

**PHILIPS  
ADVANCE**

Electronic Fluorescent

signPRO Ballast



# Maximum performance under all weather conditions

## signPRO Electronic Sign Ballasts for T12/HO and T8/HO Lamps

### Features

- IntelliVolt operation: 120V to 277V, 50/60 Hz
- Energy Efficient – DOE Nov. 14, 2014, compliant<sup>†</sup>
- Instant Start, parallel lamp operation
- Maximum performance under all weather conditions
- UL Listed (Class P, Type 2 Outdoor), CSA Certified, RoHS Compliant<sup>†</sup>, Meets FCC Part 18 For Non-Consumer Equipment
- Maximum Case Temperature (T<sub>c</sub>): 194°F, 90°C

### Benefits

- Simplifies inventory needs – wide range of input voltages possible
- Smart replacement for banned magnetic rapid start sign ballasts – saves energy vs. magnetic<sup>2</sup>
- Designed so that when one lamp fails, other lamps remain lit
- Built tough and fully potted – dependable starting down to -20°F

<sup>†</sup>, 1, 2 See footnote on page 2.

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## Ordering, Electrical and Technical Data (Subject to change without notice)

Number of Lamps	Lamp Footage		Min. Starting Temp. (°F)	Input Volts	Catalog Number	Max. Line Current (Amps) @ 120V	Max. Input Power (Watts) @ 120V	Max. Line Current (Amps) @ 277V	Max. Input Power (Watts) @ 277V	Open Circuit Volts	Dim.	Wiring Diag.	Weight (Kg/LB.)
	Min	Max											
1, 2	2 <sup>a</sup>	16 <sup>a</sup>	-20°F	120 to 277	ISB-0216-12-E	1.14	136	0.49	133	660	BL-1	301, 302	0.66/1.45
1, 2, 3, 4	4 <sup>b</sup>	32 <sup>b</sup>			ISB-0432-14-E	2.26	273	0.97	270	800	BL-2	307, 308, 303, 304	2.00/4.40
1, 2, 3, 4	10 <sup>c</sup>	40 <sup>c</sup>			ISB-1040-14-E	2.88	348	1.24	346	950	BL-2	307, 308, 303, 304	2.20/4.85
4, 5, 6	8 <sup>d</sup>	48 <sup>d</sup>			ISB-0848-46-E	3.40	415	1.46	410	800	BL-2	309, 305, 306	2.20/4.85

a For use with any 1 to 2 lamp T12HO lamps up to 8 feet long, 2 feet to 16 feet total length. For use with any 1 to 2 lamp T8HO lamps up to 6 feet long, 4 feet to 12 feet total length. For use with T12HO / T8HO lamps or any combination of lamps in circuit as long as total length per circuit does not exceed 7 feet for T12HO and 5 feet for T8HO.

b For use with any 1 to 4 lamp T12HO lamps up to 8 feet long, 4 feet to 32 feet total length. For use with any 1 to 4 lamp T8HO lamps up to 6 feet long, 4 feet to 24 feet total length. For use with T12HO / T8HO lamps or any combination of lamps in circuit as long as total length per circuit does not exceed 7 feet for T12HO and 5 feet for T8HO.

c For use with any 1 to 4 lamp T12HO lamps up to 10 feet long, 10 feet to 40 feet total length. For use with any 1 to 4 lamp T8HO lamps up to 8 feet long, 8 feet to 32 feet total length. For use with T12HO / T8HO lamps or any combination of lamps in circuit as long as total length per circuit does not exceed 9 feet for T12HO and 7 feet for T8HO.

d For use with any 4 to 6 lamp T12HO lamps up to 8 feet long, 8 feet to 48 feet total length. For use with any 4 to 6 lamp T8HO lamps up to 6 feet long, 16 feet to 36 feet total length. For use with T12HO / T8HO lamps or any combination of lamps in circuit as long as total length per circuit does not exceed 7 feet for T12HO and 5 feet for T8HO.

Footnote from page 1, 4:

- Effective Nov. 14, 2014, the U.S. Department of Energy will ban the manufacture and importation of certain fluorescent ballasts that do not meet the minimum BLE (ballast luminous efficiency) level as set forth in DOE 10 CFR 430 regulation. For more information, visit the Philips Legislation page (<http://www.usa.lighting.philips.com/lightcommunity/trends/legislation/>).
- Electronic ballast (vs. magnetic ballast) energy savings are realized when comparing the same lamp combinations for a system using an electronic sign ballast and for a system using a magnetic sign ballast.
- Restrictions on Hazardous Substances (RoHS) is a European directive (2002/95/EC) designed to limit the content of 6 substances [lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE)] in electrical and electrical products. For products used in North America, compliance with RoHS is voluntary and self-certified.

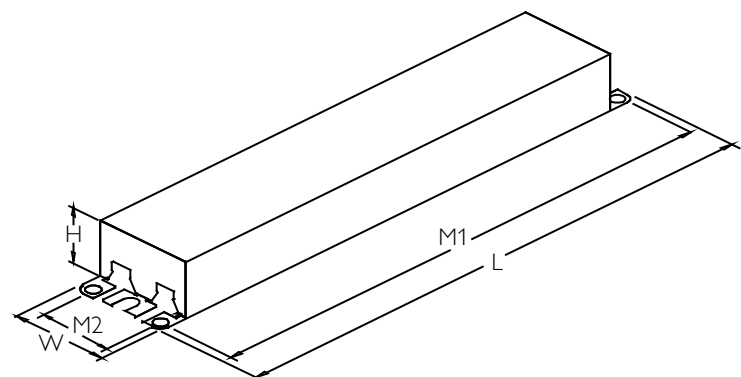
## Ballast Selection Guide

Number of Lamps per Ballast	Total Lamp Feet																			Wiring Diagram				
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38		40	42	44	46
1, 2	ISB-0216-12-E																			301, 302				
1, 2, 3, 4	ISB-0432-14-E																			307, 308, 303, 304				
1, 2, 3, 4	ISB-1040-14-E																			307, 308, 303, 304				
4, 5, 6	ISB-0848-46-E																			309, 305, 306				

## Dimensions

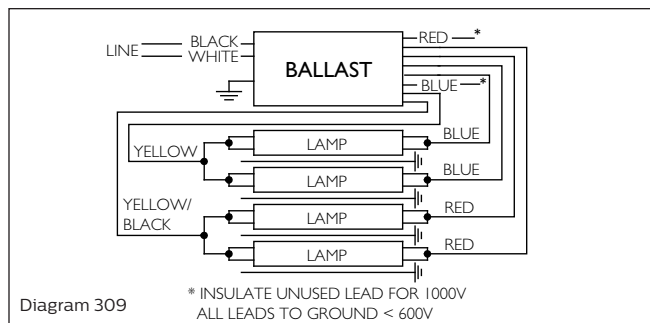
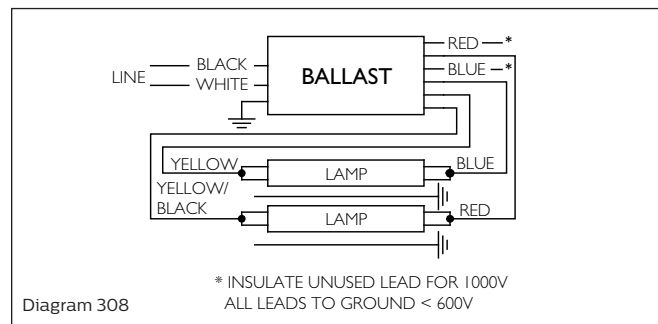
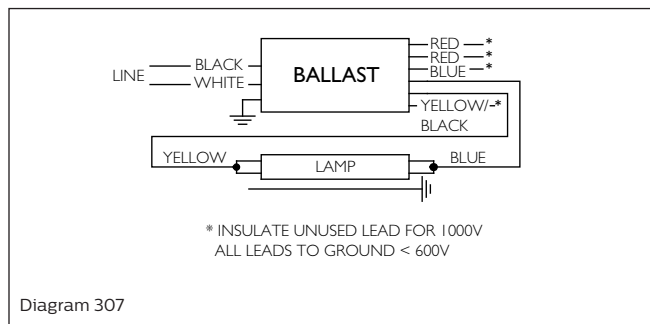
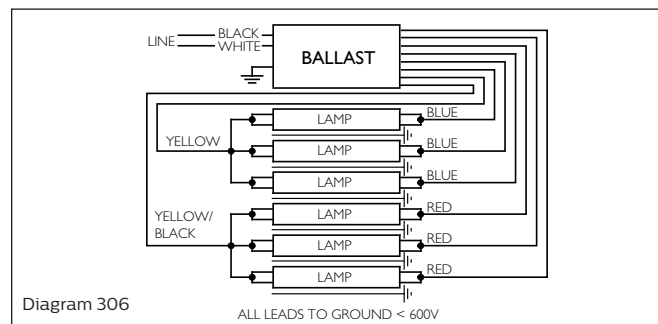
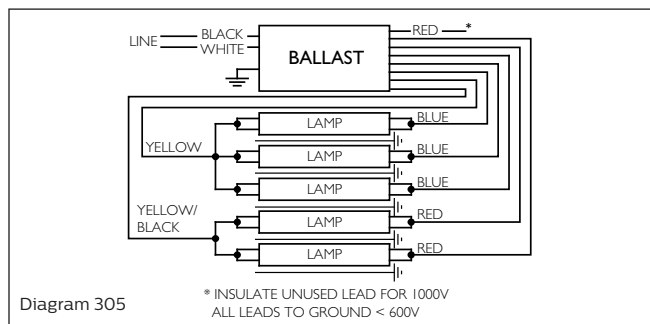
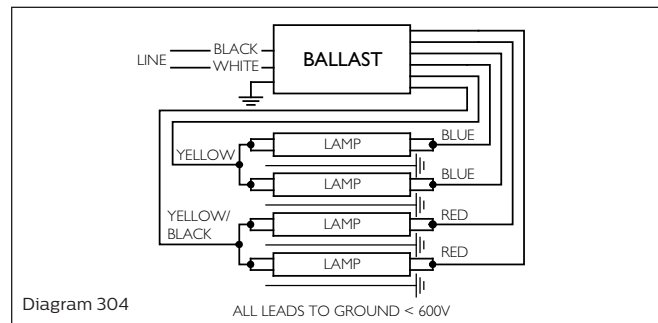
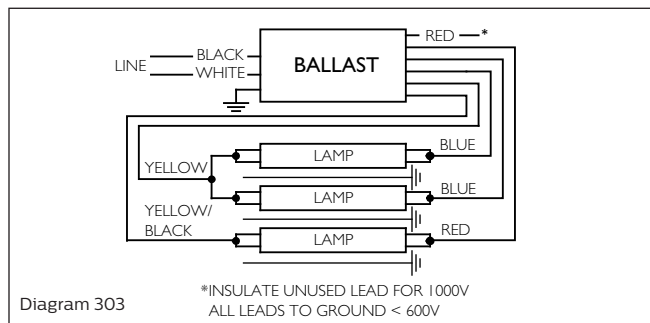
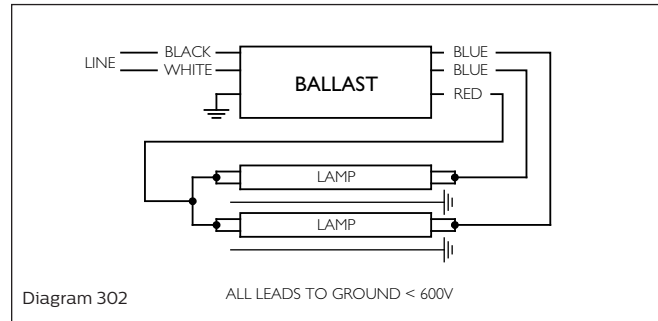
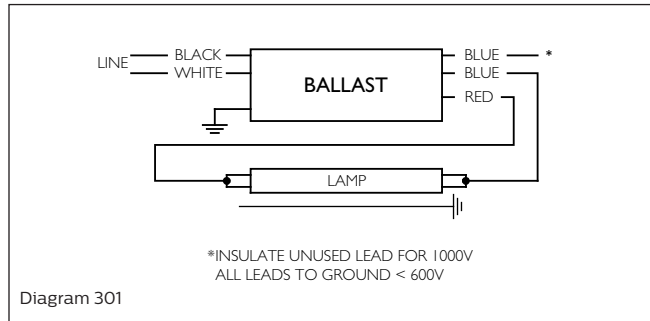
Designation	Dimension (inches)			Mounting (M1)	Mounting (M2)
	Length (L)	Width (W)	Height (H)		
BL-1	9.45	1.69	1.13	9.00	1.22
BL-2	14.31	3.16	1.39	13.75	2.00

Lead Lengths	
Black, White	24"
Red, Blue	120"
Yellow	120"
Yellow/Black	120"



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## Wiring Diagrams



Note: When retrofitting with an instant start system to replace a rapid start system, some modifications to the socket wiring are necessary for optimal performance. This requires the two lamp pins to be shunted as close to the socket as possible. Do this by either installing shunted sockets or installing a jumper wire to tie the two lamp pins together in each socket. Failure to shunt the pins together will cause the lamps to fail prematurely.

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## Philips Advance Ballast Specifications

### Section I - Physical Characteristics

- 1.0 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable per NEC.
- 1.2 Ballast shall be provided with integral leads color-coded per ANSI C82.11.

### Section II - Performance Requirements

- 2.0 Ballast shall be Instant Start.
- 2.2 Ballast shall provide Independent Lamp Operation (ILO) for Instant Start ballasts allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.4 Ballast shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
- 2.5 Ballast shall be high frequency electronic type and operate lamps at a frequency above 42 kHz to avoid interference with infrared devices and eliminate visible flicker.
- 2.6 Ballast shall have a Power Factor greater than 0.98 for primary lamp.
- 2.7 Ballast shall have a minimum ballast factor for primary lamp application as follows: 0.6 for T12HO, 0.8 for T8HO.
- 2.8 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.
- 2.9 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage with primary lamp.
- 2.10 Ballast shall have a Class A sound rating.
- 2.11 Ballast shall have a minimum starting temperature of -29°C (-20°F) for HO lamps, for primary lamp application.

- 2.12 Ballast shall tolerate sustained open circuit and short circuit output conditions.

### Section III - Regulatory Requirements

- 3.0 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type 2 Outdoor; and Canadian Standards Association (CSA) certified where applicable.
- 3.3 Ballast shall comply with ANSI C62.41 Category A for Transient protection.
- 3.4 Ballast shall comply with ANSI C82.11 where applicable.
- 3.5 Ballast shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, for Non-Consumer equipment.
- 3.6 Ballast shall comply with NEMA 410 for in-rush current limits.
- 3.7 Ballast shall meet RoHS Compliance Standards<sup>†</sup>.
- 3.8 Ballast shall comply with requirements for ballast luminous efficiency (B.L.E.) per DOE November 14, 2014, rulemaking.<sup>1</sup>

### Section IV - Other

- 4.0 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
- 4.2 Ballast shall carry a three-year limited warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 90°C. See warranty for complete details and restrictions (<http://www.usa.lighting.philips.com/connect/advance/warranty.wpd>).
- 4.3 Manufacturer shall have a 20-year history of producing electronic ballasts for the North American market.

<sup>†</sup>, 1 See footnotes on page 2.

