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 (CCC) 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 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 (CCC) 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.

See T8 ballast section (page 10-3) for nomenclature information.

T5 High Output – Programmed Start

T5 Electronic Programmed Start For T5 HO Lamps*

67562 – GE254MVPS90-A

T5 High Output - UltraStart® Programmed Start

2 or 1 – F54T5HO 120 to 277V UltraStart® PRS High Temp A Can

- High Efficiency T5 ballast with Continuous Cathode Cutout Technology
- Lower Maintenance Costs with Parallel Lamp Operation
- Fast Starting Time <700ms
- Multi-Voltage technology means a single ballast handles voltage from 108V to 305V
- Auto-Restart withstands temporary losses in power without the need to cycle power

General characteristics

Ballast Type	Electronic – Programmed / Rapid Start
Starting Method	Programmed start
Lamp Wiring	Parallel
Line Voltage Regulation (+/-)	10%
Ambient Temperature (MAX)	131°F (55°C)
Case Temperature (MAX)	90°C (194°F)
Ballast Factor	Normal
Power Factor Correction	Active
Sound Rating	A (20-24 decibels)
Additional Info	Auto-restart, End-of-Life Protection (EOL), Thermally protected, Universal voltage, Anti-striation control

Electrical characteristics

Supply Current Frequency	50/60 Hz

Order information

10 Pack	Pallet Pack	DIY Pack	IP Pack
67562			

Dimensions

Wiring diagram – LFL 4a (One lamp operation) & T51 – see example on page 13-18	
Case dimensions – Ref Drawing -F – see page 13-19	
Length (L)	9.5 in (241.3 mm)
Width (W)	1.7 in (43.2 mm)
Height (H)	1.2 in (30.5 mm)
Mounting dimensions	
Mount Length (M)	8.9 in (226 mm)
Mount Slots (MS)	0.25 in (6 mm)
Weight	1.50 lbs
Exit Type	Side
Remote Mounting Distance to Lamp	12 ft
Remote Mounting Wire Gauge	18 AWG
Lead lengths	**Length (± 1 in)**
White and Black	25 in (635 mm)
Blue and Red	34 in (864 mm)
Yellow	45 in (1143 mm)

Specifications by lamp and wattage

Lamp	# of Lamps	Line Volts	System Watts	Nom. Line Current	System Ballast Factor	Ballast Efficacy Factor	Power Factor% (>=)	Crest Factor (<=)	THD% (<=)	Min. Starting Temp (°F/°C)
	2	120	117	0.98	1.00	0.85	1.00	1.4	4.4	-20/-29
	2	277	114	0.41	1.10	0.96	0.99	1.4	5.4	-20/-29
	1	120	63	0.53	1.00	1.59	1.00	1.4	6.4	-20/-29
F54T5HO	1	277	62	0.23	1.10	1.77	0.97	1.4	6.6	-20/-29
	2	120	109	0.90	1.00	0.92	1.00	1.4	4.6	0/-18
	2	277	107	0.40	1.12	1.05	0.99	1.4	5.2	0/-18
	1	120	61	0.51	1.00	1.64	1.00	1.4	6.7	0/-18
F54T5WM	1	277	60	0.22	1.12	1.87	0.97	1.4	7.7	0/-18
	2	120	105	0.88	1.00	0.95	1.00	1.4	4.8	-20/-29
	2	277	104	0.40	1.10	1.06	0.99	1.4	5.3	-20/-29
	1	120	58	0.48	1.00	1.72	1.00	1.4	6.9	-20/-29
F54T5/47W	1	277	57	0.22	1.10	1.93	0.96	1.4	8.0	-20/-29
	2	120	110	0.90	0.95	0.86	1.00	1.4	4.7	-20/-29
	2	277	107	0.39	0.95	0.89	0.99	1.4	5.4	-20/-29
	1	120	59	0.49	1.08	1.83	1.00	1.4	6.6	-20/-29
F58T8	1	277	59	0.22	1.08	1.83	0.96	1.4	7.3	-20/-29
	2	120	116	0.97	0.86	0.74	1.00	1.4	4.9	0/-18
	2	277	112	0.41	0.86	0.77	0.99	1.4	5.4	0/-18
	1	120	61	0.51	1.03	1.69	1.00	1.4	6.8	0/-18
FT55W/4P	1	277	60	0.23	1.03	1.72	0.97	1.4	8.0	0/-18
	2	120	118	1.00	1.05	0.89	1.00	1.4	4.6	0/-18
	2	277	116	0.43	1.06	0.91	0.99	1.4	5.2	0/-18
	1	120	64	0.53	1.18	1.84	1.00	1.4	6.6	0/-18
FT50W/4P	1	277	63	0.24	1.18	1.87	0.97	1.4	7.4	0/-18

Safety and performance

UL Type 1 Outdoor UL Type CC UL Listed Meets ANSI Standard C62.41-1991 UL Class P Meets ANSI Standard C82.11- cons 2002

FCC – CLASS A Non-Consumer Product is compliant with material restriction requirements of RoHS

High Temperature Rated: Suitable for high temperature applications 80°C max case temp 5 yr warranty.

See page E-1 for warranty information.