

Standard Power 1-Lamp-T8

PRECISION POWER

MULTI-VOLTAGE - INSTANT START

FEB 2001

EP1/32IS/120-277

One Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.14	0.19	0.20	0.21	0.24	0.25
Input Watts (ANSI)	17	23	24	25	29	30
Power Factor	>0.97	>0.98	>0.98	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<11%	<9%	<9%	<12%	<8%	<7%
Ballast Factor	91%	90%	90%	90%	87%	87%
Ballast Efficacy Factor	5.35	3.91	3.75	3.60	3.00	3.00
System Lumens Per Watt	76	78	79	84	83	90
Initial System Lumens (1)	1300	1800	1900	2100	2400	2600

One Lamp Operation, 277 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.06	0.08	0.09	0.09	0.10	0.11
Input Watts (ANSI)	17	23	24	25	29	30
Power Factor	>0.97	>0.98	>0.98	>0.98	>0.99	>0.99
Total Harmonic Distortion Rating	<13%	<11%	<11%	<11%	<9%	<8%
Ballast Factor	91%	90%	90%	90%	87%	87%
Ballast Efficacy Factor	5.35	3.91	3.75	3.60	3.00	3.00
System Lumens Per Watt	76	78	79	84	83	90
Initial System Lumens (1)	1300	1800	1900	2100	2400	2600

(1) Based on premium 4', T8 lamp initial lumen ratings, produced by the GE, OSRAM/SYLVANIA, or PHILIPS lamp divisions. Shaded area indicates primary lamp design. Actual Initial Lumens produced will be determined by the specific lamp manufacturer and the rated initial lumens for the lamp selected.

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Standard Power 2-Lamp-T8

PRECISION POWER

MULTI-VOLTAGE - INSTANT START

EP2/32IS/120-277

Two Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.28	0.38	0.39	0.40	0.48	0.49
Input Watts (ANSI)	33	45	46	48	57	58
Power Factor	>0.97	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<10%	<7%	<7%	<8%	<6%	<6%
Ballast Factor	91%	90%	90%	89%	87%	87%
Ballast Efficacy Factor	2.76	2.00	1.96	1.85	1.53	1.50
System Lumens Per Watt	76	80	83	85	86	90
Initial System Lumens (1)	2500	3600	3800	4100	4900	5200

One Lamp Operation, 120 V

Lamp Type	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	36	48	22.5	48	60
Lamp Watts	25	25	31	32	40
Line Current (Amps)	0.25	0.26	0.29	0.30	0.36
Input Watts (ANSI)	29	31	35	36	42
Power Factor	>0.97	>0.98	>0.98	>0.98	>0.99
Total Harmonic Distortion Rating	<10%	<11%	<9%	<9%	<8%
Ballast Factor	105%	103%	103%	103%	100%
Ballast Efficacy Factor	3.62	3.32	2.94	2.86	2.38
System Lumens Per Watt	76	77	83	86	88
Initial System Lumens (1)	2200	2400	2900	3100	3700

EP2/32IS/120-277

Two Lamp Operation, 277 V

(1) Based on premium 4', T8 lamp initial lumen ratings, produced by the GE, OSRAM/SYLVANIA, or PHILIPS lamp divisions. Shaded area indicates primary lamp design. Actual Initial Lumens produced will be determined by the specific lamp manufacturer and the rated initial lumens for the lamp selected.

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.12	0.16	0.17	0.18	0.20	0.21
Input Watts (ANSI)	33	45	46	47	57	58
Power Factor	>0.97	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<12%	<9%	<9%	<12%	<8%	<8%
Ballast Factor	91%	90%	90%	89%	87%	87%
Ballast Efficacy Factor	2.76	2.00	1.96	1.89	1.53	1.53
System Lumens Per Watt	76	80	83	87	86	91
Initial System Lumens (1)	2500	3600	3800	4100	4900	5200

One Lamp Operation, 277 V

Lamp Type	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	36	48	22.5	48	60
Lamp Watts	25	25	31	32	40
Line Current (Amps)	0.11	0.12	0.13	0.14	0.15
Input Watts (ANSI)	29	32	35	37	42
Power Factor	>0.97	>0.98	>0.98	>0.98	>0.99
Total Harmonic Distortion Rating	<13%	<14%	<11%	<11%	<10%
Ballast Factor	105%	103%	103%	103%	100%
Ballast Efficacy Factor	3.62	3.22	2.94	2.78	2.38
System Lumens Per Watt	76	75	83	84	88
Initial System Lumens (1)	2200	2400	2900	3100	3700

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Standard Power 3-Lamp-T8

PRECISION POWER

MULTI-VOLTAGE - INSTANT START

EP3/32IS/120-277

Three Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.40	0.56	0.57	0.58	0.71	0.72
Input Watts (ANSI)	48	67	68	69	84	86
Power Factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<8%	<7%	<7%	<8%	<6%	<6%
Ballast Factor	92%	91%	91%	89%	88%	87%
Ballast Efficacy Factor	1.92	1.36	1.34	1.29	1.05	1.01
System Lumens Per Watt	81	82	84	88	88	91
Initial System Lumens (1)	3900	5500	5700	6100	7400	7800

Two Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48	60
Lamp Watts	17	24	25	25	31	32	40
Line Current (Amps)	0.32	0.44	0.45	0.46	0.54	0.56	0.66
Input Watts (ANSI)	38	52	53	55	65	66	78
Power Factor	>0.97	>0.98	>0.98	>0.98	>0.98	>0.98	>0.99
Total Harmonic Distortion Rating	<9%	<8%	<8%	<10%	<7%	<7%	<6%
Ballast Factor	105%	101%	100%	99%	99%	99%	98%
Ballast Efficacy Factor	2.76	1.94	1.89	1.80	1.52	1.50	1.26
System Lumens Per Watt	76	77	79	84	85	89	94
Initial System Lumens (1)	2900	4000	4200	4600	5500	5900	7300

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Three Lamp Operation, 277 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.17	0.24	0.25	0.26	0.30	0.31
Input Watts (ANSI)	48	67	67	67	84	84
Power Factor	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<13%	<10%	<10%	<13%	<7%	<7%
Ballast Factor	92%	91%	91%	89%	88%	87%
Ballast Efficacy Factor	1.92	1.36	1.36	1.33	1.05	1.04
System Lumens Per Watt	81	82	85	91	88	93
Initial System Lumens (1)	3900	5500	5700	6100	7400	7800

Two Lamp Operation, 277 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48	60
Lamp Watts	17	24	25	25	31	32	40
Line Current (Amps)	0.14	0.18	0.19	0.20	0.23	0.24	0.28
Input Watts (ANSI)	38	52	53	55	63	65	78
Power Factor	>0.97	>0.98	>0.98	>0.98	>0.98	>0.98	>0.99
Total Harmonic Distortion Rating	<18%	<13%	<13%	<15%	<10%	<10%	<8%
Ballast Factor	105%	101%	100%	99%	99%	99%	98%
Ballast Efficacy Factor	2.76	1.94	1.89	1.80	1.57	1.52	1.26
System Lumens Per Watt	76	77	79	84	87	91	94
Initial System Lumens (1)	2900	4000	4200	4600	5500	5900	7300

(1) Based on premium 4", T8 lamp initial lumen ratings, produced by the GE, OSRAM/SYLVANIA, or PHILIPS lamp divisions. Shaded area indicates primary lamp design. Actual Initial Lumens produced will be determined by the specific lamp manufacturer and the rated initial lumens for the lamp selected.

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Standard Power 4-Lamp-T8

PRECISION POWER

MULTI-VOLTAGE - INSTANT START

EP4/32IS/120-277

Four Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.52	0.72	0.73	0.78	0.94	0.95
Input Watts (ANSI)	62	85	88	92	112	113
Power Factor	>0.98	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<8%	<6%	<6%	<9%	<5%	<5%
Ballast Factor	92%	91%	91%	89%	87%	87%
Ballast Efficacy Factor	1.48	1.07	1.03	0.97	0.78	0.77
System Lumens Per Watt	84	86	86	89	87	92
Initial System Lumens (1)	5200	7300	7600	8200	9700	10400

Three Lamp Operation, 120 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48	60
Lamp Watts	17	24	25	25	31	32	40
Line Current (Amps)	0.47	0.60	0.61	0.64	0.76	0.77	0.93
Input Watts (ANSI)	56	73	74	77	91	92	112
Power Factor	>0.98	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<9%	<8%	<8%	<9%	<7%	<7%	<6%
Ballast Factor	99%	97%	97%	94%	96%	96%	94%
Ballast Efficacy Factor	1.77	1.33	1.31	1.22	1.05	1.04	0.84
System Lumens Per Watt	75	79	82	84	89	93	93
Initial System Lumens (1)	4200	5800	6100	6500	8100	8600	10400

EP4/32IS/120-277

Four Lamp Operation, 277 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48
Lamp Watts	17	24	25	25	31	32
Line Current (Amps)	0.23	0.31	0.32	0.33	0.39	0.41
Input Watts (ANSI)	62	85	87	91	112	113
Power Factor	>0.98	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<12%	<10%	<10%	<10%	<8%	<8%
Ballast Factor	92%	91%	91%	89%	87%	87%
Ballast Efficacy Factor	1.48	1.07	1.05	0.98	0.78	0.79
System Lumens Per Watt	84	86	87	90	87	95
Initial System Lumens (1)	5200	7300	7600	8200	9700	10400

Three Lamp Operation, 277 V

Lamp Type	F17T8	FB24T8	F25T8	F25T12	FB31T8	F32T8	F40T8
Lamp Length (Inches)	24	16.5	36	48	22.5	48	60
Lamp Watts	17	24	25	25	31	32	40
Line Current (Amps)	0.20	0.26	0.27	0.28	0.32	0.33	0.40
Input Watts (ANSI)	56	71	74	77	89	92	112
Power Factor	>0.98	>0.99	>0.99	>0.99	>0.99	>0.99	>0.99
Total Harmonic Distortion Rating	<14%	<11%	<11%	<10%	<9%	<9%	<8%
Ballast Factor	99%	97%	97%	94%	96%	96%	94%
Ballast Efficacy Factor	1.77	1.37	1.31	1.22	1.08	1.04	0.84
System Lumens Per Watt	75	82	82	84	91	93	93
Initial System Lumens (1)	4200	5800	6100	6500	8100	8600	10400

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Standard Power T8

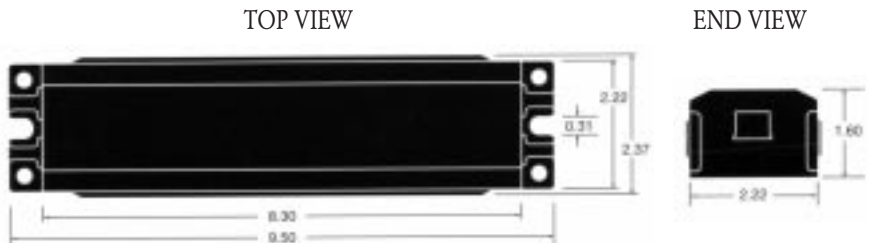
PRECISION POWER

MULTI-VOLTAGE INSTANT START

SPECIFICATIONS

- Transient Protection:** Ballast shall withstand line transients and surges as specified in ANSI C62.41-1991. Ballast will withstand 6,000 volt Ring Wave standard for location category B3 and 2,000 volt Combination Wave standard for location category B1.
- Current Crest Factor:** Ballast shall have a Lamp Current Crest Factor of <1.7.
- EMI and RFI Limits:** Ballast shall comply with the limits of the code of federal regulations, Title 47, Part 18C for Non-Consumer equipment.
- UL, Canadian UL, CSA:** Ballast shall be UL, Canadian UL and CSA Certified, Type HL, Class P, Type 1, outdoor.
- Operating Frequency:** Ballast shall have a frequency of 20-27kHz.
- Starting Temperature:** Ballast shall have a 0°F minimum starting temperature.
- Made in U.S.A.:** Ballast shall be manufactured in the U.S.A. by Howard Industries, Inc.
- Lumen Output:** Ballast shall have less than 1% regulation of lumen output over the extended nominal input voltage range.
- Potting:** Ballast shall contain potting compound for proper dissipation of heat, mechanical stability, and moisture protection.
- Lamp Lead Orientation:** Ballast shall have lamp leads exiting both ends of housing.
- Circuit Configuration:** Ballast shall be Instant Start with Parallel circuit configuration to provide continued operation of remaining lamps after one lamp has failed.
- Sound Rating:** Ballast shall be sound rated Class A+.
- Power Factor:** Ballast shall have minimum Power Factor of 98% on primary lamp configuration.
- Remote Mounting:** Ballast shall operate at a maximum of 20 feet at 0°C.
- Voltage Range:** Ballast shall operate within an input voltage range of +/- 10%.
- 50 to 60Hz Operation:** Ballast shall be designed to operate over the extended frequency range of 50 to 60Hz input on the rated input voltage.
- Inrush Current:** Ballast shall have an inrush current not greater than 30 times operating current.
- Warranty:** Ballast shall have a five-year warranty.

BALLAST DIMENSIONS



UL, Canadian UL and
CSA Certified

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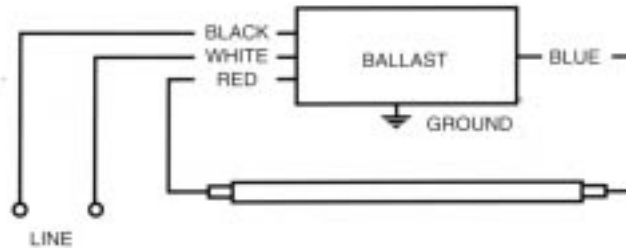
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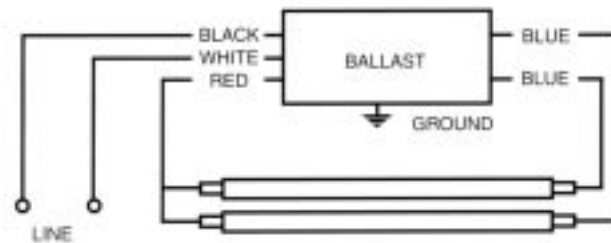
PRECISION POWER

MULTI-VOLTAGE INSTANT START

1 Lamp Wiring Diagram

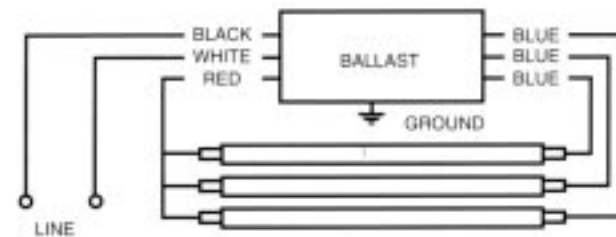


2 Lamp Wiring Diagram



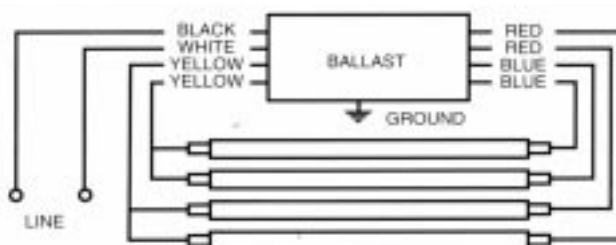
For 1-lamp operation cap one blue lead.

3 Lamp Wiring Diagram



For 2-lamp operation cap one blue lead.

4 Lamp Wiring Diagram



For 3-lamp operation cap one blue lead.

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