



Represented By	DATE / /
Job Name	
Job Number	

## Controllable Ballast

**CF-DA-UNV-332T8-L**  
**CF-DA-UNV-254T5-L**

### Product Overview



Fulham's intelligent ballast enables maximum energy and cost savings through its full range dimming (10 - 120%) and advanced communication capability. The ballast's patented technology integrates with Fulham's Room, Area, and Building Solutions to provide comprehensive lighting management.

The ballast removes the stress and guesswork from lighting control design with powerful interoperability. It operates on the industry-standards DALI or low voltage 0-10VDC control modes and accepts a wide range of electrical inputs, from 120-277V at 50/60Hz. Just two product part numbers power one, two or three lamp configurations of most T8, T5, or T5HO lamps. This flexibility to simplify system design and compatibility reduces stocking costs, on-site logistics, and installation errors.

Whether retrofit or new construction in office, retail, education or any number of other applications, the ballast's versatility makes the ideal choice for an intelligent lighting system.

### Product Features

#### Summary

- Only two part numbers (SKUs) handle most common T8 and T5 lamp types and lamp counts, multi-volt input
- Supports DALI and 0-10V control
- Lamp monitoring and remote diagnostics capability
- High ballast factor of 1.2 for wide lamp output range
- Program start with patent-pending heater controls for superior energy savings and longer lamp life
- 100% fail-safe control (full light output on control disconnect)
- Single connector design simplifies control wiring installation and helps eliminate mistakes
- 5 year limited warranty

#### Technology

Fulham's intelligent ballast features micro-processor technology that provides more performance at less cost, offering a dimming electronic ballast with industry leading features with a competitive price

#### Compatibility

Technologically advanced automatic lamp sensing capability allows a single ballast design to operate a wide range of linear fluorescent T8, T5 and T5HO lamps in 2, 3 and up to 4 foot lengths, simplifying specification, purchasing, and installation

#### Energy Savings

Easily installed in standard lighting fixtures, offers significant basic energy savings compared to older and less efficient fluorescent ballasts. When controlled by the Fulham controller, the ballast saves even more energy via daylight harvesting, task tuning, scheduling, lumen maintenance, and personal control, resulting in 50 to 70% savings

#### Diagnostics

With DALI control and 2-way communication, each ballast reports advanced diagnostics information that indicates operational status and lamp condition, which is valuable for simplifying system operations and maintenance

### Electrical Data

Input Voltages	120 - 277VAC, ± 10%
Input Frequency	50/60Hz
THD	< 12% @ full output
Power Factor	> 93% @ full output
Starting Method	Program Start
Circuit Type	Series Sequential
Lamp Frequency	> 42 kHz
Lamp CCF	< 1.5
Min. Operating Temperature	10°C (50°F)
Max. Operating Temperature	90°C (194°F)
Starting Time	1 sec to full output, 2.5 sec to set dim level at power on
100% fail-safe	full light output on control disconnect, auto-shutdown on ballast failure
Certifications	UL Class P, Indoor, UL 935, FCC 47CFR Part 15 Class A or B
	FCC Class B, CE, RoHS, REACH, EN60598-1, EN60730-1, EN60730-2, EN60950-1, EN60950-2, EN60950-3, EN60950-4, EN60950-5, EN60950-6, EN60950-7, EN60950-8, EN60950-9, EN60950-10, EN60950-11, EN60950-12, EN60950-13, EN60950-14, EN60950-15, EN60950-16, EN60950-17, EN60950-18, EN60950-19, EN60950-20, EN60950-21, EN60950-22, EN60950-23, EN60950-24, EN60950-25, EN60950-26, EN60950-27, EN60950-28, EN60950-29, EN60950-30, EN60950-31, EN60950-32, EN60950-33, EN60950-34, EN60950-35, EN60950-36, EN60950-37, EN60950-38, EN60950-39, EN60950-40, EN60950-41, EN60950-42, EN60950-43, EN60950-44, EN60950-45, EN60950-46, EN60950-47, EN60950-48, EN60950-49, EN60950-50, EN60950-51, EN60950-52, EN60950-53, EN60950-54, EN60950-55, EN60950-56, EN60950-57, EN60950-58, EN60950-59, EN60950-60, EN60950-61, EN60950-62, EN60950-63, EN60950-64, EN60950-65, EN60950-66, EN60950-67, EN60950-68, EN60950-69, EN60950-70, EN60950-71, EN60950-72, EN60950-73, EN60950-74, EN60950-75, EN60950-76, EN60950-77, EN60950-78, EN60950-79, EN60950-80, EN60950-81, EN60950-82, EN60950-83, EN60950-84, EN60950-85, EN60950-86, EN60950-87, EN60950-88, EN60950-89, EN60950-90, EN60950-91, EN60950-92, EN60950-93, EN60950-94, EN60950-95, EN60950-96, EN60950-97, EN60950-98, EN60950-99, EN60950-100

Fulham extends a limited warranty only to the original purchaser or to the first user for a period of 5 years from the date of manufacture when properly installed and operated under normal conditions of use. For complete terms and conditions, please reference the Fulham product catalog ([www.fulham.com](http://www.fulham.com))  
Due to a program of continuous improvement, Fulham reserves the right to make modifications or variations in design or construction to the equipment described.

## Controllable Ballast

### DALI Control Specs

- Non-Polarized two wire control
- Wire as a Class 2 circuit
- DALI compliant

### 0-10V Control Specs

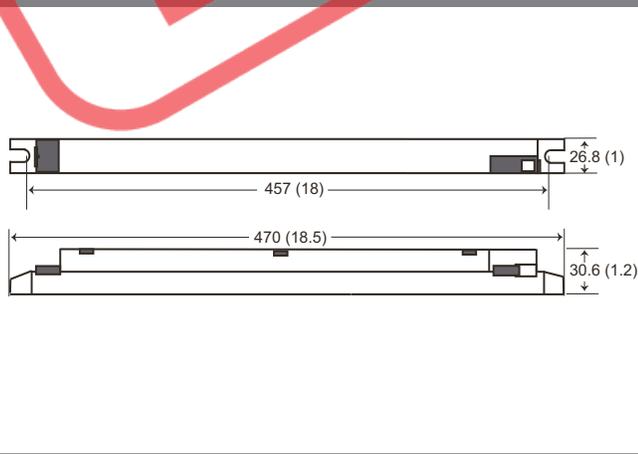
- Polarized two wire control
- Wire as a Class 2 circuit
- Input ranges
- Lamp off @ 0-1.0V
- 10% @ 1.1-1.4V
- 100% @ 10V

### Direct Connect Low Voltage Power Supply

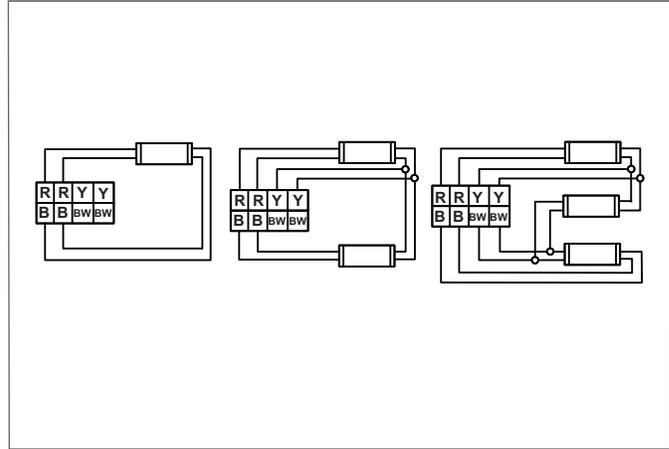
- Source for 12VDC loads
- Output 25mA (continuous)
- 35mA(max)
- Wire as a Class 2 circuit
- Use to power sensors, etc.

Part Number	Lamp Type	# of Lamps	Ballast Factor [max-min]	Input Current (A) [120/277 VAC]	Power Input [120/ 277 VAC]	Initial Lumens @BF=1	Light Output (lm)	System Efficacy (lm/W) [120/277 VAC]	Power Factor (full output) [120/277 VAC]
CF-DA-UNV-332T8-L	F40T8	1	1.2 - 0.1	.43 / .18	52 / 50	3,650	4,380	85 / 88	.99 / .94
		2	1.2 - 0.1	.84 / .36	101 / 100	7,350	8,820	88 / 88	.99 / .97
	F32T8	1	1.2 - 0.1	.34 / .15	41 / 40	3,000	3,600	89 / 90	.99 / .94
		2	1.2 - 0.1	.67 / .29	80 / 79	6,000	7,200	90 / 91	.99 / .97
	F28T8	1	1.2 - 0.1	.31 / .13	37 / 36	2,750	3,300	89 / 92	.99 / .94
		2	1.2 - 0.1	.58 / .24	69 / 67	5,150	6,180	89 / 92	.99 / .97
	F25T8	1	1.2 - 0.1	.27 / .11	32 / 31	2,250	2,700	84 / 86	.99 / .94
		2	1.2 - 0.1	.52 / .22	62 / 60	4,600	5,520	89 / 92	.99 / .97
	F17T8	1	1.2 - 0.1	.22 / .09	22 / 21	1,750	2,100	85 / 88	.99 / .94
		2	1.2 - 0.1	.42 / .18	42 / 41	3,500	4,200	85 / 88	.99 / .94
	F28T5	1	1.2 - 0.1	.30 / .12	36 / 33	2,900	3,300	92 / 99	.99 / .94
		2	1.2 - 0.1	.59 / .25	71 / 69	5,150	6,180	87 / 89	.99 / .97
CF-DA-UNV-254T5-L	F54T5HO	1	0.9 - 0.1	.57 / .24	55 / 53	5,000	4,500	82 / 84	.99 / .94
		2	0.9 - 0.1	.87 / .45	104 / 103	9,950	8,955	86 / 87	.99 / .97
	F49T5HO	1	0.9 - 0.1	.42 / .18	50 / 49	5,000	4,500	90 / 92	.99 / .97
		2	0.9 - 0.1	.80 / .34	96 / 94	10,000	9,000	94 / 96	.99 / .96
	F39T5HO	1	1.0 - 0.1	.38 / .16	45 / 44	3,500	3,500	78 / 80	.99 / .98
		2	1.0 - 0.1	.72 / .31	86 / 85	7,000	7,000	82 / 83	.99 / .98
	F24T5HO	1	1.1 - 0.1	.29 / .12	31 / 30	2,750	2,750	82 / 84	.99 / .97
		2	1.1 - 0.1	.56 / .24	56 / 55	5,500	5,500	85 / 86	.99 / .98
	F21T5	1	1.2 - 0.1	.27 / .11	27 / 26	2,250	2,250	90 / 92	.99 / .97
		2	1.2 - 0.1	.54 / .22	54 / 53	4,500	4,500	92 / 94	.99 / .98
	F14T5	1	1.2 - 0.15	.22 / .09	22 / 21	2,000	2,000	81 / 86	.99 / .97
		2	1.2 - 0.15	.42 / .18	42 / 41	4,000	4,000	81 / 86	.99 / .97

### Mechanical Data



### Wiring Diagram



Fulham extends a limited warranty only to the original purchaser or to the first user for a period of 5 years from the date of manufacture when properly installed and operated under normal conditions of use. For complete terms and conditions, please reference the Fulham product catalog ([www.fulham.com](http://www.fulham.com))  
**Due to a program of continuous improvement, Fulham reserves the right to make modifications or variations in design or construction to the equipment described.**