

Maximum dimming versatility

MARK 7 0-10V DIMMABLE BALLASTS FOR T8 LAMPS



Philips Advance Mark 7 0-10V Dimmable Ballasts provide maximum versatility with low voltage dimming. The Mark 7 0-10V series of dimmable electronic ballasts offers maximum versatility by incorporating separate control leads for use with a wide array of controllers, including occupancy sensors, daylight harvesting controls and building management systems from more than 40 manufacturers.

Features

- Parallel lamp operation on IntelliVolt models
- Full range continuous dimming (100% light output down to 3%)
- IntelliVolt technology (120 - 277V, 50/60Hz)

Benefits

- Compatible with controls from numerous manufacturers using standard 0-10VDC controls
- Ideal for frequent switching applications such as occupancy sensors and daylight harvesting – Programmed start operation

Applications

- Ideal for conference rooms, auditoriums, educational facilities, hotels, restaurants and department stores, as well as other new construction or retrofit installations where dimming is desired.

(y, z See page 2 for footnote)

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Mark 7 0-10V Ballasts For 17 - 32W T8 lamps

Programmed Start

No. of Lamps	Input Volts	Catalog Number	Max/Min		Full Light Output		Minimum Starting Temp (°F/°C)	Dim.	Wiring Diagram
			Input Power ANSI (Watts)	Ballast Factor	THD %	Line Current (Amps)			
F17T8, FBO16T8 (17W)									
1	120-277	IZT-132-SC	17/6	1.00/0.03	10	0.16-0.07	50/10	B	55A
2	120-277	IZT-2PSP-32SC	35/10	1.00/0.03	10	0.30-0.13	50/10	B	56A
2	347	GZT-2S32-SC	32/14	0.90/0.05	10	0.10	50/10	B	56A
3	120-277	IZT-3PSP32-SC	52/17	1.00/0.03	10	0.46-0.20	50/10	B	57D
3	347	GZT-3S32-SC	48/19	0.90/0.05	10	0.14	50/10	B	57C
F25T8, FBO24T8 (25W)									
1	120-277	IZT-132-SC	24/6	1.00/0.03	10	0.24-0.11	50/10	B	55A
2	120-277	IZT-2PSP-32SC	51/10	1.00/0.03	10	0.43-0.19	50/10	B	56A
2	347	GZT-2S32-SC	47/14	0.90/0.05	10	0.14	50/10	B	56A
3	120-277	IZT-3PSP32-SC	73/16	1.00/0.03	10	0.65-0.28	50/10	B	57D
3	347	GZT-3S32-SC	68/18	0.90/0.05	10	0.20	50/10	B	57C
4	120-277	IZT-4S32	96/22	0.88/0.05	10	0.77-0.35	50/10	D	16A
F32T8/ES (28W - 48")									
1	120-277	IZT-132-SC	28/6	1.00/0.03	10	0.23-0.10	60/16	B	55A
2	120-277	IZT-2PSP32-SC	56/11	1.00/0.03	10	0.47-0.20	60/16	B	56A
3	120-277	IZT-3PSP32-SC	84/17	1.00/0.03	10	0.71-0.30	60/16	B	57D
4	120-277	IZT-4PSP32-G	94/23	0.88/0.03	10	0.78-0.34	60/16	G	174A
F32T8, FBO31T8, F32T8/U6 (32W)									
1	120-277	IZT-132-SC	33/7	1.00/0.03	10	0.30-0.13	50/10	B	55A
2	120-277	IZT-2PSP-32SC	66/11	1.00/0.03	10	0.30-0.13	50/10	B	56A
2	347	GZT-2S32-SC	61/15	0.90/0.05	10	0.18	50/10	B	56A
3	120-277	IZT-3PSP32-SC	96/16	1.00/0.03	10	0.86-0.37	50/10	B	57D
3	347	GZT-3S32-SC	90/19	0.90/0.05	10	0.27	50/10	B	57C
4	120-277	IZT-4PSP32-G	114/24	0.88/0.05	10	0.95-0.40	50/10	G	174A
4	120-277	IZT-4S32	116/25	0.88/0.05	10	0.98-0.42	50/10	D	16A
4	277	VZT-4S32-HL	149/27	1.18/0.05	10	0.54	50/10	G	16A

Ballasts utilizing poke-in connectors can accept wire gauges from AWG 16 - 20.

Some lamp manufacturers recommend burning in new lamps 100 hours at full light output prior to dimming. Consult lamp manufacturer.

¥ As a licensee in the NEMA Premium Ballast Program, Philips Lighting Electronics N.A. has determined that these products meet the NEMA Premium specification for premium energy efficiency.

‡ 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 electronic products. For products used in North America compliance to RoHS is voluntary and self-certified.

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Dimensions

Figure	A	B	C	D
B	1.18"	1.70"	8.90"	9.50"
D	1.00"	1.18"	16.34"	16.70"
G	1.18"	1.70"	16.34"	16.70"

Figure B

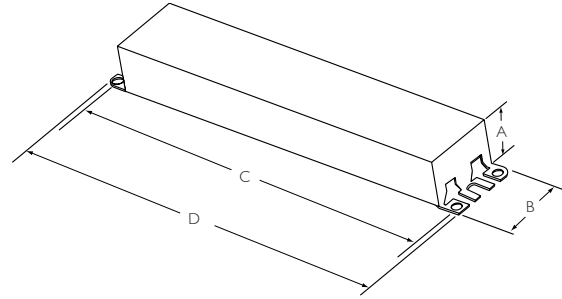


Figure D - Includes connectors with no leads

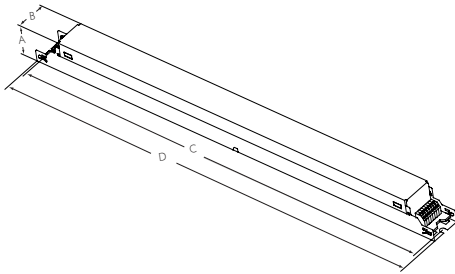
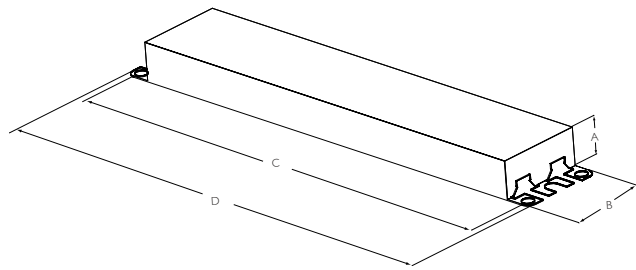


Figure G



Wiring Diagrams

Diagram 55A

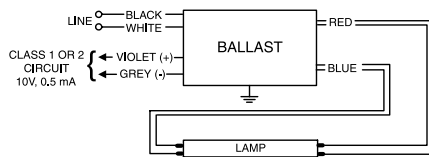


Diagram 56A

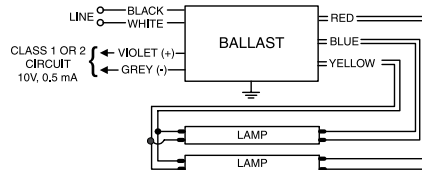


Diagram 57C

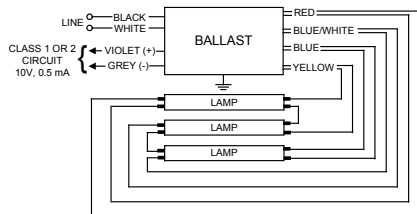


Diagram 57D

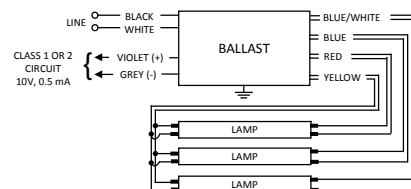


Diagram 174A

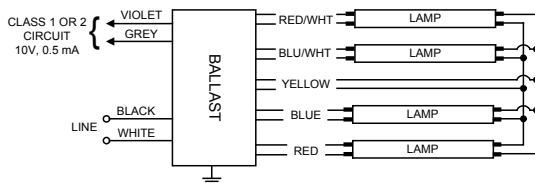
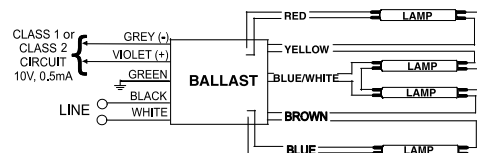


Diagram 16A



MARK 7 0-10V DIMMABLE BALLASTS FOR T8 LAMPS

Ballast Specification

Section I - Physical Characteristics

- 1.1 Ballast shall be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
- 1.2 Ballast shall be available in a plastic/metal can or all metal can construction to meet all plenum requirements.
- 1.3 Ballast shall be provided with poke-in wire trap connectors or integral leads color coded per ANSI C82.11.

Section II - Performance Requirements

- 2.1 Ballast shall be Programmed Start.
- 2.2 Ballasts designated with PSP shall provide Independent Lamp Operation (ILO) allowing remaining lamp(s) to maintain full light output when one or more lamps fail.
- 2.3 Ballast shall be provided with integral protection circuitry to withstand connection of low voltage control leads to mains power supply. In this event, ballast shall default to maximum light output.
- 2.4 Ballast shall contain auto restart circuitry in order to restart lamps without resetting power.
- 2.5 Ballast shall operate from 50/60 Hz input source of 120V or 277V or 347V with sustained variations of +/- 10% (voltage and frequency). IntelliVolt models shall operate from 50/60 Hz input source of 120V through 277V with sustained variations of +/- 10% (voltage and frequency).
- 2.6 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.
- 2.7 Ballast shall have a Power Factor greater than 0.98 at full light output and greater than 0.90 throughout the dimming range for primary lamp.
- 2.8 Ballast shall have a minimum ballast factor of 1.00 (120V and 277V 1-3 lamp models) or 0.88 (120V and 277V 4 lamp models and 347V 2-3 lamp models) or 1.18 (277V 4 lamp HL models) at maximum light output and 0.03 at minimum light output for primary lamp.
- 2.9 Ballast shall provide for a Lamp Current Crest Factor of 1.7 or less.
- 2.10 Ballast input current shall have Total Harmonic Distortion (THD) of less than 10% when operated at nominal line voltage and 100% power.
- 2.11 Ballast shall have a Class A sound rating.
- 2.12 Ballast shall have a minimum starting temperature of 10C (50F) for primary lamp.
- 2.13 Ballast shall provide Lamp EOL Protection Circuit for all T5, T5/HO and CFL lamps.
- 2.14 Ballast shall control lamp light output from 100% - 3% relative light output for series operation T8 and CFL lamps, 100% - 5% relative light output for parallel operation T8 and 100% - 1% relative light output for T5/HO lamps.

- 2.15 Ballast shall ignite the lamps at any light output setting without first going to another output setting.
- 2.16 Ballast shall tolerate sustained open circuit and short circuit output conditions.

Section III - Regulatory Requirements

- 3.1 Ballast shall not contain any Polychlorinated Biphenyl (PCB).
- 3.2 Ballast shall be Underwriters Laboratories (UL) listed, Class P and Type I 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 the requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
- 3.6 Ballast shall comply with NEMA 410 for in-rush current limits.

Section IV - Other

- 4.1 Ballast shall be manufactured in a factory certified to ISO 9001 Quality System Standards.
- 4.2 Ballast shall carry a five-year limited warranty from date of manufacture against defects in material or workmanship for operation at a maximum case temperature of 70C.
- 4.3 Manufacturer shall have a twenty-year history of producing electronic ballasts for the North American market.
- 4.4 Ballast shall be controlled by a Class 1 or Class 2 low voltage 0-10VDC controller.
- 4.5 Ballast shall be Philips Advance part # _____ or approved equal.



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