ADVANCE
by signify

Ballasts

Mark 7 0-10V

DIMMABLE

NEMA Premium¥ RoHS‡ COMPLIANT UL® Listed 704G

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.

(¥, ‡ 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

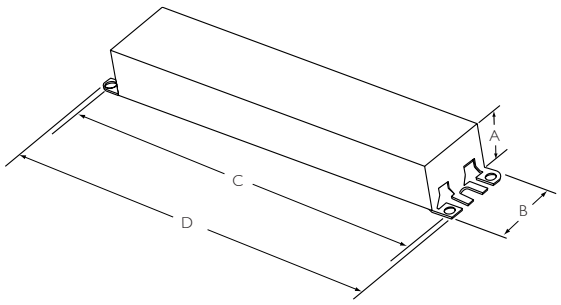


Figure D - Includes connectors with no leads

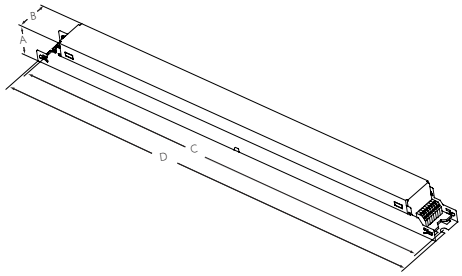
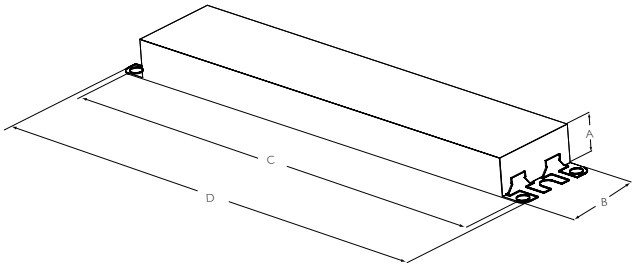


Figure G



Wiring Diagrams

Diagram 55A

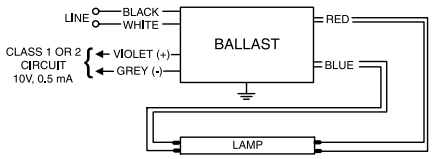


Diagram 56A

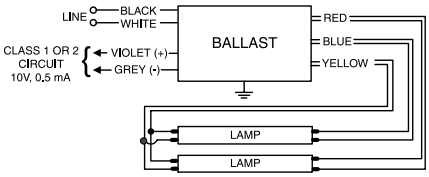


Diagram 57C

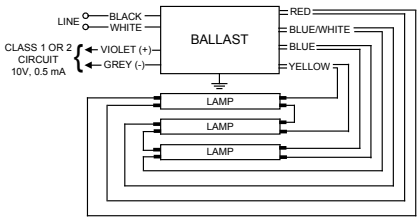


Diagram 57D

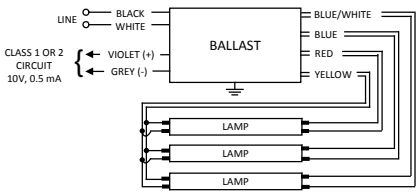


Diagram 174A

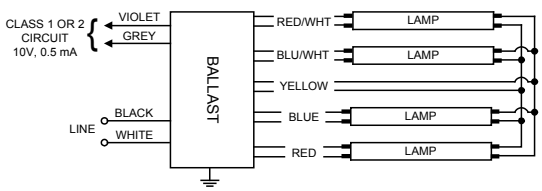
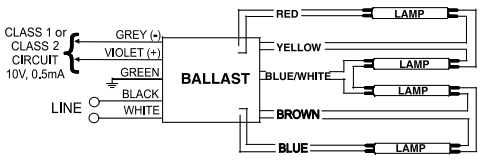


Diagram 16A



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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 1 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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