1 – 250W HPS 550 5-Tap (120/208/240/277/480V) Lamp & Ballast Kit (1-55)

71706 – GES250ML5AC4-55 High Intensity Discharge Lamp Ballast Kits

1 – 250W HPS 550 5-Tap (120/208/240/277/480V) Lamp & Ballast Kit (1-55)

71706 – GES250ML5AC4-55 High Intensity Discharge Lamp Ballast Kits

1 – 250W HPS 550 5-Tap (120/208/240/277/480V) Lamp & Ballast Kit (1-55)

- Magnetic ballast construction ideal for a wide variety of lighting applications
• Precision-wound coils, ensuring even heat dissipation and the highest electrical integrity

Table with 3 columns: Item, Description, and Unit. Rows include Ballast Type, Voltage, Line Voltage Regulation, Circuit Type, Base of Capacitor, Mount Size, Voltage, Capacity, and Dimensions.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.

Table with 3 columns: Item, Description, and Unit. Rows include System Voltage, Nominal Current, Ballast Efficiency Factor, Starting Current, Open Circuit Voltage, Drop-Out Voltage, Power Factor, and Line Rating.



## Enclosed and Potted Metal Halide

## 86574 – 11210239CTC0001

Enclosed and Potted Metal Halide  
1 – 100W M90 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Dimensions	
Wiring diagram HI 154 - see example on page 189	
Case dimensions - Ref Drawing FCAN1 - see page 184	
Length (L)	11.8 in (298.45 mm)
Width (W)	3.2 in (81.28 mm)
Height (H)	2.6 in (66.67 mm)
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Lead Lengths</b>	
Black/White	
Black/Yellow	

General characteristics	
Ballast Type	Magnetric - F-Gm
ANSI Lamp Codes	M90, M90
Voltage	120/277
Line Voltage Regulation (%)	5%
Circuit Type	HR-HPF
Power Factor	0.95
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Electrical characteristics</b>	
Supply Current Frequency	60 Hz
Thermally Protected	
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	4

## 86576 – 11210277CTC0000

Enclosed and Potted Metal Halide  
1 – 70W M85 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Dimensions	
Wiring diagram HI 154 - see example on page 189	
Case dimensions - Ref Drawing FCAN1 - see page 184	
Length (L)	11.8 in (298.45 mm)
Width (W)	3.2 in (81.28 mm)
Height (H)	2.6 in (66.67 mm)
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Lead Lengths</b>	
Black/White	
Black/Yellow	

## 86578 – 11210506CTC0000

Enclosed and Potted Metal Halide  
1 – 70W M88 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Dimensions	
Wiring diagram HI 154 - see example on page 189	
Case dimensions - Ref Drawing FCAN1 - see page 184	
Length (L)	11.8 in (298.45 mm)
Width (W)	3.2 in (81.28 mm)
Height (H)	2.6 in (66.67 mm)
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Lead Lengths</b>	
Black/White	
Black/Yellow	

## 86574 – 11210239CTC0001

Enclosed and Potted Metal Halide  
1 – 100W M90 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

General characteristics	
Ballast Type	Magnetric - F-Gm
ANSI Lamp Codes	M90, M90
Voltage	120/277
Line Voltage Regulation (%)	5%
Circuit Type	HR-HPF
Power Factor	0.95
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Electrical characteristics</b>	
Supply Current Frequency	60 Hz
Thermally Protected	
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	4

## 86576 – 11210277CTC0000

Enclosed and Potted Metal Halide  
1 – 70W M85 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Specifications by lamp and line voltage		
Lamp	120	277
M90, M85		
System Voltage (V)	120	277
Ballast Factor	0.78 A	0.78 A
Max Inrush Current	2.0 A	0.98 A
Starting Current	2.0 A	0.98 A
Open Circuit Voltage	250V	222V
Power Factor @ 1h	0.95	0.95
Min. Start Temp (°F/°C)	-27/-30	-27/-30
UL Branch Tap Use	6	3

## 86578 – 11210506CTC0000

Enclosed and Potted Metal Halide  
1 – 70W M88 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Specifications by lamp and line voltage		
Lamp	120	277
M90, M88		
System Voltage (V)	120	277
Ballast Factor	0.78 A	0.78 A
Max Inrush Current	2.0 A	0.98 A
Starting Current	2.0 A	0.98 A
Open Circuit Voltage	250V	222V
Power Factor @ 1h	0.95	0.95
Min. Start Temp (°F/°C)	-27/-30	-27/-30
UL Branch Tap Use	6	3

## Safety and performance

cUL Listed  UL Listed

## 86563 – 1110245CTC0001

Enclosed and Potted Metal Halide  
1 – 175W M57 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

General characteristics	
Ballast Type	Magnetric - F-Gm
ANSI Lamp Codes	M57, M57
Voltage	120/277
Line Voltage Regulation (%)	5%
Circuit Type	HR-HPF
Power Factor	0.95
Mounting dimensions	
Mount Width (X or F)	11.1 in (281.27 mm)
Mount Width (X or F)	2.0 in (50.80 mm)
Mount Spacing (S)	0.2 in (5.08 mm)
Weight	11.00 lbs
Power Factor	0.95
Remote Mounting Distance to Lamp	20 ft
Additional Info	18AVGS
<b>Electrical characteristics</b>	
Supply Current Frequency	60 Hz
Thermally Protected	
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	4

## 86563 – 1110245CTC0001

Enclosed and Potted Metal Halide  
1 – 175W M57 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

Specifications by lamp and line voltage		
Lamp	120	277
M57		
System Voltage (V)	120	277
Ballast Factor	0.75 A	0.75 A
Max Inrush Current	2.0 A	0.98 A
Starting Current	2.0 A	0.98 A
Open Circuit Voltage	250V	222V
Power Factor @ 1h	0.95	0.95
Min. Start Temp (°F/°C)	-27/-30	-27/-30
UL Branch Tap Use	6	3

## Safety and performance

cUL Listed  UL Listed

## Enclosed and Potted Metal Halide

### 80728 – 1111-247SCTC0001

#### Enclosed and Potted Metal Halide 1 – 400W/M59 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

General characteristics	
Ballast Type	Magnetic - F-Coil
ANSI Lamp Codes	M59, H53
Voltage	120/277
Line Voltage Regulation (%)	10%
Current Type	CWA
Power Factor	90%
Type of Capacitor	
Capacitance	
Operating Temperature Rating	105°C (219°F)
System Temperature Rating	135°C (275°F)
Additional Info	UL Recognized, Thermally Protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	1

Dimensions	
Wiring diagram (FD158) - see example on page 180	
Case dimensions - Per Drawing FC-208 - see page 184	
Length (L)	16.8 in (425.65 mm)
Width (W)	3.2 in (81.27 mm)
Height (H)	2.7 in (68.59 mm)
Mounting dimensions	
Mount Width (M or F)	1.6 in (40.63 mm)
Mount Width (M or F)	2.0 in (50.80 mm)
Mount Spacing (MS)	1.7 in (43.18 mm)
Weight	1.79 lb (806 g)
System Weight	5.0 lb (2268 g)
Additional Info	5/8"
Remote Mounting Distance to Lamp	
Lead Lengths	
Black	White
Red	Yellow

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

## Enclosed and Potted Metal Halide

### 86564 – 1110246CTC000C

#### Enclosed and Potted Metal Halide 1 – 250W/M58 120/277 Enclosed and Potted

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

General characteristics	
Ballast Type	Magnetic - F-Coil
ANSI Lamp Codes	M58, H37
Voltage	120/277
Line Voltage Regulation (%)	10%
Current Type	CWA
Power Factor	90%
Type of Capacitor	
Capacitance	
Operating Temperature Rating	105°C (219°F)
System Temperature Rating	135°C (275°F)
Additional Info	UL Recognized, Thermally Protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	1

Specifications by lamp and line voltage			
Lamp	M58, H37	120	277
System Voltage (V)		255	295
Ballast Factor		2.0	1.0
Ballast Efficiency Factor		0.85	0.85
Max. Inrush Current			
Starting Current		2.80	3.80
Open-Circuit Voltage		960	2220
Power Factor @ 90%		90	90
Min. Starting Temp (°F/C)		-22 / -30	-22 / -30
UL Recognized Base		8	4

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

UL Listed

### 42670 – 1110-247SC-TC

#### Enclosed and Potted Metal Halide 1 – 400W/M59 120/277 Enclosed and Potted F-Coil

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

General characteristics	
Ballast Type	Magnetic - F-Coil
ANSI Lamp Codes	M59, H53
Voltage	120/277
Line Voltage Regulation (%)	10%
Current Type	CWA
Power Factor	90%
Type of Capacitor	
Capacitance	
Operating Temperature Rating	105°C (219°F)
System Temperature Rating	135°C (275°F)
Additional Info	UL Recognized, Thermally Protected
Electrical characteristics	
Supply Current Frequency	60 Hz
Order information	
Type	Standard Pack
No. Items Per Sales Unit	1
No. Items Per Standard Package	2

Dimensions	
Wiring diagram (HD 158) - see example on page 180	
Case dimensions - Per Drawing FC-214 - see page 184	
Length (L)	13.1 in (333.39 mm)
Width (W)	2.6 in (66.03 mm)
Height (H)	2.6 in (66.03 mm)
Mounting dimensions	
Mount Width (M or F)	1.6 in (40.73 mm)
Mount Width (M or F)	2.0 in (50.80 mm)
Mount Spacing (MS)	1.7 in (43.18 mm)
Weight	2.10 lb (953 g)
System Weight	5.0 lb (2268 g)
Additional Info	5/8"
Remote Mounting Distance to Lamp	
Lead Lengths	
Black	White
Red	Yellow

- For applications requiring quieter or cooler operation than provided by standard coil and coil ballasts
- Excellent sound-deadening and heat transfer qualities

UL Listed

Specifications by lamp and line voltage			
Lamp	M59, H53	120	277
System Voltage (V)		255	295
Ballast Factor		1.70	1.0
Ballast Efficiency Factor		0.88	0.88
Max. Inrush Current		2.50	1.00
Starting Current		3.00	3.00
Open-Circuit Voltage		960	2220
Power Factor @ 90%		90	90
Min. Starting Temp (°F/C)		-22 / -30	-22 / -30
UL Recognized Base		10	5

Specifications by lamp and line voltage			
Lamp	M59, H53	120	277
System Voltage (V)		255	295
Ballast Factor		1.70	1.0
Ballast Efficiency Factor		0.88	0.88
Max. Inrush Current		2.50	1.00
Starting Current		3.00	3.00
Open-Circuit Voltage		960	2220
Power Factor @ 90%		90	90
Min. Starting Temp (°F/C)		-22 / -30	-22 / -30
UL Recognized Base		10	5

UL Listed



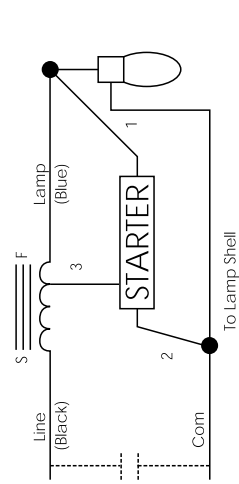
# Wiring Diagrams

## HID Electromagnetic Ballasts

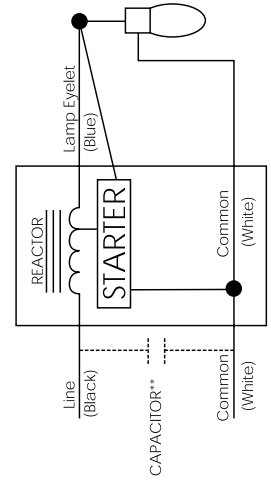
# Wiring Diagrams

## HID Electromagnetic Ballasts

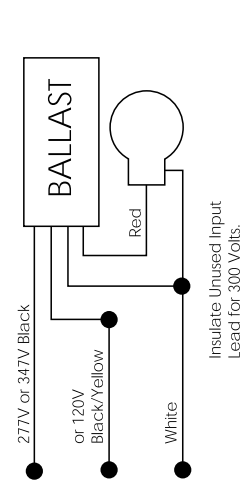
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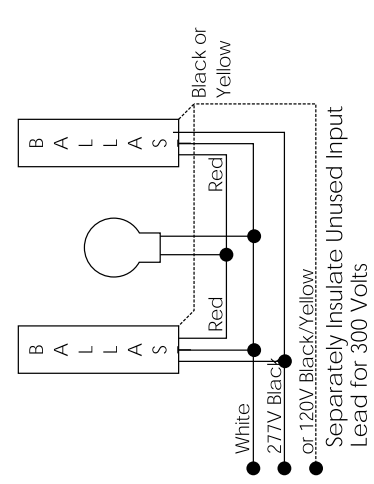
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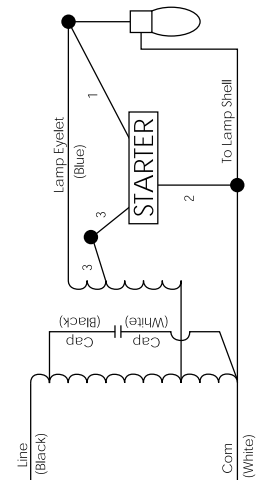
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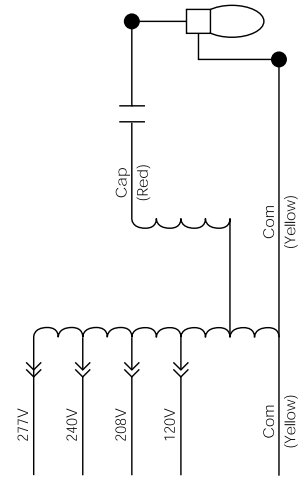
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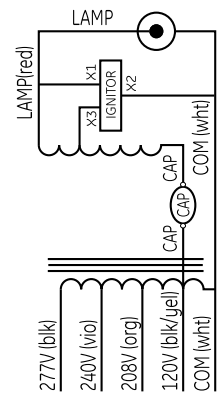
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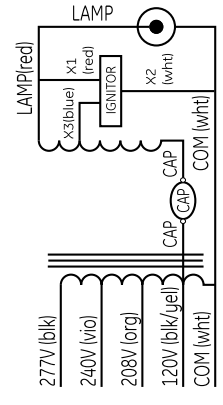
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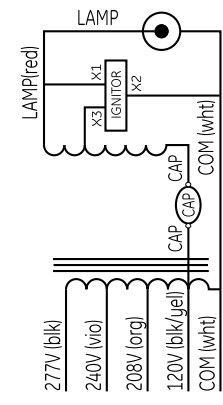
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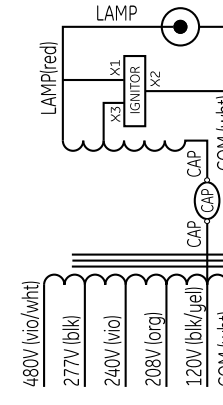
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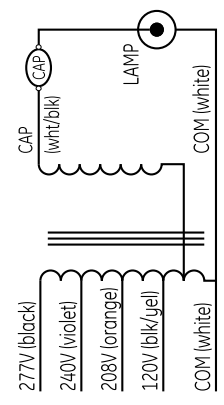
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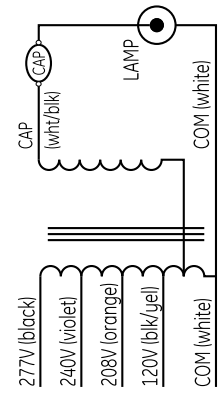
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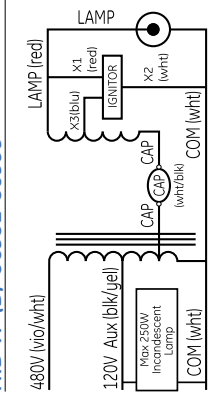
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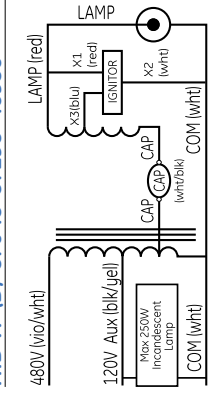
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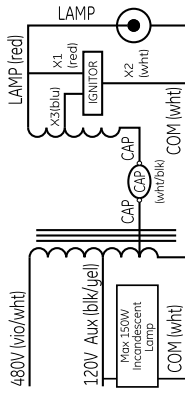
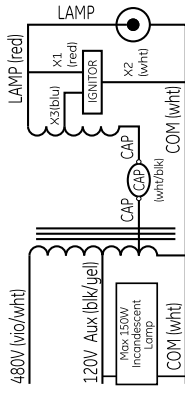
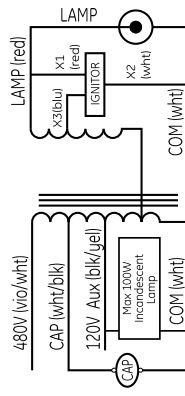
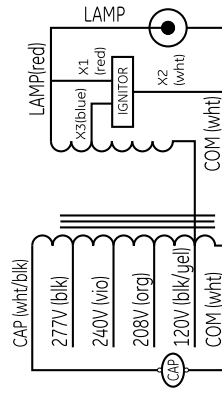
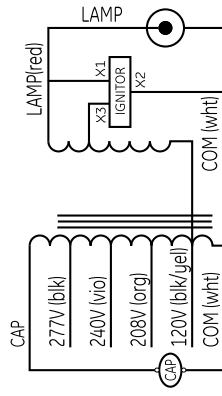
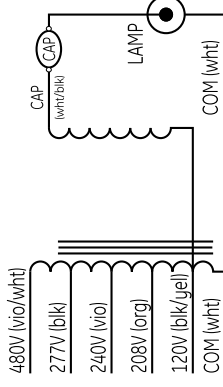
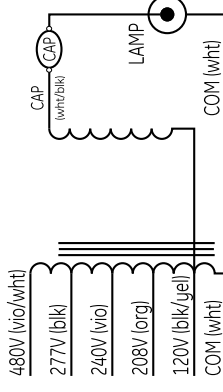
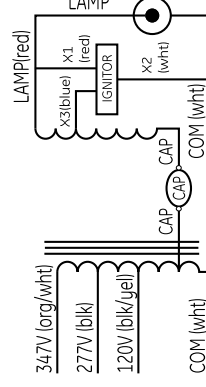
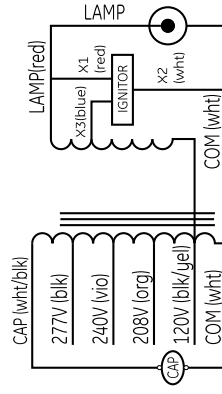
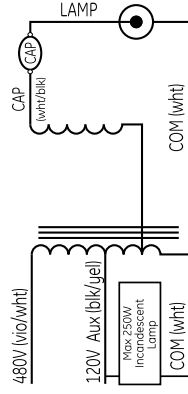
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**HID W-(D)-87048-87198-46936**



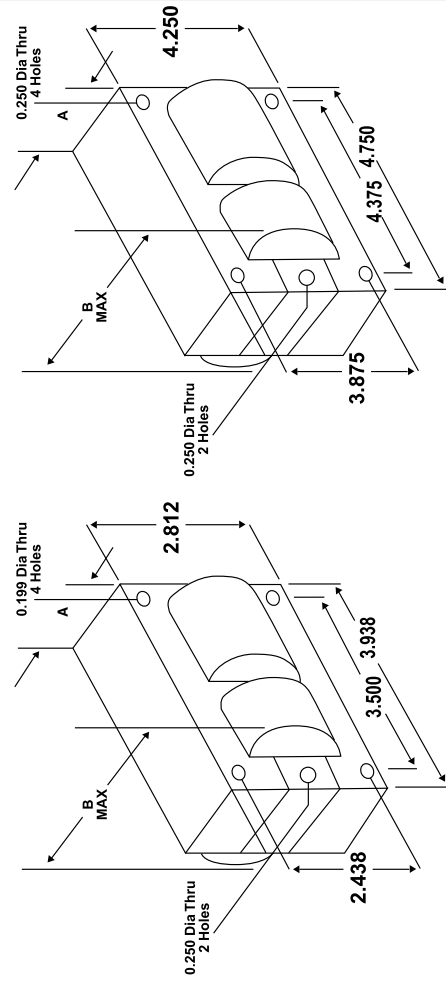
## Wiring Diagrams HID Electromagnetic Ballasts

**HID W-(E)-86926****HID W-(E)-87087-86711-86876****HID W-(F)-87068-86667****HID W-(H)-86675-86718****HID W-(H)-87094-87152****HID W-(K)-86808-87210-87211****HID W-(K)-87212-87213****HID W-(L)-86968****HID W-(H)-86824-86847****HID W-(J)-86650-86693-86803**

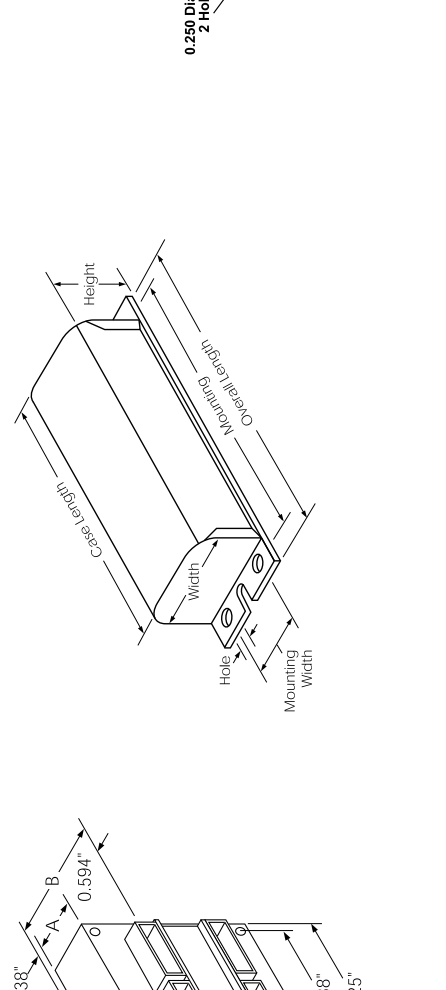
**Case Dimensions**  
HID Electromagnetic Ballasts

**Case Dimensions**  
HID Electromagnetic Ballasts

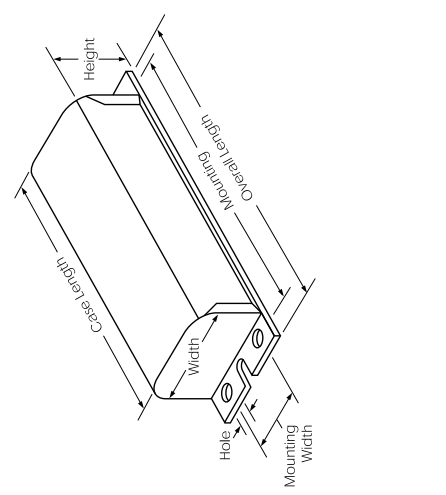
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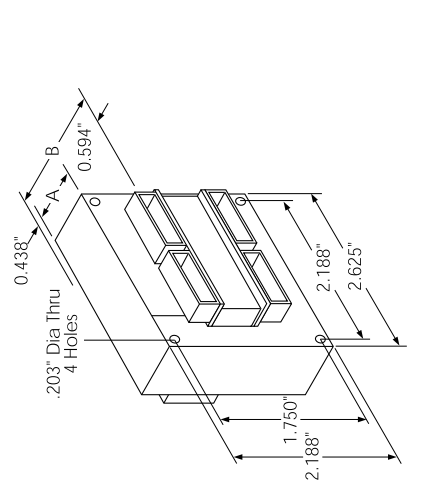
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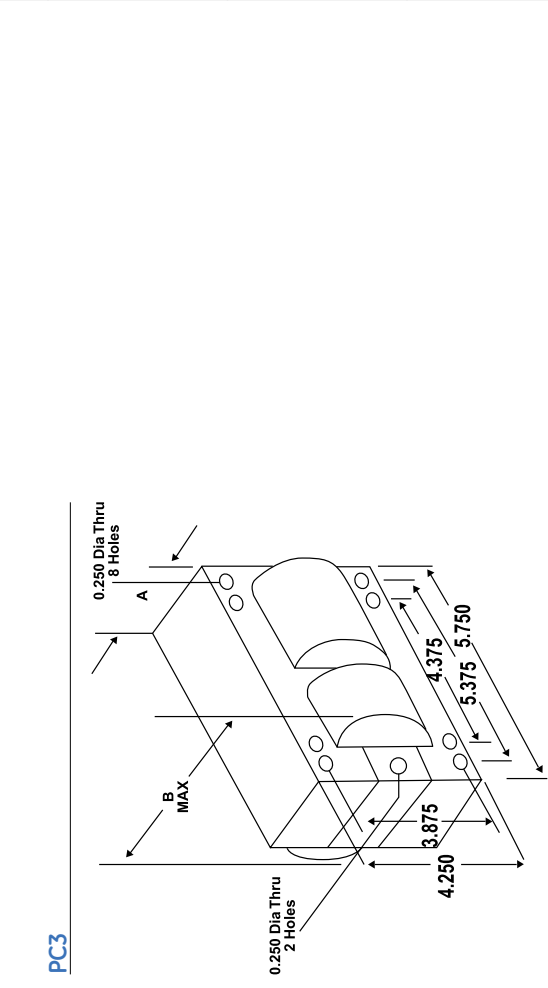
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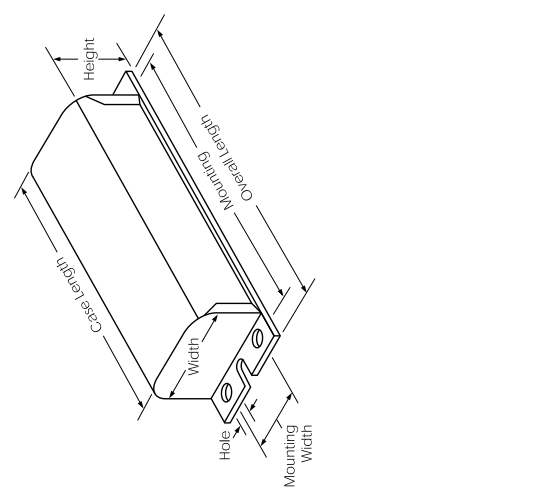
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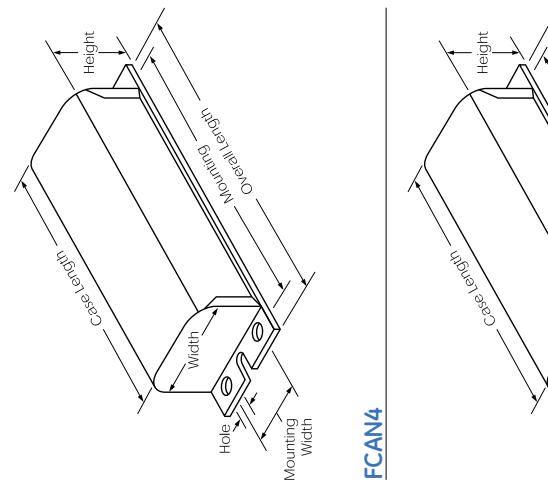
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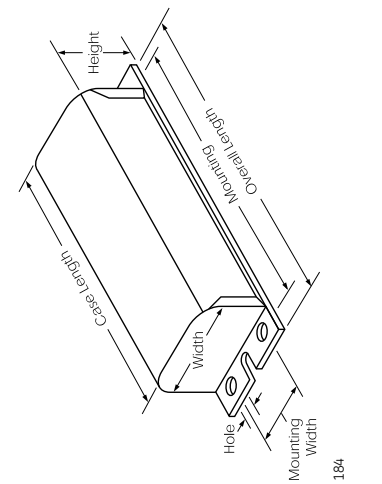
**FCAN3**



**FCAN2**



**FCAN4**









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Ballast cross reference matrix

Prod Code	Description	Advance P/N	Universal P/N	OSI P/N	Howard P/N
<b>T8 Fluorescent Ballasts</b>					
<b>T8 INSTANT START BALLASTS</b>					
<b>UltraMax® Instant Start Multi-Voltage High Efficiency</b>					
7258	GE132MAX-A/ULTRA IOP-1P32-LW-SC	B132/UUNV-E-A	B132/UUNV-E-A		
7259	GE132MAX-N/ULTRA IOP-1P32-LW-SC	B132/UUNV-E-A	B132/UUNV-E-A		
4975	GE232MAX-A/ULTRA IOP-2P32-HL-SC	B232/UUNV-E-A	B232/UUNV-E-A		
7262	GE232MAX-L/ULTRA IOP-2P32-LW-SC	B232/UUNV-E-A	B232/UUNV-E-A		
7141	GE232MAX-N/ULTRA IOP-2P32-SC	B232/UUNV-E-A	B232/UUNV-E-A		
7142	GE232MAX-N/ULTRA IOP-3P24H-90C-SC	B332/UUNV-E-A	B332/UUNV-E-A		
7174	GE332MAX-A/ULTRA IOP-3P24LW-SC	B332/UUNV-E-A	B332/UUNV-E-A		
7177	GE332MAX-N/ULTRA IOP-3P24LW-SC	B332/UUNV-E-A	B332/UUNV-E-A		
7178	GE332MAX-N/ULTRA IOP-3P24LW-SC	B332/UUNV-E-A	B332/UUNV-E-A		
7179	GE332MAX-N/ULTRA IOP-3P24LW-SC	B332/UUNV-E-A	B332/UUNV-E-A		
7181	GE432MAX-A/ULTRA IOP-4P32H-90C-G	B432/UUNV-E-A	B432/UUNV-E-A		
7182	GE432MAX-N/ULTRA IOP-4P32H-90C-G	B432/UUNV-E-A	B432/UUNV-E-A		
4976	GE150MAX-A/ULTRA IOP-4P32-LW-SC	B432/UUNV-E-A	B432/UUNV-E-A		
4977	GE250MAX-A/ULTRA IOP-2P69-SC				
<b>ProLine® T8 Multivolt 120V - 277V</b>					
7269	GE-132-MV-N	ICN-1P32-SC	B132/UUNV-P-B	OTP 1X32T8/UUNV ISL-SC/ØHE	
30198	GE-232-MV-H	REL-2P32-HL-SC/VEL-2P32-LW-SC	B232120RH-H-A/B232277RH-H-A	OTP 2X32T8/UUNV ISH-SC/ØHE	
72275	GE-232-MV-L	REL-2P32-HL-SC/VEL-2P32-LW-SC	B232120L-A/B232277L-A	OTP 2X32T8/UUNV ISH-SC/ØHE	EP4/232S-120-277
72276	GE-232-MV-N	ICN-2P32-SC	B232/UUNV-P-B	OTP 2X32T8/UUNV ISL-SC/ØHE	
30199	GE-332-MV-H	REL-3P32-HL-SC/VEL-3P32-LW-SC	B332120RH-H-A/B332277RH-H-A	OTP 3X32T8/UUNV ISH-SC/ØHE	EP2/32S-120-277
30205	GE-332-MV-L	REL-3P32-HL-SC/VEL-3P32-LW-SC	B332120L-A/B332277L-A	OTP 3X32T8/UUNV ISH-SC/ØHE	
30219	GE-432-MV-H	REL-4P32-HL-SC/VEL-4P32-LW-SC	B432120RH-H-A/B432277RH-H-A	OTP 4X32T8/UUNV ISH-SC/ØHE	EP3/32S-120-277
30262	GE-432-MV-L	REL-4P32-HL-SC/VEL-4P32-LW-SC	B432120L-A/B432277L-A	OTP 4X32T8/UUNV ISH-SC/ØHE	EP4/32S-120-277
30193	GE-432-MV-N	ICN-4P32-SC	B432/UUNV-P-B	4X32T8/UUNV ISN-SC/ØHE	
30195	GE-159-MV-N				
30194	GE-259-MV-N	RCN-2P59/VCN-2P59	B259/UUNV-P-B	OTP 2X59T8/UUNV ISN-SC/ØHE	
<b>ProLine® T8 Multivolt High Output 120V - 277V</b>					
30176	GE-286-HO-MV-N	RCN-2586	B259120RH-H/B259277RH-H	ØHE 2X86T8/HO/UUNV PSN-HT-SC/ØHE 2X59T8/UUNV PSN-HS	
<b>ProLine® T8 Instant Start High-Performance</b>					
23680	GE-132-120-N	RCN-1P32-SC	B1322120RH-A	OT132T8/120/ISN-SC	
23671	GE-132-120-N	VCN-1P32-SC	B1322120RH-A	OT132T8/120/ISN-SC	
23672	GE-132-120-N	RCN-2P32-SC	B232120RH-A	OT232T8/120/ISN-SC	
23673	GE-132-120-N	VCN-2P32-SC	B232120RH-A	OT232T8/120/ISN-SC	
23674	GE-132-120-N	RCN-3P32-SC	B332120RH-A	OT332T8/120/ISN-SC	
23675	GE-132-120-N	VCN-3P32-SC	B332120RH-A	OT332T8/120/ISN-SC	
23676	GE-132-120-N	RCN-4P32-SC	B432120RH-A	OT432T8/120/ISN-SC	
23677	GE-132-120-N	VCN-4P32-SC	B432120RH-A	OT432T8/120/ISN-SC	
23678	GE-259-277-N	VCN-2P59	OT259/277S	OT259/277S	
<b>Residual Grade ProLine® T8 120V</b>					
97782	GE-232-120-RES	REB232-SC	B232120RES-A	B232120RES-A	
97783	GE-432-120-RES	REB432-SC	B432120RES-A	B432120RES-A	
<b>Electromagnetic T8 Ballasts</b>					
87150	GE42318MS277V	V-2932-TP	M23258120C	M23258120C	
87151	GE42318MS277V	V-2932-TP	M23258277C	M23258277C	
<b>T8 PROGRAM START BALLASTS</b>					
<b>UltraStart® T8 Program Rapid Start</b>					
29622	GE-232-120-PS-N	RCN-2532-SC	RCN-2532-SC		
96774	GE232-MVPS-L	IOP-2532-SC	IOP-2532-SC		
96720	GE232-MVPS-L	IOP-2532-LW-SC		B232P/UUNV-P-A	
29675	GE-232-MVPS-H	N/A			
29671	GE-232-MVPS-XL	N/A			
29663	GE-332-120-PS-N	N/A			
29664	GE-332-MVPS-N	IOP-4532-SC			
96715	GE332-MVPS-N	IOP-3532-SC			

See page 195 for warranty information.

Ballast cross reference matrix (cont.)

Table with columns: Prod Code, Description, Advance P/N, Universal P/N, OSI P/N, Robertson P/N. Includes sections for Compact Fluorescent Ballasts (CFL ELECTRONIC), HID Electronic Ballasts, Metal Halide, HID Electronic Ballasts, and Pulse Start.

Table with columns: Prod Code, Description, Advance P/N, Universal P/N, OSI P/N, AROMAT/VS P/N. Includes sections for HID Electronic Ballasts (High Pressure Sodium, HID Lamp-Ballast Kits), F-Can & Post Mount Metal Halide, and F-Can & Post Mount HPS.