

UltraStart® T5 Programmed Start Ballasts

GE Consumer & Industrial Lighting



Preliminary	Lamps Type	#	10-PK	Pallet Pack	Input Volts	Line Current	Input Watts	Ballast Factor	(Initial) System Lumens	Lumens/Watt
GE454MVPS90-G replaces GE454MVPS90-E (99649/99650)										
	F54T5HO	4	73192	73193	120/277	1.94/.83	232/226	1.00	20000	88
	F54T5HO	3	73192	73193	120/277	1.58/.69	188/185	1.01	15150	82
	F54T5WM	4	73192	73193	120/277	1.84/.79	220/216	1.00	20000	93
	F54T5WM	3	73192	73193	120/277	1.48/.66	177/174	1.01	15150	87
GE254MVPS90-F										
	F54T5HO	2	99651	99652	120/277	.98/.43	116/115	1.00	10000	87
	F54T5HO	1	99651	99652	120/277	.60/.26	71	1.12	5600	79
	F54T5WM	2	99651	99652	120/277	.91/.40	109/107	1.00	10000	93
	F54T5WM	1	99651	99652	120/277	.56/.25	66	1.12	5600	85
GE254MVPS-D										
	F54T5HO	2	72279		120/277	.99/.43	119/117	1.00	10000	86
	F54T5HO	1	72279		120/277	.64/.28	76/75	1.12	5600	75
	F54T5WM	2	72279		120/277	.94/.41	112/111	1.00	10000	90
	F54T5WM	1	72279		120/277	.59/.26	71	1.12	5600	79
GE228MVPS-A										
	F28T5HE	2	99655	99656	120/277	.50/.23	59/60	0.96	5568	94
	F28T5HE	1	99655	99656	120/277	.31/.15	38	1.09	3161	83
	F28T5HL	2	99655	99656	120/277	.50/.23	59/60	0.96	5856	99
	F28T5HL	1	99655	99656	120/277	.31/.15	38	1.09	3325	87
	F28T5WM	2	99655	99656	120/277	.48/.21	57	0.95	5510	97
	F28T5WM	1	99655	99656	120/277	.30/.15	36	1.09	3161	88
	F35T5HE	2	99655	99656	120/277	.62/.27	75/73	TBD		
	F35T5WM	2	99655	99656	120/277	.59/.26	70/69	TBD		
	F21T5HE	2	99655	99656	120/277	.40/.18	48	TBD		
	F21T5WM	2	99655	99656	120/277	.38/.18	45	TBD		
	F14T5HE	2	99655	99656	120/277	.29/.14	34	TBD		
	F14T5WM	2	99655	99656	120/277	.27/.13	32	TBD		
GE228MVPSH-A										
	F28T5HE	2	99653	99654	120/277	.60/.25	72/70	1.16	6728	96
	F28T5HE	1	99653	99654	120/277	.31/.15	45	1.31	3799	84
	F28T5HL	2	99653	99654	120/277	.60/.25	72/70	1.16	7076	101
	F28T5HL	1	99653	99654	120/277	.31/.15	45	1.31	3996	89
	F28T5WM	2	99653	99654	120/277	.57/.25	68/67	1.15	6670	100
	F28T5WM	1	99653	99654	120/277	.36/.17	43	1.31	3799	88
GE180MVPS-D (16.34" x 1.18" x 1.0")										
	F80T5HO	4	72280		120/277	.78/.34	93/91	1.00	7000	77

* 54 watt ballasts also operate FC12T5HO, FT36W/2G11, FT55W/2G11, FT50W/2G11 and F58T8 lamps
 * 28 watt ballasts operate all standard T5HE lamps – F14T5, F21T5, F28T5, F35T5 (N ballast only)

Transforming the **POWER** of Light™

GE National Customer Service Center
 1-888-GEBALLAST (432-2552)

For product specifications and application information, please consult GE's Website: www.gelighting.com

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UltraStart® T5 Programmed Start (PS) Ballasts for T5 Fluorescent Lamps



A New Generation of Ultra-Efficient Programmed Start Ballasts



imagination at work

UltraStart® T5 Programmed Start (PS) Ballasts

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 (CCC) technology - resulting in 8 fewer watts than standard 4-lamp 54W T5 ballasts. **GE's UltraStart® T5** ballasts meet 95% efficiency, a 44% improvement over standard T5 ballasts and a new industry threshold for high efficiency ballasts.

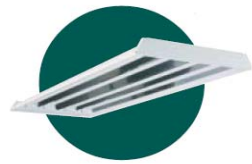
The GE UltraStart® Watt-Miser® T5 Lamp and Ballast System Advantage

- 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 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 (CCC) is applied - which eliminates wasted power to the lamps, resulting in high efficiencies.

Don't Leave Money On The Table By Not Choosing GE T5 Systems!

Standard 4 lamp 54W T5



Initial Lumens = 20,000
Watts = 234W
LPW = 85

Watt-Miser® Lamp



Initial Lumens = 20,000
Watts = 222W
LPW = 90
Savings = **\$36/fixture**

UltraStart® Watt-Miser®



Initial Lumens = 20,000
Watts = 216W
LPW = 93
Savings = **\$54/fixture**

Assumptions: \$.10 kwh 30,000 hour life @ 12 hours start Savings per 4 lamp 54W T5 fixture

Environmental Awareness

EcomaginationSM is GE's commitment to create products that help our customers improve their environmental and operating performance. **GE UltraStart®** ballasts are high-efficiency, energy-efficient and RoHS compliant.

GE's UltraStart® T5 & T8 programmed start and **GE UltraMax® 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 2002/95EC 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 UltraStart®** ballasts use lead-free solder and other environmentally preferable materials that meet the RoHS directive. RoHS-compliant ballasts are 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 all **GE UltraStart®** and other **GE ballasts**.

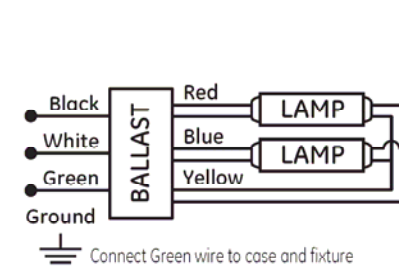


UltraStart® T5 Ballasts Features and Benefits

- **High-Efficiency, Energy Savings**
GE UltraStart® ballasts operate at an industry high 95% efficiency
- **Lower Maintenance Costs with Parallel Lamp Operation**
If one lamp fails, the other lamps remain lit. This can reduce spot relamping by 50%, or extend group relamping by up to 15%
- **Fast Starting Time**
GE UltraStart® T5 ballasts start in less than 700 milliseconds compared with standard T5 >1.1 seconds. This is an important feature when using sensors. **GE UltraStart® T5 ballasts** fast starting time eliminate the traditional PS ballast delay of waiting for the lights to turn on.
- **Multi-Voltage Technology** - Simplify installation. Adapts automatically to any voltage from 108V to 305V
- **Anti-Striation Control** - Reduces maintenance issues caused by striating lamps
- **UltraCool™ Operation** - A 90°C case temperature rating and a high efficiency design produces less heat. GE provides the UltraCool™ system certification with high grade fixture systems which means a 5 year 55°C max ambient warranty
- **Bi-level switching with 4 lamp 54W ballast**
- **UL Type CC Anti-Arcing Rating with End of Lamp Life Protection**
- **Auto-Reset** - Automatically resets after lamp replacement and withstands temporary losses in power typical with backup lighting systems
- **Complies with (RoHS) Restrictions of Hazardous Materials Standards** - Environmentally conscious

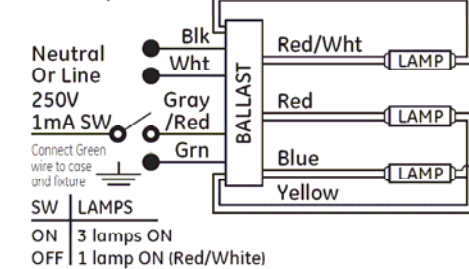
Technical Specifications

GE228MVPS & GE254MVPS

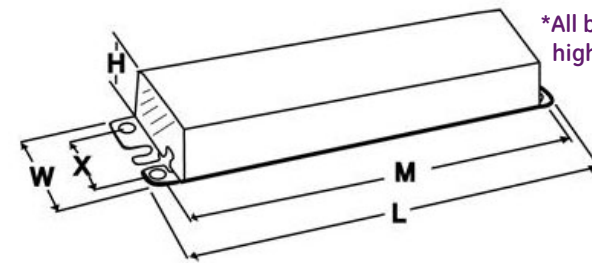
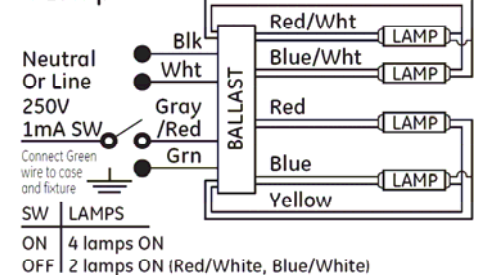


GE454MVPS90-E

3 Lamp



4 Lamp



*All ballasts include lead wires and high temperature 90C case rating

	<u>GE254MVPS90-F/-D can</u>	<u>GE454MVPS90-G</u>	<u>GE228MVPS-A/GE228MVPSH-A</u>
Length (L)	11.75"/ 16.7	16.7"	9.5"
Mount Length (M)	11.14"/ 16.34	16.10"	8.9"
Width (W)	1.7"/ 1.18	2.0"	1.7"
Mount Width (X)	1.05"	1.05"	1.05"
Height (H)	1.18"/ 1.0	1.20"	1.18"

Specifications

- Lamp Frequency > 40KHz
- Lamp CCF: < 1.7
- Starting Temp: 0F min
- Input Frequency: 50/60 Hz
- THD: < 10%
- Power Factor: > 98%
- UL & CSA listed, Outdoor Type 1, HL
- FCC 47CFR Part 18 Non-Consumer