

# Bi-Level Switching Electronic Ballast

to Switch Between 2 and 4 or 2 and 3 Rapid Start F32T8 or F25T8 Fluorescent Lamps

## PRODUCT PROFILE



### Function

Advance Transformer designed the bi-level switching electronic ballast to save energy and adjust lighting levels in fluorescent fixtures using standard light switches. The ballast toggles between lighting two lamps and four lamps in four-lamp T8 fixtures and two lamps and three lamps in three-lamp fixtures. It is easy to install and operate because only one ballast is required per fixture and no new controls or light switches are needed.

### How the Ballast Works

Initially, when the toggle is first switched, all 4 lamps will ignite. If the toggle is then switched off and on again (with no more than a 3 second delay), only 2 lamps will ignite. If the toggle is switched off for more than 3 seconds, the ballast will reset itself to its default 4 lamp operating mode. The three lamp ballast operates in the same manner while only switching 3 lamps to 2 lamps.

### Features

Toggle switch operation:

- 4 lamp to 2 lamp operation
- 3 lamp to 2 lamp operation

Saves energy compared to non-switching 4 lamp fixture applications

Ballast operates from a standard wall switch

Bi-Level switching achieved with one ballast instead of two

### Benefits

- Provides control over the lighting and energy use within localized space

- Up to 60% savings over conventional T12 magnetic systems
- Up to 50% savings over T12 energy saving magnetic systems
- Up to 40% savings over T8 electronic system

- Easy installation for new construction and retrofits
- Reduces installation costs since no additional wires are necessary

- Reduces material and installation costs

### Applications

The REL-4P32-2LS electronic switching ballast is designed for energy management lighting, both new construction *and* retrofit, for applications such as:

- Manual Daylighting - Libraries, Classrooms, Private Offices, etc.
- Variable light demand areas - Conference Rooms, Hallways, Stairways, etc.

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## Section I - Physical Characteristics

- 1.0 The ballast shall be physically interchangeable with a standard electromagnetic ballast.
- 1.1 The electronic ballast shall be provided with integral leads, color-coded to ANSI standard C82.11 (latest version).

## Section II - Performance Requirements

- 2.0 The "High Frequency" electronic ballast shall operate lamps at a frequency of 20 KHz or higher without visible flicker.
- 2.1 The electronic ballast's input current shall have a Total Harmonic Distortion (THD) of less than 20% when used with primary lamp.
- 2.2 The electronic ballast shall have a Power Factor greater than 98% when used with primary lamp.
- 2.3 The electronic ballast shall have Lamp Current Crest Factor of less than 1.7.
- 2.4 The electronic ballast shall support a sustained short to ground or open circuit of any output leads.
- 2.5 The electronic ballast shall have an audible noise rating (Class A) or better.
- 2.6 Ballast shall operate from a nominal line voltage of (120, 277) volts, +/-10%, 60Hz.

## Section III - Regulatory Requirements

- 3.0 Ballast shall meet the requirements of the Federal Communications Commission rules and regulations, part 18, for Non-Consumer equipment.
- 3.1 The electronic ballast shall meet ANSI C82.11 standards regarding harmonic distortion.
- 3.2 Ballast shall meet ANSI C62.41 Cat. A for transient protection.
- 3.3 The electronic ballast shall comply with all applicable state and federal efficiency standards.
- 3.4 The electronic ballast shall be Underwriters Laboratories (UL) listed (Class P) and CSA Certified where applicable.

## Section IV - Other

- 4.0 The electronic ballast shall not contain Polychlorinated Biphenyl (PCB's).
- 4.1 The electronic ballast shall carry a five year warranty when its case temperature does not exceed 70°C.
- 4.2 Ballast manufacturer must have a 10 year history of producing electronic ballast for the North American market.
- 4.3 Ballast shall be produced in a factory certified to ISO 9002 Quality System Standards.

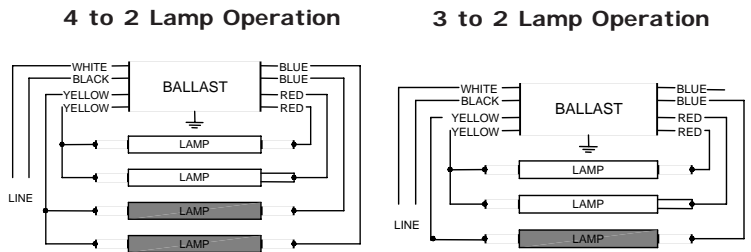
## Installation Notes

Two lamps must always be connected to the red leads of the ballast. These lamps are not switched when the control switch is toggled on and off. Rather, the lamp(s) connected to the blue leads of the ballast are switched on and off when the control switch is toggled. *In retrofit applications, it is therefore important that the blue leads of the ballast always be connected to the same lamp sockets in each fixture so that the same lamps are switched in all fixtures.* To switch between 3 and 2 lamps, insulate one of the blue lamp leads for 600V.

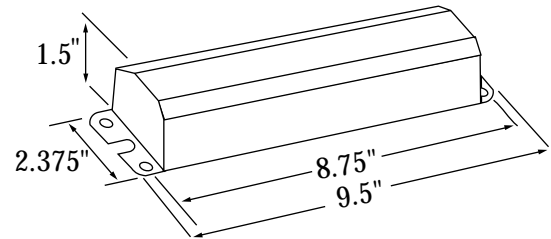
## Remote Mounting

The ballast can also be remote or tandem wired using 18 AWG or larger wire to a maximum of 20 feet overall lead length between ballast and lamps.

## Wiring Diagram



## Dimensions



## Ballast Selection Guide

Lamp No.	Lamp Length	Min. Watts	Start Temp F°	Input Volts	Model Number	Line Amps	ANSI Input Watts	Ballast Factor	THD%	Power Factor
<b>F32T8, FBO31T8 &amp; F32T8/U</b>										
4	4'	32	32	120	REL-4P32-2LS	0.94	110	0.87	<20	0.99
				277	VEL-4P32-2LS	0.41				
3	4'	32	32	120	REL-4P32-2LS	0.79	93	0.96	<25	0.98
				277	VEL-4P32-2LS	0.35				
2	4'	32	32	120	REL-4P32-2LS	0.63	73	1.10	<30	0.96
				277	VEL-4P32-2LS	0.27				
<b>F25T8, FBO24T8</b>										
4	3'	25	32	120	REL-4P32-2LS	0.74	88	0.90	<25	0.98
				277	VEL-4P32-2LS	0.33				
3	3'	25	32	120	REL-4P32-2LS	0.64	75	1.0	<30	0.97
				277	VEL-4P32-2LS	0.28				
2	3'	25	32	120	REL-4P32-2LS	0.51	58	1.16	<30	0.92
				277	VEL-4P32-2LS	0.28				



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