Fluorescent Ballast Technical Guide

Electronic

Magnetic

next generation

Technology

Leading edge technology since 1939

RADIONIC

INDUSTRIES, INC.

Index

Legend

CERTIFICATION

UL Most ballasts are Underwriters' Laboratories, Inc. listed or component recognized

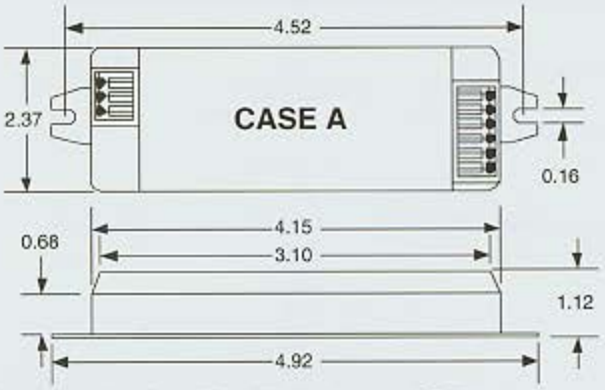
CBM Designates the ballast is certified by Electrical Testing Laboratories (ETL) for compliance with Certified Ballast Manufacturers (CBM) specifications

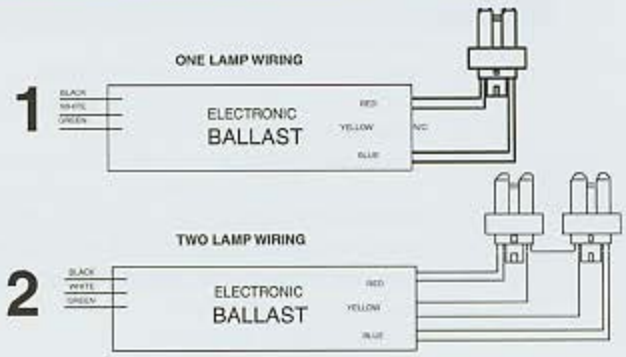
CSA Designates the ballast meets Canadian Standards Association (CSA) requirements and may be used in Canada

Prefix	
A	canned type unit
AS	self start
B	canned type unit
C	open coil
CU	enclosed coil
D	canned type
DT	undercabinet
E	electronic
ES	energy saving
IS	instant start
LS	slimline
NPS	instant start
OT	octron
P	pencil or finger style
PT	plug thru
RT	rapid or trigger start
S	open type
WP	wall plug

Suffix	
LA	low ambient
LH	low heat
N	no mounting feet
S	special
ST	external starter
TP	thermal protector
WC	with connector

Many of the ballasts in this catalog, but not all, are stock items.
Consult with your Radionic salesman to determine availability.
Data contained in this catalog is subject to change or correction without notice.





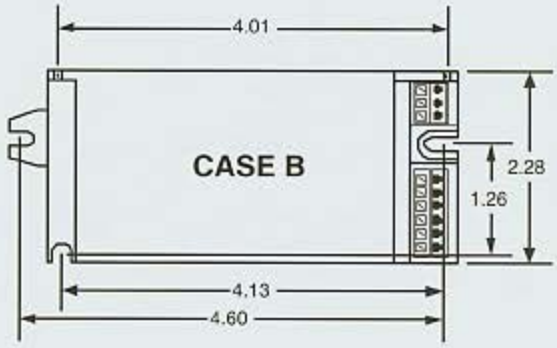
Electronic Ballasts - CFL

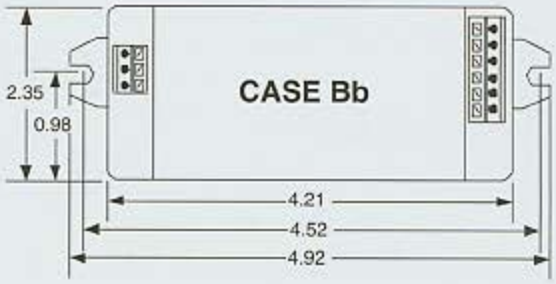
High Power Factor

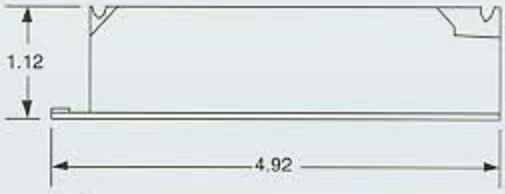
Universal Voltage

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - CFQ13W 1 - CFM10W 1 - CFM13W 1 - FT9W PL-S 1 - FT11W PL-S 2 - CFQ13W 2 - CFM10W 2 - CFM13W 2 - FT9W PL-S 2 - FT11W PL-S	13 10 13 9 11 26 20 26 18 22	120-277	**RCFD-UML-13**	.28max	UL CSA CE CLASS A CLASS P	3 A	1,2	<1.7	<12%	.40	144
1 - CFQ18 1 - CFM18W 2 - CFQ18 2 - CFM18W	18 18 36 36	120-277	**RCFD-UML-18**	.35max	UL CSA CE CLASS A CLASS P	3 A	1, 2	<1.7	<12%	.40	126
1 - CFM18W 1 - CFM26W 1 - FT18W PL-L 1 - FT24W PL-L 2 - CFM18W 2 - CFM26W 2 - FT18W PL-L 2 - FT24W PL-L	18 26 18 24 36 52 36 48	120-277	**RCFD-UML-26**	.52max	UL CSA CE CLASS A CLASS P	3 A	1, 2	<1.7	<12%	.40	147
1 - CFT5W PL-S 1 - CFT7W PL-S 1 - CFT9W PL-S 1 - CFT11W PL-S 1 - CFQ13W 1 - CFQ10W 1 - CFS16W 2D 2 - CFT5W PL-S 2 - CFT7W PL-S 2 - CFT9W PL-S 2 - CFT11W PL-S 2 - CFQ13W 2 - CFS16W 2D 2 - CFQ10W	5 7 9 11 13 10 16 10 14 18 22 26 32 20	120-277	**RPL2D13RD**	.28max	UL CSA CE CLASS A CLASS P	4 B	1, 2	<1.7	<12%	.35	135

Temperature must not exceed 75 degrees C on the ballast







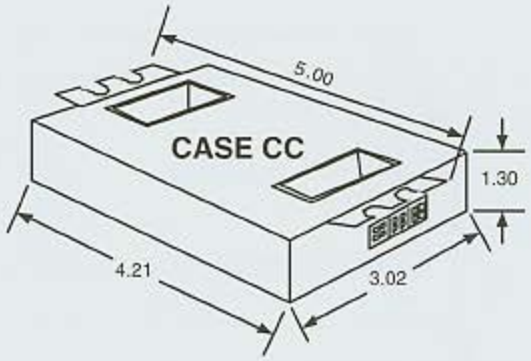
Electronic Ballasts - CFL

High Power Factor
Universal Voltage

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - CFQ18W 1 - CFS21W 2D 1 - CFM18W 2 - CFQ18W 2 - CFS21W 2D 2 - CFM18W	18 21 18 36 42 36	120-277	**RPL2D18RD**	.35max	UL CSA CE CLASS A CLASS P	4 B	1, 2	<1.7	<12%	.35	135
1 - CFQ26W 1 - CFM26W 1 - FT18W 1 - FT24W 2 - CFQ26W 2 - CFM26W 2 - FT18W 2 - FT24W	26 26 18 24 52 52 36 48	120-277	**RPL2D26RD**	.52max	UL CSA CE CLASS A CLASS P	4 B	1, 2	<1.7	<12%	.35	135
1 - CFQ13W 1 - CFM13W 1 - CFT9W 1 - CFQ10W 2 - CFQ13W 2 - CFM13W 2 - CFT9W 2 - CFQ10W	13 13 9 10 26 26 18 20	120-277	**RCFD-UML-13BL**	.28max	UL CSA CE CLASS A CLASS P	4 Bb	1, 2	<1.7	<12%	.40	147
1 - CFQ18W 1 - CFM18W 2 - CFQ18W 2 - CFM18W	18 18 36 36	120-277	**RCFD-UML-18BL**	.35max	UL CSA CE CLASS A CLASS P	4 Bb	1, 2	<1.7	<12%	.40	147
1 - CFQ26W 1 - CFM26W 1 - FT18W 1 - FT24W 2 - CFQ26W 2 - CFM26W 2 - FT18W 2 - FT24W	26 26 18 24 52 52 36 48	120-277	**RCFD-UML-26BL**	.52max	UL CSA CE CLASS A CLASS P	4 Bb	1, 2	<1.7	<12%	.40	147

BL = Bottom leads

Temperature must not exceed 75 degrees C on the ballast



Electronic Ballasts - CFL

High Power Factor

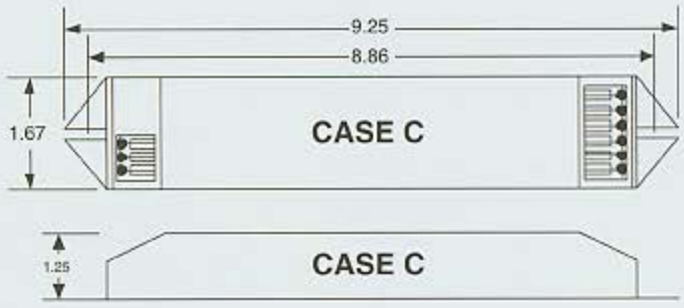
Bottom and Side Leads

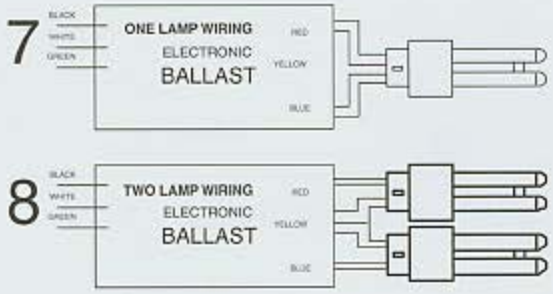
Universal Voltage

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - CFM26W 1 - CFM32W 1 - CFM42W 2 - CFM26W 2 - CFM32W 2 - CFM42W	26 32 42 52 64 84	120-277	**RCFD-UML-2642BL**	.75max	UL, CSA, CE CLASS A CLASS P	5 CC	9	<1.7	<12%	.35	147
1 - CFM26W 1 - CFM32W 1 - CFM42W 2 - CFM26W 2 - CFM32W 2 - CFM42W	26 32 42 52 64 84	120-277	**RCFD-UML-2642**	.75max	UL, CSA, CE CLASS A CLASS P	5 CC	9	<1.7	<12%	.35	147
1 - CFM26W 1 - CFM32W 1 - CFM42W 2 - CFM26W 2 -CFM32W 2 - CFM42W	26 32 42 52 64 84	120-277	**RPL226-42M**	.75max	UL CSA CE CLASS A CLASS P	5 CC	9	<1.7	<12%	.46	83
SINGLE LAMP BALLASTS											
1 - CFM42W 1 - CFM32W 1 - FT36W 1 - FT40W	42 32 36 40	120-277	**RCFD-USL-42**	.4max	UL CSA CE CLASS A CLASS P	3 A	1	<1.7	<12%	.40	147
1 - CFM42W 1 - CFM32W 1 - FT36W 1 - FT40W	42 32 36 40	120-277	**RCFD-USL-42BL**	.4max	UL CSA CE CLASS A CLASS P	4 Bb	1	<1.7	<12%	.40	147
1 - CFQ26W 1 - CFM26W 1 - CFM32W 1 - CFM42W 1 - FT36W 1 - FT40W	26 26 32 42 36 40	120-277	**RPL26-42R-M**	.4max	UL CSA CE CLASS A CLASS P	4 B	1	<1.7	<12%	.35	135
1 - CFM13W	13	120-277	**RPL13R-D**	0.15max	UL, CSA, CE CLASS A CLASS P	4 B	1	<1.7	<12%	.35	135
1 - CFM18W	18	120-277	**RPL18R-D**	0.18max	UL, CSA, CE CLASS A CLASS P	4 B	1	<1.7	<12%	.35	135

BL = Bottom leads

Temperature must not exceed 75 degrees C on the ballast



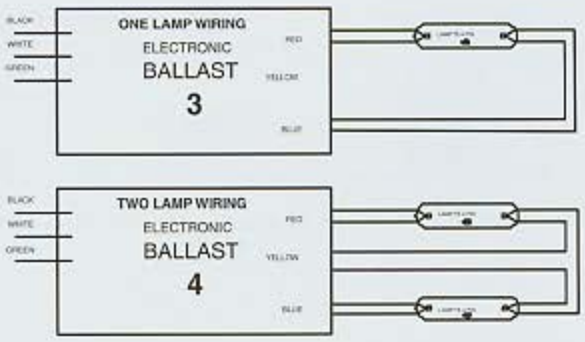


Electronic Ballasts - Long Twin Tube

High Power Factor
Universal Voltage

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - FT18W PL-L 1 - FT24W PL-L 1 - FT36W PL-L 2 - FT18W PL-L 2 - FT24W PL-L 2 - FT36W PL-L	18 24 36 36 38 72	120-277	**RFL2T18-36M**	.68max	UL CSA CE CLASS A CLASS P	6 C	7, 8	<1.7	<12%	.50	80
1 - FT40W PL-L 1 - FT55W PL-L 2 - FT40W PL-L 2 - FT55W PL-L	40 55 80 110	120-277	**RFL2T40-55M**	1.01max	UL CSA CE CLASS A CLASS P	6 C	7, 8	<1.7	<12%	.50	80
1 - FT18W PL-L 1 - FT24W PL-L 1 - FT36W PL-L 1 - FT40W PL-L 2 - FT18W PL-L 2 - FT24W PL-L 2 - FT36W PL-L 2 - FT40W PL-L	18 24 36 40 36 48 72 80	120-277	**RFLS2T18-40M**	.81max	UL CSA CE CLASS A CLASS P	7 D	3, 4	<1.7	<10%	.75	55

Temperature must not exceed 75 degrees C on the ballast



Electronic Ballasts - T5 Linear

High Power Factor

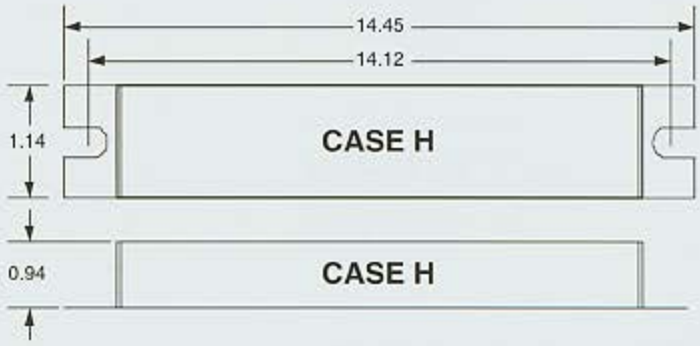
120 & 277 Volt

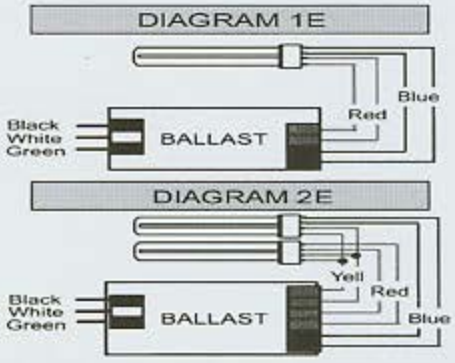
Lamp Data		Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Shipping Data	
Description	Watts									Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - F14T5	14	120-277	**RFLS2T14-35M**	.8max	UL CSA CE CLASS A CLASS P	7 D	3, 4	<1.7	<12%	.84	60
1 - F21T5	21										
1 - F28T5	28										
1 - F35T5	35										
2 - F14T5	28										
2 - F21T5	42										
2 - F28T5	56										
2 - F35T5	70										
1 - 24W T5 HO	24	120-277	**RFLS2T24-39M**	.675max	UL CSA CE CLASS A CLASS P	7 D	3, 4	<1.7	<10%	.75	55
1 - 39W T5 HO	39										
2 - 24W T5 HO	48										
2 - 39W T5 HO	78										
1 - F35T5	35	120	**E235P120H E235P120C**	.71max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<20%	.75	20
1 - F28T5	28						1G				
1 - F21T5	21						1G				
1 - F14T5	14						1G				
2 - F35T5	70						2G				
2 - F28T5	56						2G				
2 - F21T5	42						2G				
2 - F14T5	28						2G				
1 - F35T5	35	277	**E235P277H E235P277C**	.31max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<20%	.75	20
1 - F28T5	28						1G				
1 - F21T5	21						1G				
1 - F14T5	14						1G				
2 - F35T5	70						2G				
2 - F28T5	56						2G				
2 - F21T5	42						2G				
2 - F14T5	28						2G				
1 - 14W T5	14	120-277	**RFLS1T 14-35M**	.34max	UL CSA CE CLASS A CLASS P	7 D	3	<1.7	<10%	.75	55
1 - 21W T5	21										
1 - 28W T5	28										
1 - 35W T5	35										
1 - 54W T5-HO	54	120-277	**RFLS1T54**	.5max	UL CSA CE CLASS A CLASS P	7 D	3	<1.7	<10%	.75	55

Temperature must not exceed 75 degrees C on the ballast

H = Leads

C = Connectors



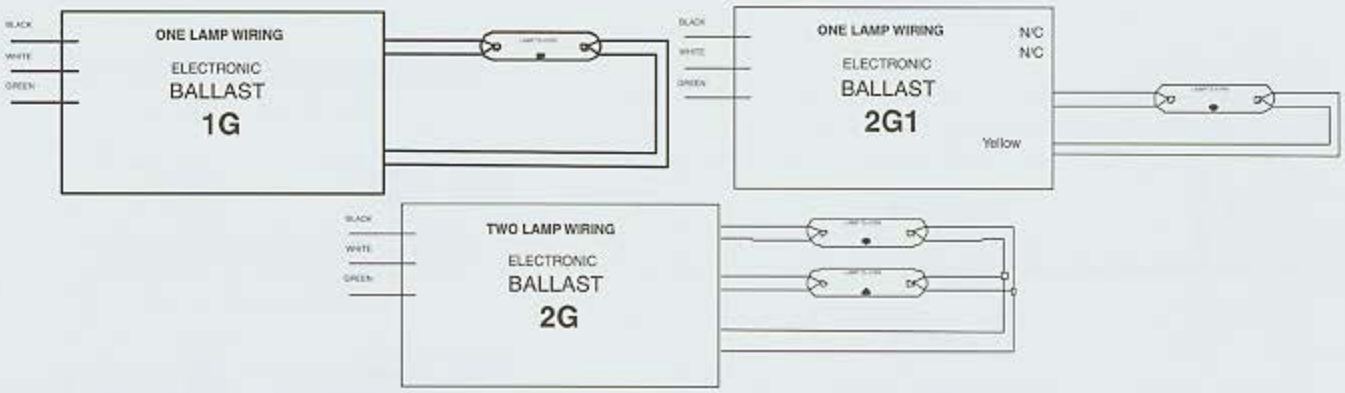


Electronic Ballasts - T5 Linear

High Power Factor
120 & 277 Volt

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - F54T5HO	54	120	**E255P120H** **E255P120C**	1.00max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<20%	.75	20
1 - F39T5HO	39						1G				
1 - F24T5HO	24						1G				
2 - F54T5HO	108						2G				
2 - F39T5HO	78						2G				
2 - F24T5HO	48						2G				
1 - F54T5HO	54	277	**E255P277H** **E255P277C**	.43max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<20%	.75	20
1 - F39T5HO	39						1G				
1 - F24T5HO	24						1G				
2 - F54T5HO	108						2G				
2 - F39T5HO	78						2G				
2 - F24T5HO	48						2G				
1 - FT50W PL-L	50	120	**E255PL120** **E255PL120C**	1.00max	UL CUL CLASS A CLASS P	8 H 13 J	1E	<1.7	<20%	.75	20
1 - FT55W PL-L	55						1E				
1 - FT36W PL-L	36						1E				
1 - FT39W PL-L	39						1E				
2 - FT50W PL-L	100						2E				
2 - FT55W PL-L	110						2E				
2 - FT36W PL-L	72						2E				
2 - FT39W PL-L	78						2E				
1 - FT50W PL-L	50	277	**E255PL277** **E255PL277C**	.43max	UL CUL CLASS A CLASS P	8 H 13 J	1E	<1.7	<20%	.75	20
1 - FT55W PL-L	55						1E				
1 - FT36W PL-L	36						1E				
1 - FT39W PL-L	39						1E				
2 - FT50W PL-L	100						2E				
2 - FT55W PL-L	110						2E				
2 - FT36W PL-L	72						2E				
2 - FT39W PL-L	78						2E				

Temperature must not exceed 75 degrees C on the ballast
H = Leads
C = Connectors



Electronic Ballast - T5 Linear & Long Twin Tube

High Power Factor

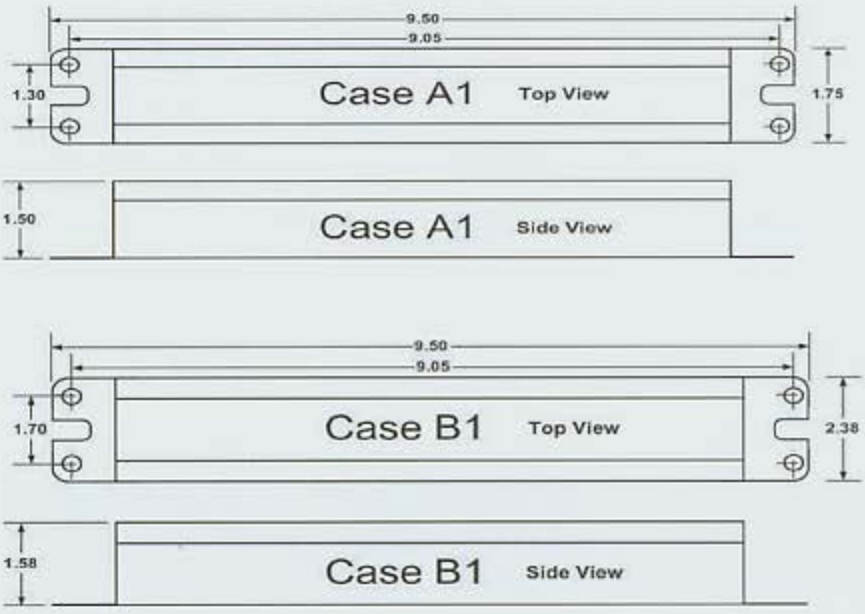
120 & 277 Volt

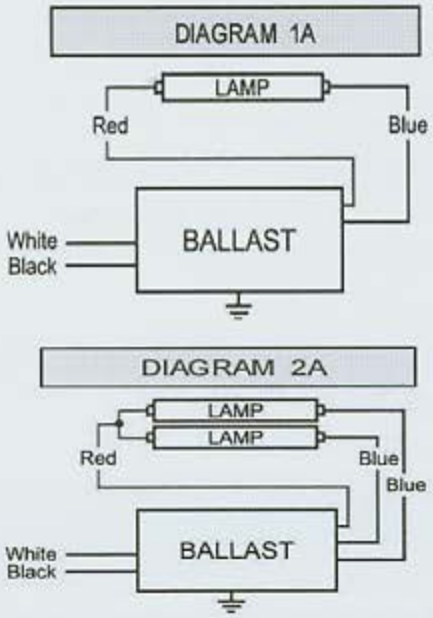
Lamp Data		Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Shipping Data	
Description	Watts									Weight Per Unit (pounds)	Standard Pack
SINGLE LAMP BALLASTS											
1 - F35T5 1 - F28T5 1 - F21T5 1 - F14T5	35 28 21 14	120	**E135P120H** **E135P120C**	.36max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<10%	.62	20
1 - F35T5 1 - F28T5 1 - F21T5 1 - F14T5	35 28 21 14	277	**E135P277H** **E135P277C**	.16max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<10%	.62	20
1 - F54T5HO 1 - F39T5HO 1 - F24T5HO	54 39 24	120	**E155P120H** **E155P120C**	.53max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<10%	.62	20
1 - F54T5HO 1 - F39T5HO 1 - F24T5HO	54 39 24	277	**E155P277H** **E155P277C**	.23max	UL CUL CLASS A CLASS P	8 H 13 J	1G	<1.7	<10%	.62	20
1 - FT50W PL-L 1 - FT55W PL-L 1 - FT36W PL-L 1 - FT39W PL-L	50 55 36 39	120	**E155PL120** **E155PL120C**	.53max	UL CUL CLASS A CLASS P	8 H 13 J	1E	<1.7	<10%	.62	20
1 - FT50W PL-L 1 - FT55W PL-L 1 - FT36W PL-L 1 - FT39W PL-L	50 55 36 39	277	**E155PL277** **E155PL277C**	.23max	UL CUL CLASS A CLASS P	8 H 13 J	1E	<1.7	<10%	.62	20

Temperature must not exceed 75 degrees C on the ballast

H = Leads

C = Connectors





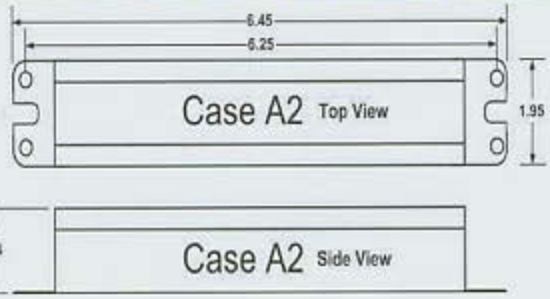
Electronic Ballasts - T8

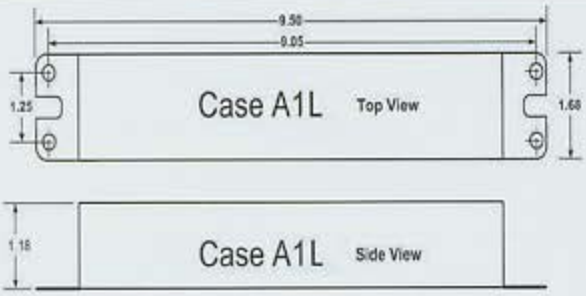
High Power Factor
120 & 277 Volt

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - F17T8 1 - F25T8 1 - F32T8 2 - F17T8 2 - F25T8 2 - F32T8	20 26 36 41 53 68	120-277	**RFL2T17-32M**	.6max	UL CSA CE CLASS A CLASS P	6 C	5, 6	<1.7	<12%	.50	80
1 - F17T8 1 - F25T8 1 - F32T8	17 25 32	120	**E132-H12**	.29max	UL CLASS A CLASS P	11 A2	1A 1A 1A	<1.7	<10%	.8	10
1 - F17T8 1 - F25T8 1 - F32T8 2 - F17T8 2 - F25T8 2 - F32T8	17 25 32 34 50 64	120	**E232-H12** **E232-H12LP**	.49max	UL CUL CLASS A CLASS P	10 A1 11 A1L	1A 1A 1A 2A 2A 2A	<1.7	<10%	1.1	10
2 - F17T8 2 - F25T8 2 - F32T8 3 - F17T8 3 - F25T8 3 - F32T8	34 50 64 51 75 96	120	**E332-H12** **E332-H12LP**	.77max	UL CUL CLASS A CLASS P	10 B1 11 A1L	2A 2A 2A 3A 3A 3A	<1.7	<10%	1.6	10
3 - F17T8 3 - F25T8 3 - F32T8 4 - F17T8 4 - F25T8 4 - F32T8	51 75 96 68 100 128	120	**E432-H12** **E432-H12LP**	1.01max	UL CUL CLASS A CLASS P	10 B1 11 A1L	3A 3A 3A 4A 4A 4A	<1.7	<10%	1.8	10

Temperature must not exceed 75 degrees C on the ballast

LP = Low Profile





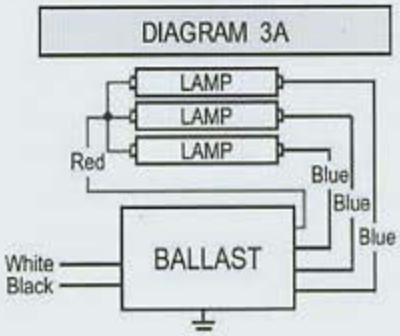
Electronic Ballasts - T8

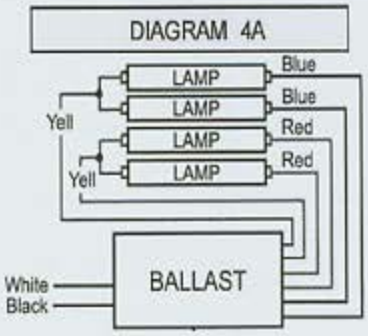
High Power Factor

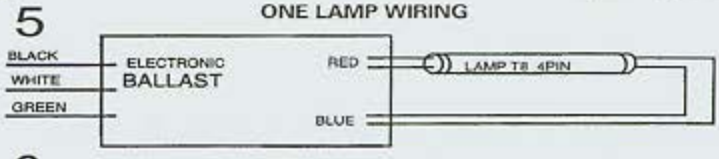
120 & 277 Volt

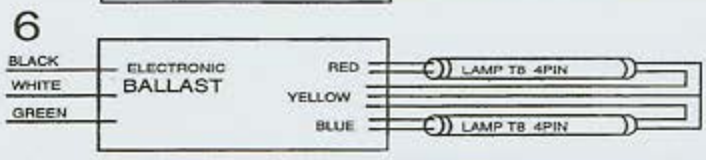
Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - F17T8 1 - F25T8 1 - F32T8 2 - F17T8 2 - F25T8 2 - F32T8	17 25 32 34 50 64	277	**E232-H27** **E232-H27LP**	.21max	UL CUL CLASS A CLASS P	10 A1 11 A1L	1A 1A 1A 2A 2A 2A	<1.7	<10%	1.1	10
2 - F17T8 2 - F25T8 2 - F32T8 3 - F17T8 3 - F25T8 3 - F32T8	34 50 64 51 75 96	277	**E332-H27** **E332-H27LP**	.34max	UL CUL CLASS A CLASS P	10 B1 11 A1L	2A 2A 2A 3A 3A 3A	<1.7	<10%	1.6	10
3 - F17T8 3 - F25T8 3 - F32T8 4 - F17T8 4 - F25T8 4 - F32T8	51 75 96 68 100 128	277	**E432-H27** **E432-H27LP**	.43max	UL CUL CLASS A CLASS P	10 B1 11 A1L	3A 3A 3A 4A 4A 4A	<1.7	<10%	1.8	10
1 - F96T8 1 - F40T8 2 - F96T8 2 - F40T8	96 40 192 80	120	**E259-H12**	.93max	UL CUL CLASS A CLASS P	10 B1	1A 1A 2A 2A	<1.7	<10%	1.8	10
1 - F96T8 1 - F40T8 2 - F96T8 2 - F40T8	96 40 192 80	277	**E259-H27**	.43max	UL CUL CLASS A CLASS P	10 B1	1A 1A 2A 2A	<1.7	<10%	1.8	10
SINGLE LAMP BALLASTS											
1 - F96T8 1 - F40T8	96 40	120	**E159-H12**	.49max	UL CUL CLASS A CLASS P	10 A1	1A	<1.7	<10%	1.06	10
1 - F96T8 1 - F40T8	96 40	277	**E159-H27**	.21max	UL CUL CLASS A CLASS P	10 A1	1A	<1.7	<10%	1.06	10

Temperature must not exceed 75 degrees C on the ballast
LP = Low Profile









Electronic Ballasts - T8

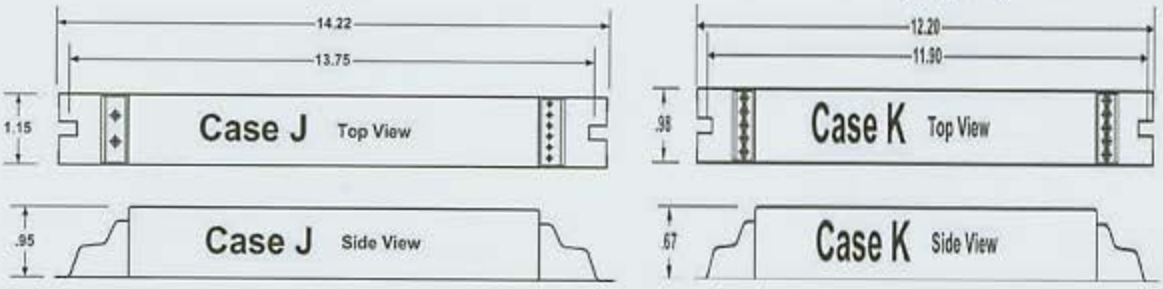
Normal Power Factor

120 & 277 Volt

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
MULTI-LAMP BALLASTS (1, 2, 3 or 4 Lamps)											
1 - F17T8	17	120	**E232-N12**	1.0max	UL CUL CLASS A CLASS P	11 A2	1A	<1.7	<120%	.80	10
1 - F25T8	25						1A				
1 - F32T8	32						1A				
2 - F17T8	34						2A				
2 - F25T8	50						2A				
2 - F32T8	64						2A				
2 - F17T8	34	120	**E332-N12**	1.5max	UL CUL CLASS A CLASS P	11 A1L	2A	<1.7	<120%	1.14	10
2 - F25T8	50						2A				
2 - F32T8	64						2A				
3 - F17T8	51						3A				
3 - F25T8	75						3A				
3 - F32T8	96						3A				
3 - F17T8	51	120	**E432-N12**	2.1max	UL CUL CLASS A CLASS P	11 A1L	3A	<1.7	<120%	1.34	10
3 - F25T8	75						3A				
3 - F32T8	96						3A				
4 - F17T8	68						4A				
4 - F25T8	100						4A				
4 - F32T8	128						4A				

Temperature must not exceed 75 degrees C on the ballast

New!



Electronic Ballasts - Long Twin Tube & T5

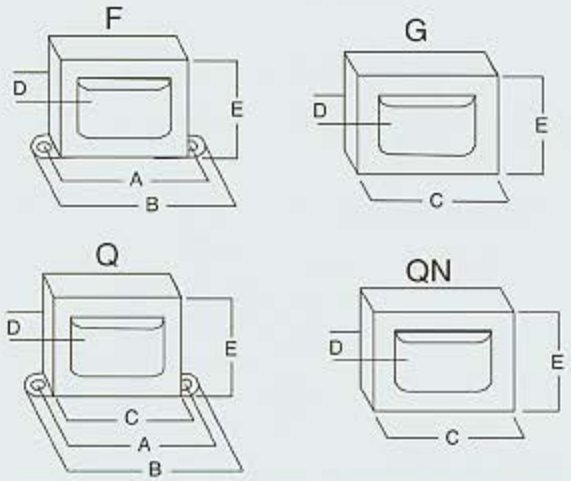
High Power Factor

Universal Voltage

Less Than 1" High

Lamp Data										Shipping Data	
Description	Watts	Volts	Catalog Number	Input Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Crest Factor	THD	Weight Per Unit (pounds)	Standard Pack
SINGLE LAMP BALLASTS											
1 - F35T5 1 - F28T5 1 - F21T5 1 - F14T5	35 28 21 14	120-277	**EU135H**	.36max	UL CLASS A CLASS P	13 J	1G	<1.7	<10%	.55	10
1 - F35T5 1 - F28T5 1 - F21T5 1 - F14T5 2 - F35T5 2 - F28T5 2 - F21T5 2 - F14T5	35 28 21 14 70 56 42 28	120-277	**EU235H**	.71max	UL CLASS A CLASS P	13 J	2G1 2G1 2G1 2G1 2G 2G 2G 2G	<1.7	<10%	.75	10
1 - 24W T5 HO 1 - 39W T5 HO	24 39	120-277	**EU139H**	.37max	UL CLASS A CLASS P	13 J	1G	<1.7	<10%	.62	10
1 - 24W T5 HO 1 - 39W T5 HO 2 - 24W T5 HO 2 - 39W T5 HO	24 39 48 78	120-277	**EU239H**	.72max	UL CLASS A CLASS P	13 J	2G1 2G1 2G 2G	<1.7	<10%	.75	10
1 - F54 T5 HO	54	120-277	**EU154H**	.53max	UL CLASS A CLASS P	13 J	1G	<1.7	<10%	.62	10
1 - F54 T5 HO 2 - F54 T5 HO	54 108	120-277	**EU254H**	1.0max	UL CLASS A CLASS P	13 J	2G1 2G	<1.7	<10%	.75	10
1 - FT50-55W PL-L 1 - FT36-39W PL-L	54 108	120-277	**EU155PL**	.53max	UL CLASS A CLASS P	13 J	2G1 2G	<1.7	<10%	.62	10
1 - FT50-55W PL-L 1 - FT36-39W PL-L 2 - FT50-55WPL-L 2 - FT36-39W PL-L	55 39 110 78	120-277	**EU255PL**	1.0max	UL CLASS A CLASS P	13 J	1E 1E 2E 2E	<1.7	<10%	.75	10

Temperature must not exceed 75 degrees C on the ballast



CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
F	2-1/8	2-3/8		15/16	1-3/8
G			1-3/4	15/16	1-3/8
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
QN			2	1-1/16	1-5/8

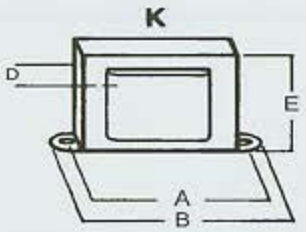
Open Core & Coil

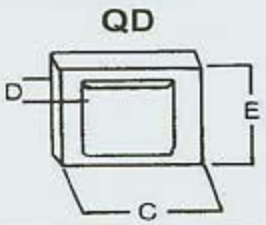
Preheat

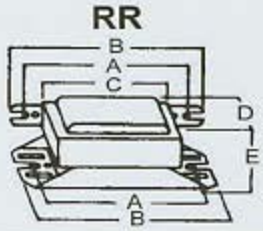
Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data Weight Per Unit (pounds)	Shipping Data Standard Pack
Description	Watts								
ONE LAMP / NORMAL POWER FACTOR									
F4T5	4	120	C104N	.130	UL	14 QN	6	.5	80
		120	C104	.130	UL	14 Q	6	.5	80
		120	CS104	.130	UL	14 Q	6	.5	80
		120	C468N	.180	UL	14 QN	6	.5	80
		120	S468	.180	UL	15 RR	6	.6	80
		220	C468/25*	.180		15 K	6	.75	65
		240	C468/24*	.180		15 K	6	.75	65
F6T5	6	120	C106	.160	UL-CSA	14 Q	6	.5	80
		120	C106N	.160	UL-CSA	14 QN	6	.5	80
		120	C106N-5*	.160	UL	14 QN	6	.5	80
		120	S468	.180	UL	15 RR	6	.5	80
		120	C468N	.180	UL	14 QN	6	.5	80
		220	C468/25*	.180		15 K	6	.75	65
		240	C468/24*	.180		15 K	6	.75	65
		120	C179	.180	UL-CSA	14 F	6	.25	65
		120	C179N	.180	UL-CSA	14 G	6	.25	108
F8T5	8	120	C108	.180	UL-CSA	14 Q	6	.5	80
		120	C108N	.180	UL-CSA	14 QN	6	.5	120
		120	S468	.180	UL	15 RR	6	.6	80
		120	C468N	.180	UL	14 QN	6	.5	120
		220	C468/25*	.180		15 K	6	.75	65
		240	C468/24*	.180		15 K	6	.75	65
		120	C179	.180	UL-CSA	14 F	6	.25	108
		120	C179N	.180	UL-CSA	14 G	6	.25	108

* -5 indicates 50 cycle, -56 indicates 50-60 cycle.
/24 indicates 240 volt, /25 indicates 220 volt 50 cycle.

CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
K	2-13/16	3-1/4		1-3/8	2
QD			1-3/4	1-3/16	1-5/8
RR	2-3/4	3-3/16	2	1-5/8	1-1/4





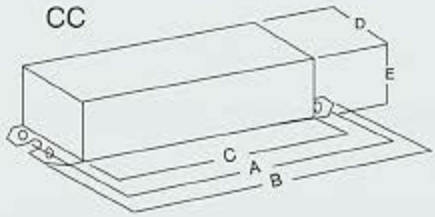


Open Core & Coil

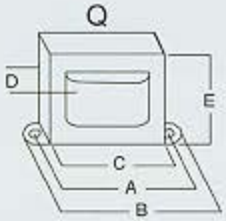
Preheat

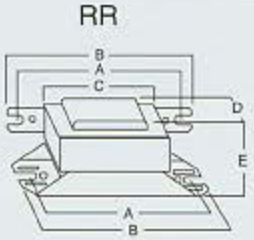
Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP / NORMAL POWER FACTOR									
F13T8	13	120	C113	.380	UL	14 Q	6	.5	80
		120	C452S	.380	UL-CSA	14 Q	6	.5	80
		120	C452NS	.380	UL-CSA	14 QN	6	.5	80
F14T12	14	120	C452N	.380	UL-CSA	14 QN	6	.5	80
		120	C114	.380	UL	14 Q	6	.5	80
		120	C452	.380	UL-CSA	14 Q	6	.5	80
		240	C452/24*	.380		29 L	6	.98	65
		220	C452/25*	.380		29 L	6	.98	65
		120	S452	.350	UL-CSA	14 RR	6	.6	80
F15T8	15	120	C452	.300	UL-CSA	14 Q	6	.5	80
F15T12		120	C452N	.300	UL-CSA	14 QN	6	.5	80
		120	C115	.300	UL-CSA	14 Q	6	.5	80
		120	C115N	.300	UL-CSA	14 QN	6	.5	80
		120	C115S	.300	UL	15 QD	6	.55	96
		240	C452/24*	.300		29 L	6	.98	65
		220	C452/25*	.300		29 L	6	.98	65
		120	C115N-5*	.300	UL	14 QN	6	.5	96
		120	S452	.350	UL-CSA	15 RR	6	.6	80
F20T12	20	120	C452	.380	UL-CSA	14 Q	6	.5	80
		120	C452N	.380	UL-CSA	14 QN	6	.5	80
		120	C120	.380	UL	14 Q	6	.5	80
		120	C120N	.380	UL	14 QN	6	.5	80
		240	C452/24*	.380		29 L	6	.98	65
		220	C452/25*	.350		29 L	6	.98	65
		120	C452-5*		UL	13 Q	6	.5	80
		120	S452		UL-CSA	15 RR	6	.6	80
F25T12	25	120	C125	.500	UL-CSA	15 K	6	.85	65
		240	C125/24*	.500		29 L	6	.98	65
		220	C125/25*	.500		29 L	6	.98	65
		120	C25	.400	UL	15 QD	6	.55	84

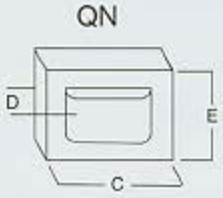
* -5 indicates 50 cycle, -56 indicates 50-60 cycle.
/24 indicates 240 volt, /25 indicates 220 volt 50 cycle.



DIMENSIONS (in inches)					
CASE STYLE	A	B	C	D	E
CC	12-3/4	13-1/16	12	2-3/8	1-9/16
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
QN			2	1-1/16	1-5/8
RR	2-3/4	3-3/16	2	1-5/8	1-1/4







Open Core & Coil

Preheat

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
CIRCLINE / NORMAL POWER FACTOR									
FC6T9	15	120	C452	.350	UL-CSA	15 Q	10	.5	80
		120	C452N		UL-CSA	16 QN		.5	80
		120	C120		UL	16 Q		.5	80
		120	C120N		UL	16 QN		.5	80
		240	C452 / 24*			29 L		.98	65
		220	C452 / 25*			29 L		.98	65
		120	C452-5*		UL	16 Q		.5	80
		120	S452		UL-CSA	16 RR		.6	80
FC8T9	22	120	C452	.380	UL-CSA	16 Q	10	.5	80
		120	C452N		UL-CSA	16 QN		.5	80
		120	C122N		UL-CSA	16 QN		.5	96
		120	C122		UL	15 QD		.5	80
		240	C452 / 24*			29 L		.98	65
		220	C452 / 25*			29 L		.98	65
		120	C452-5*		UL	15 QD		.5	80
		120	S452		UL-CSA	16 RR		.6	80

Slimline-Showcase Lamp Ballasts

Instant Start
High Power Factor

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP / HIGH POWER FACTOR									
F42T6	25	120	SL125TP	.200	UL-CSA	16 CC	15	3.75	12
F64T6	39	120	SL6472TP	.200	UL-CSA	16 CC	15	3.75	12
F72T8	38	120	SL6472TP	.200	UL-CSA	16 CC	15	3.75	12

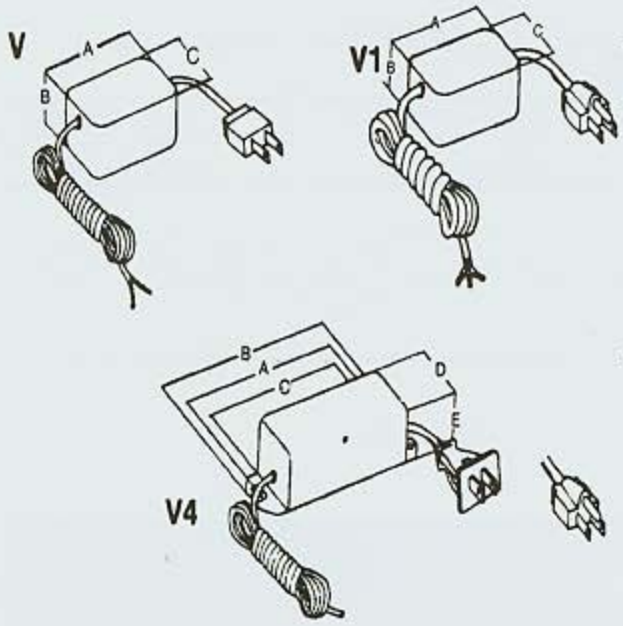
* -5 indicates 50 cycle. -56 indicates 50-60 cycle
/24 indicates 240 volt. /25 indicates 220 volt 50 cycle

Plug Thru (In-Line) Ballasts & Halogen Power Supplies

Preheat

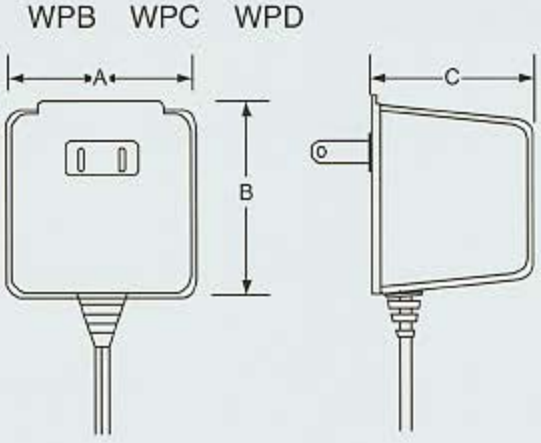
Lamp Data		Volts	Catalog Number	ANSI	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts			Lamp Current (Amps)				Weight Per Unit (pounds)	Standard Pack
ONE LAMP / NORMAL POWER FACTOR									
F4T5	4	120	PT104G PT468 PT468G	.170	UL UL-CSA UL	18 V1 18 V 18 V1	6	.95 .9 .95	30
F6T5	6	120	PT106 PT106G PT468 PT468G	.160	UL UL UL-CSA UL	18 V 18 V1 18 V 18 V1	6	.9 .95 .9 .95	30
F8T5	8	120	PT108 PT108G PT468 PT468G	.180	UL-CSA UL UL-CSA UL	18 V 18 V1 18 V 18 V1	6	.9 .95 .9 .95	30
F14T12	14	120	PT452 PT452G	.380	UL-CSA UL	18 V 18 V1	6	.95 1.00	30
F15T8 or F15T12	15	120	PT452 PT115 PT452G	.300	UL-CSA UL UL	18 V 18 V 18 V1	6	.95 .95 1.00	30
F20T12	20	120	PT120 PT452 PT452G	.380	UL UL-CSA UL	18 V 18 V 18 V1	6	.95 .95 1.00	30
FC8T9	22	120	PT452 PT122 PT452G	.350 .380 .350	UL-CSA UL UL	18 V 18 V 18 V1	10	.95 .95 1.00	30
F30T8	30	120	PT340 PT340G	.650		18 V4	6	1.9 1.95	25
F40T12	40	120	PT340 PT340G	.650		18 V4	6	1.9 1.95	25
FC12T9	32	120	PT340 PT340G	.650		18 V4	10	1.9 1.95	25
F8T5 PL7-9	6-9	120	WP789*	.180	UL-CSA	18 WPB	31	.75	50
F14T8 F15T12 F20T10	13-22	120	WP452*	.350	UL-CSA	18 WPB	31	.75	50
Halogen 20W	Up to 20	120	WP20H*	.200	UL	18 WPC	44	1.30	50
F6T5 F8T5 PL-7 PL-9	6-9	120	2WP789*	.400	UL-CSA	18 WPE	61	1.75	50
PL-13	13	120	WP452-13*	.350	UL-CSA	18 WPB	61	.85	50
PLC-18	18	120	WP452-18*	.350	UL-CSA	18 WPB	61	.85	50
PL-13 F14T8 F15T8 F20T12	13-20	120	WP452G	.350	UL-CSA	18 WPB	61	.85	50
Halogen 10-60W	Up to 60	120	ELWP60H	.420	UL-CSA	18 WPB	44	.65	50
Halogen 10-75W	Up to 75	120	ELWP75H EL75HB EL75HS	.550	UL-CSA	18 WPB 18 HB 18 HS	44 62 62	.65 .4 .4	50

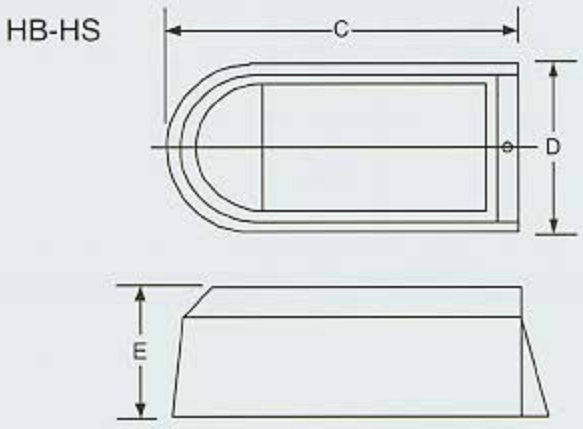
* Models come with a 6' cord standard

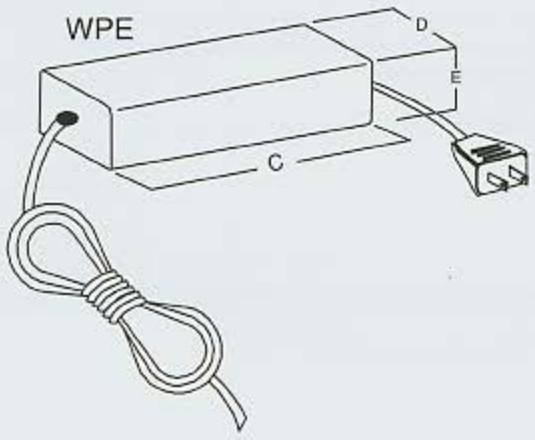


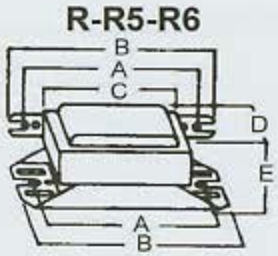
DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E
HB			3-3/16	1-7/16	13/16
HS			2-3/4	1-3/16	1-1/16
V	2-9/16	1-3/8	1-13/16		
V1	2-9/16	1-3/8	1-13/16		
V4	6	6-5/16	5	1-13/16	1-13/32
WPB	2-11/32	2-11/32	1-29/32		
WPC	2-7/32	3-7/32	1-29/32		
WPD	2-11/16	3-11/32	2-7/32		
WPE			3-1/4	2-5/8	2-3/16









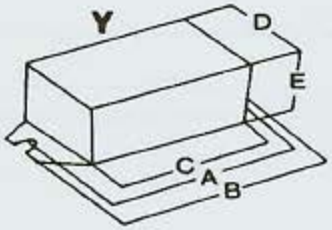
CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
R	2-3/4	3-1/16	2	1-3/4	1-1/4
R5	2-3/4	3-1/16	2	1-3/4	1-3/8
R6	2-3/4	3-1/16	2-1/8	1-13/16	1-3/8

Clamped Core & Coil

Preheat-Fully Enclosed

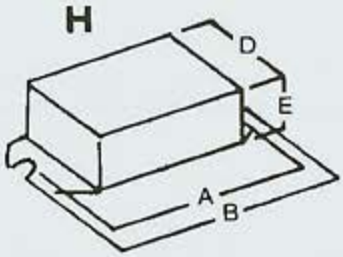
Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
ONE LAMP / NORMAL POWER FACTOR									
F4T5	4	120	CE104	.130	UL	19 R	6	.63	70
			CU468	.130	UL	19 R	6	.63	70
			CU468/56*	.130	UL	19 R	6	.63	70
			CE108-56TP-E	.160	TUV-CSA	19 R	6	.55	70
F6T5	6	120	CE108	.160	UL-CSA	19 R	6	.63	70
			CE106	.160	UL	19 R	6	.63	70
			CU468	.160	UL	19 R	6	.63	70
			CU468/56*	.160	UL	19 R	6	.63	70
			CE108-56TP-E	.160	TUV-CSA	19 R	6	.55	70
F8T5	8	120	CE108	.180	UL-CSA	19 R	6	.63	70
			CU468	.180	UL	19 R	6	.63	70
			CU468/56*	.180	UL	19 R	6	.63	70
			CE108-56TP-E	.180	TUV-CSA	19 R	6	.55	70
F13T8	13	120	CU452S	.380	UL-CSA	19 R	6	.63	70
F14T12	14	120	CU452	.350	UL-CSA	19 R	6	.63	70
			CU452-5*	.350	UL	19 R5	6	.63	70
F15T8 or	15	120	CU452	.300	UL-CSA	19 R	6	.63	70
F15T12	15	120	CU452-5*	.300	UL	19 R5	6	.63	70
			CU452-56TP-E	.350	TUV-CSA	19 R5	6	.63	80
F20T12	20	120	CU452	.350	UL-CSA	19 R	6	.63	70
F25T12	25	120	CE125	.360	UL-CSA	19 R5	6	.63	62
PL18	18	120	CE1258	.370	UL	19 R5	6	2.7	62
PLC18									
F15T8	14-20	120	CUSP452	.350	UL	19 R	6	.63	70
F15T8			CUZ452			19 R6			
F18T8			CU452ZTP			19 R6			
F20T8									
F20T10									
PL-13	13	120	CU452-13TP	.350	UL-CSA	19 R	6	.63	70

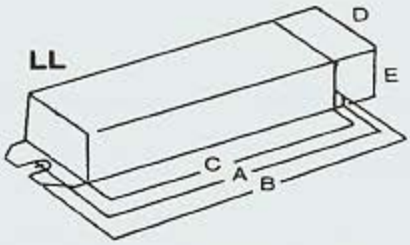
* -5 indicates 50 cycle, -56 indicates 50-60 cycle
NOTE: All TUV approvals are 50 Hz

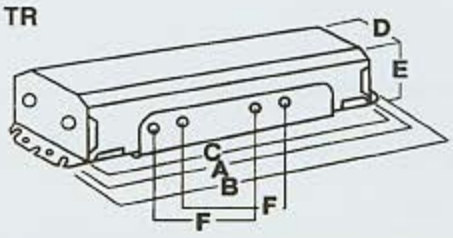


DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E	F
LL	6	6-1/2	5-3/8	1-7/8	1-3/8	
H	2-3/4	3-1/16	-----	1-13/16	1	
TR	6-1/32	6-1/4	5-1/2	1-13/16	31/32	2-3/8
Y	2-3/4	3	2-3/8	1-13/16	1-3/8	





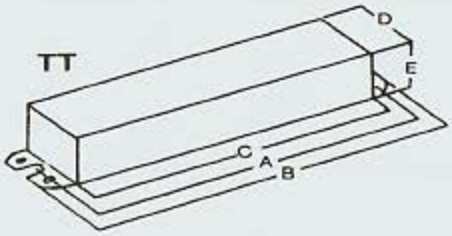


Canned Type

Preheat

Lamp Data		Volts	Catalog Number	ANSI	Certification & Approval	Dimension Pg. & illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts			Lamp Current (Amps)				Weight Per Unit (pounds)	Standard Pack
ONE LAMP / NORMAL POWER FACTOR									
F4T5	4	120	A468 A104	.170	UL-CSA UL	20 Y	6	.70	56
F6T5	6	120	A468 A106 A179	.160	UL-CSA UL UL	20 Y 20 Y 20 H	6	.70 .70 .40	56 56 77
F8T5	8	120	A468 A108 A179	.180	UL-CSA UL UL	20 Y 20 Y 20 H	6	.70 .70 .40	56 56 77
F13T5 PLC13 Dulux D13	13	120	DT113ZTP	.165	UL	20 LL	6	1.60	25
F13T5	13	120	DT113TP** DT113TPH***	.300	UL	20 TR	24	1.6	30
F13T8	13	120	A452	.300	UL-CSA	20 Y	6	.75	56
F14T8	14	120	A452	.380	UL-CSA	20 Y	6	.75	56
F15T8 or F15T12	15	120	A452 A115	.300	UL-CSA	20 Y	6	.75	56
F30T8 or F40T12	30 40	120	D340TP* D340TP*	.650	UL	20 LL	24	1.60	25

* Also available without thermal protector - delete "TP" suffix.
** Normal Power Factor
*** High Power Factor (corrected to 90%)

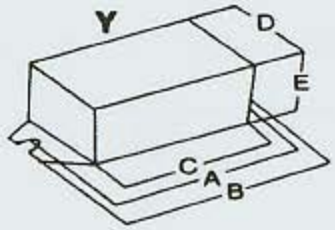


DIMENSIONS (in inches)					
CASE STYLE	A	B	C	D	E
TT	5	5-1/4	4-1/2	1	3/4

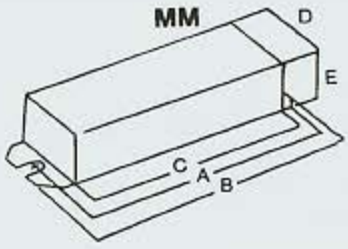
Pencil (Finger) Ballasts

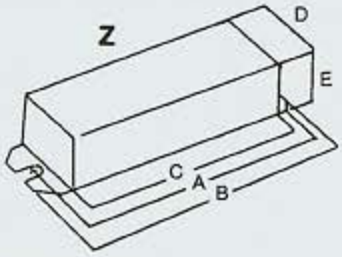
Preheat

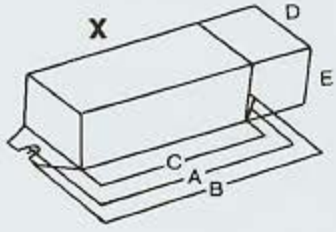
Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP / NORMAL POWER FACTOR									
F4T5	4	120	P104	.130	UL	21 TT	6	.6	96
F6T5	6	120	P106 P1068	.160	UL	21 TT	6	.6	96
F8T5	8	120	P108 P1068	.180	UL	21 TT	6	.6	96
F13T8	13	120	P115S	.300	UL	21 TT	6	.6	96
PL13 F15T8 F20T8 F20T12	15	120	P115	.300	UL	21 TT	6	.6	96



CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
X	4-1/4	4-3/4	3-1/2	2	1-1/2
Y	2-3/4	3	2-3/8	1-13/16	1-3/8
Z	6	6-7/16	5-7/16	2-1/4	1-5/8
MM	5-3/4	6-5/16	5-1/16	1-7/8	1-3/8







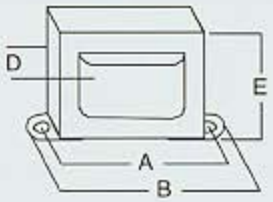
Self Start-Canned Type

Preheat (Starter Built In)

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP and TWO LAMP / NORMAL POWER FACTOR									
F6T5	6	120	AS468 AS468ST	.170	UL-CSA UL	22 Y	11	.9	36
F8T5	8	120	AS468 AS468ST	.180	UL-CSA UL	22 Y	11	.9	36
F14T8	14	120	AS452 AS452ST	.380	UL-CSA UL	22 Y	11	.9	36
F15T8 or F15T12	15	120	AS452 AS452ST	.300	UL-CSA UL	22 Y	11	.9	36
F20T12	20	120	AS452 AS452ST	.380	UL-CSA UL	22 Y	11	.9	36
FC6T9 or FC8T9	15 or 22	120	AS452 AS452WC AS452WCST AS452ST	.380	UL-CSA UL UL UL	22 Y	11 12 12 11	.9	36
F25T12	25 25 (2)25	120	AS125 AS125ST AS225	.500 .500 1.000	UL-CSA UL UL	22 X 22 X 22 Z	11	1.6 1.6 2.50	24
F30T8	30	120	AS340 AS340ST	.650	UL-CSA UL-CSA	22 MM	11	1.75	30
FC12T9	32	120	AS340 AS340ST	.650	UL-CSA UL	22 MM	11	1.75	30
F12"T10BL550	35 (2)35	120	AS135 AS235	.550 1.100	UL-CSA UL	22 X 22 Z	11	1.7 2.50	24

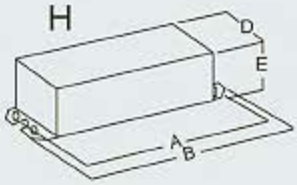
WC = with connector
ST = starter built in tube

F

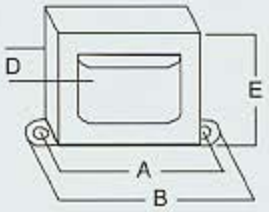


DIMENSIONS (in inches)					
CASE STYLE	A	B	C	D	E
F	2-1/8	2-3/8	-----	15/16	1-3/8
H	2-3/4	3-1/16	-----	1-13/16	1
P	2-3/8	2-3/4	-----	1-1/16	1-5/8
P1	1-3/4	2-1/16	-----	1-3/16	1-1/8
Y	2-3/4	3	2-3/8	1-13/16	1-3/8

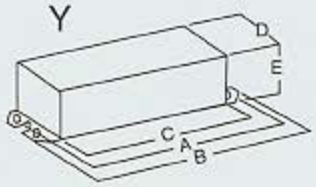
H



P-P1



Y



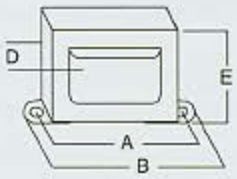
Twin Tube Ballast

Preheat

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
PL7	7	120	C789	.180	UL-CSA	23 P1	6	.20	110
Dulux 7			C789TP		UL-CSA	23 P1		.20	110
F7BX			C179		UL-CSA	23 F		.25	108
F7TT			C179-7		UL-CSA	23 F		.25	108
			C179N-7		UL-CSA	14 G		.25	108
			C108-7		UL-CSA	23 P		.5	80
			C108N-7		UL-CSA	14 QN		.5	80
			A179		UL-CSA	23 H		.75	77
			A468		UL-CSA	23 Y		.75	56
PL9	9	120	C789	.180	UL-CSA	23 P1	6	.20	110
Dulux 9			C789TP		UL-CSA	23 P1		.20	110
F9BX			C179		UL-CSA	23 F		.25	108
F9TT			C179-9		UL-CSA	23 F		.25	108
			C179N-9		UL-CSA	14 G		.25	108
			C108-9		UL-CSA	23 P		.5	80
			C108N-9		UL-CSA	14 QN		.5	80
			A179		UL-CSA	23 H		.75	77
			A468		UL-CSA	23 Y		.75	56
PL13	13	120	CU452-13	.300	UL-CSA	19 R	6	.63	80
Dulux 13			C452-13		UL-CSA	19 R		.5	80
F13BX			C452N-13		UL-CSA	14 QN		.5	80
F13TT			A452-13		UL-CSA	23 Y		.76	56
			C452B-CB		UL-CSA	28 F		.5	80

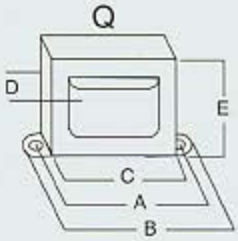
Ballasts with a suffix of "-7" or "-9" are specially designed to meet the exact specifications of the lamp indicated and are recommended by the Radionic engineering department

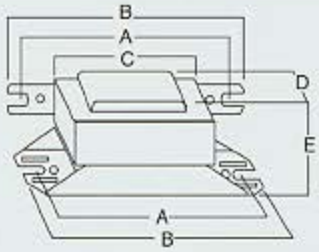
F



DIMENSIONS (in inches)					
CASE STYLE	A	B	C	D	E
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
R	2-3/4	3-1/16	2	1-3/4	1-1/4
F	2-1/8	2-3/8	-----	15/16	1-3/8

Q





Popular Low Heat Models*

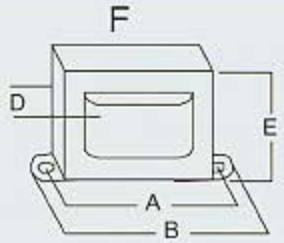
Preheat

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
PL7-9	7-8-9	120	C179LH	.180	UL	24 F	6	.25	108
F8T5			A179LH		UL	25 H		.40	77
PL7-9	6-7-8-9	120	C108LH	.180	UL	24 Q	6	.50	80
F6T5			CE108LH		UL	24 R		.63	70
F8T5									
F15T8	15-20	120	C452LH	.350	UL	24 Q	6	.50	80
F20T12			CU452LH		UL	24 R		.63	80
			A452LH		UL	25 Y		.75	56
			S452LH		UL	16 RR		.60	80
F25T12	25	120	CE125LH	.380	UL	24 R	6	.70	62
FUL25T8	25		C25LH	.400	UL	15 QD	6	.62	84
FC8T9	22		AS452WCLH	.380	UL	25 Y	12	.85	36
FUL40T8BL	35-40		C135LH	.700	UL	29 L	6	1.00	60
FC12T9	32	120	AS132TPWCLH	.600	UL	22MM	12	1.7	20

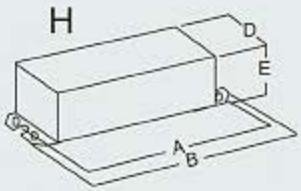
• Most ballasts may be ordered "low heat" by adding "LH" to the catalog number

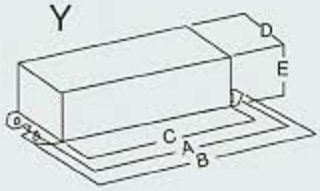
* "LH" suffix indicates low heat
Low heat ballasts run cooler and may be required for special fixture applications. Consult the Radionic Engineering Department and our warranty

Many Radionic ballasts are available in low heat rise models necessary for special applications where heat buildup in your fixture is a potential problem.



CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
F	2-1/8	2-3/8	-----	15/16	1-3/8
H	2-3/4	3-1/16	-----	1-13/16	1
Y	2-3/4	3	2-3/8	1-13/16	1-3/8





Popular Low Ambient Models*

Preheat

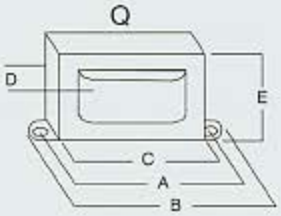
Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
F8T5 PL7-9	7-8-9	120	C179LA A179LA C108LA	.180	UL	25 F 25 H 24 Q	6	.25 .40 .50	108 77 80
F8T5	8	120	CE108LA	.180	UL	24 R	6	.63	70
F15T8 F20T12 PL13	13-15-20	120	C452LA A452LA	.350	UL UL	24 Q 25 Y	6	.50 .75	80
F15T8 F20T12	15-20	120	CU452LA S452LA	.350	UL UL	24 R 16 RR	6	.63 .58	70 80
FC8T9	22	120	AS452WCSTLA	.350	UL UL	25 Y	12	.85	36
F25T12	25	120	CE125LA C125	.380 .500	UL UL-CSA	24 R 15 K	6	.70 .85	62 65

• Most ballasts may be ordered "low ambient" by adding "LA" to the catalog number

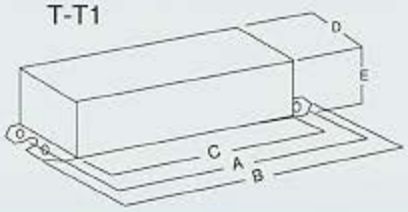
* "LA" suffix indicates low ambient
Low ambient ballasts will start at lower temperatures, but will also run hotter. Consult the Radionic Engineering Department and our warranty

Low ambient ballasts are also available for applications where the ambient temperature is sometimes expected to be as low as ten degrees Fahrenheit.

Q



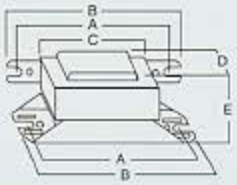
T-T1



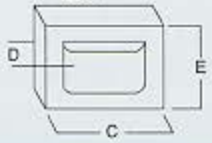
DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
QN	-----	-----	2	1-1/16	1-5/8
R	2-3/4	3-1/16	2	1-3/4	1-1/4
T	6	6-1/2	5-3/8	1-7/8	1-3/8
T1	6	6-1/2	5-3/16	2-5/16	1-1/2

R



QN



MAGNETIC

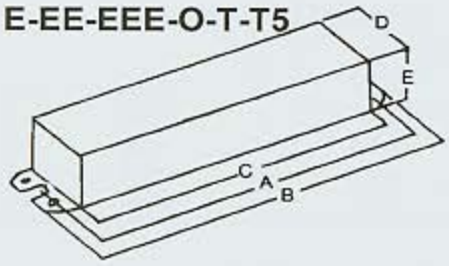
Circline
Preheat

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
FC8T9	22	120	CU452	.380	UL-CSA	26 R	10	.63	70
			C452		UL-CSA	26 Q		.5	80
			C452N		UL-CSA	26 QN		.5	120
			C122N		UL-CSA	26 QN		.5	96
			C122		UL-CSA	26 Q		.5	80
			CE122		UL-CSA	26 R		.65	80
FC12T9(10)	32	120	D340	.650	UL	20 LL	24	1.7	25
			D340TP		UL-CSA				

Circline
Rapid Start

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
FC6T9	15	120	RT452ZTP	.600	UL-CSA	26 T	13	1.65	20
			RT452ZTPWC		UL-CSA		16		
FC8T9	22	120	RT452ZTP	.600	UL-CSA	26 T	13	1.65	20
			RT452ZTPWC		UL-CSA		16		
FC12T9(10)	32	120	RT134ZTP	.650	UL-CSA	26 T	13	1.65	20
			RT134ZTPWC				12		
			RT132ZTP				13		
			RT132ZTPWC				12		
F30T12	25-40	120	RT134ZTP	.650	UL	26 T	13	1.65	20
F40T12			RT134ZTPWC		UL		16		
F40T12(26W)									
F40T12(34W)									
FC8T9	22	120	RT2232ZTP	.720	UL	26 T1	60	2.5	20
FC12T9	32		RT2232WCST		UL				

E-EE-EEE-O-T-T5



CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
E	8-7/8	9-7/16	8-5/16	2-5/16	1-9/16
EE	8-7/8	9-13/32	8-1/4	3-1/8	1-7/8
EEE	11	11-5/8	10-5/8	3-1/8	1-7/8
O	6	6-1/2	5-3/8	1-7/8	1-3/8
T	6-1/8	6-1/2	5-3/8	1-7/8	1-3/8
T5	6	6-9/16	5-9/16	2-5/16	1-7/16

Trigger Start

Normal Power Factor

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP									
F15T8 or F15T12	15	120	RT452ZTP	.600	UL-CSA	27 T	13	1.65	20
F20T12	20	120	RT452ZTP	.600	UL-CSA	27 T	13	1.65	20
FC6T9	15	120	RT452ZTP	.600	UL-CSA	27 T	16	1.65	20
			RT452ZTPWC	.600	UL-CSA	27 T	16	1.65	20
FC8T9	22	120	RT452ZTPS	.600	UL-CSA	27 T	16	1.65	20
			RT452ZTPWC	.600	UL-CSA	27 T	16	1.65	20

Rapid Start

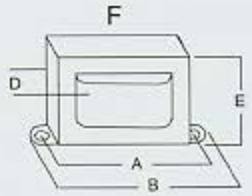
Normal Power Factor

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ONE LAMP									
F30T12	30	120	RT340ZTP	.650	UL-CSA	27 T	13	1.65	20
F40T12	40	120	RT340ZTP	.650	UL-CSA	27 T	13	1.65	20
FC12T9(10)	32	120	RT134ZTP	.650	UL-CSA	27 T	13	1.65	20
			RT340ZTP						
			RT134ZTPWC						
			RT340ZTPWC						

Octron T8 Ballasts

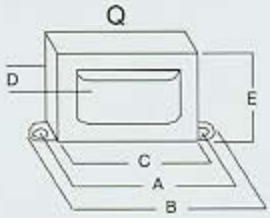
Rapid Start

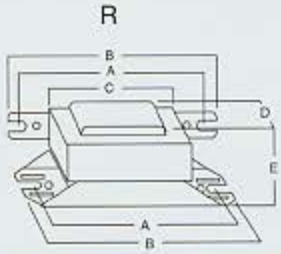
Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
HIGH POWER FACTOR > 90%									
Octron F017	17	120	OT17HTP	0.28	UL-CSA	27 O	55	2	24
Octron F025	25		OT25HTP	0.32	UL-CSA				
Octron F032	32		OT32HTP	0.35	UL-CSA				
Octron (2) F032	32		OT3232HTP						
HIGH POWER FACTOR > 90%									
Octron F017	17	120	OT17NTP	0.60	UL-CSA	27 O	55	2	24
Octron F025	25		OT25NTP	0.50	UL-CSA				
Octron F032	32		OT32NTP	0.51	UL-CSA				



DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
R	2-3/4	3-1/16	2	1-3/4	1-1/4
F	2-1/8	2-3/8	-----	15/16	1-3/8

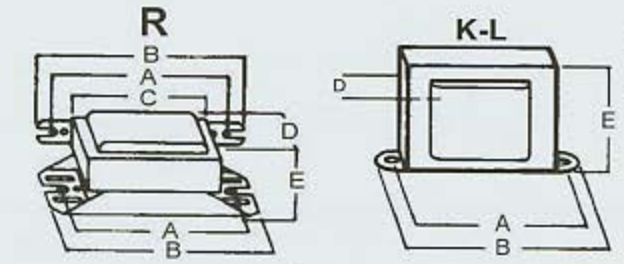




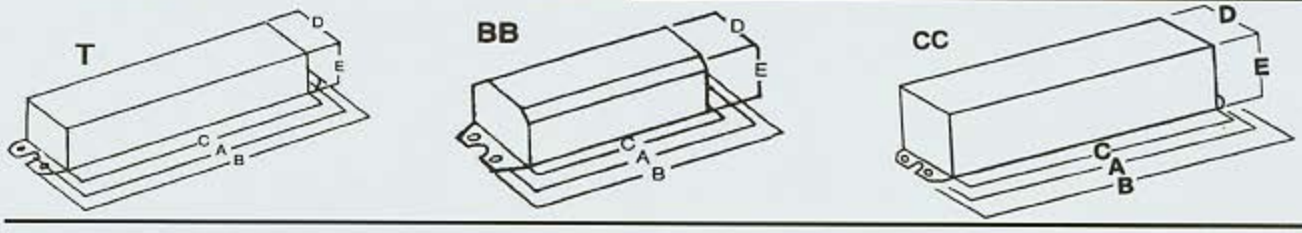
Class P Ballasts

Preheat

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
PL 7-9 Dulux 7-9	7-9	120 120	C179-TP	.180	UL-CSA	28 F	6	.25	80
F13T12 F14T8 F15T8 F20T8 F14T8 F15T8 F20T12	13-22 13-22 13-22	120 120 120	C452-TP CU452-TP S452-TP	.300 .300 .350	UL-CSA UL-CSA UL-CSA	28 Q 28 R 15 RR	6 6 10	.5 .63 .6	80 70 80
F25T12	25	120	C125TP	.500	UL-CSA	15 K	6	.85	65
F8T5	6-7-8	120	CE108-TP	.180	UL-CSA	28 R	6	.25	80
F25T12	25	120	CE125-TP	.500	UL-CSA	28 R	6	.25	80
PL 7-9 Dulux 7-9	7-9	120	A179-TP	.180	UL	25 H	6	.40	70
F13T12 F20T12	13-22	120	A452-TP	.380	UL-CSA	25 Y	6	.75	56
F6T5 F8T5	6-8	120	P1068-TP	.160	UL	21 TT	6	.6	96
F15T8	15/20	120	P115-TP	.300	UL	21 TT	6	.6	96
F30T12 F40T12	30-40	120	AS340-TP	.650	UL-CSA	22 MM	11	1.75	30
PL13 Dulux 13	13	120	C452B-BCTP	.300	UL	31 Q	6	.5	80
PL7-9 F8T5 Dulux 7-9	7-9	120	C789TP	.180	UL-CSA	23 P1	6	.20	110



CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E
R	2-3/4	3-1/16	2	1-3/4	1-1/4
T	6	6-1/2	5-3/8	1-7/8	1-3/8
BB	8-3/8	8-5/8	7-3/8	2-5/16	1-7/16
CC	12-3/4	13-3/16	12	2-3/8	1-9/16
K	2-13/16	3-1/4	-----	1-3/8	2
L	2-13/16	3-1/4	-----	1-1/2	1-7/8



50 Cycle Ballasts

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
PREHEAT									
F6T5	6	120	CE108-5	.180		29 R	6	.63	62
F8T5	8	120	CE108-5	.180		29 R	6	.63	62
F15T8	15	120	CE115-5	.350		29 R	6	.63	62
F15T12	15	120	CE115-5	.350		29 R	6	.63	62
F20T12	20	120	CE120-5	.350		29 R	6	.63	62
F40T12	40	120	D340TP-5	600		29 T	24	1.65	25
RAPID START									
F15T12	15	120	RT452ZTP-5	.600		29 T	13	1.75	20
F20T12	20	120	RT452ZTP-5	.600		29 T	13	1.75	20
F30T12	30	120	RT340ZTP-5	.600		29 T	13	1.75	20
F40T12	40	120	RT340ZTP-5	.600		29 T	13	1.75	20

277 Volt Ballasts

Preheat

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
PL-13 F14T8/T12 F15T8/T12 F20T12	13 14 15 20	277	C135-27	.350	UL-CSA	29 L	6	.98	65
F4T5, PL5, F6T5, PL-7, F8T5, PL-9	4-9	277	C468-27	.160	UL-CSA	26 Q	6	.50	80
F4T5, PL5, F6T5, PL-7, F8T5, PL-9	4-9	277	CE108-27	.160	UL-CSA	19 R5	6	.55	70
(2)F96T12 (2)F96T12 (2) 60" T12 (2) 64" T12 (2) 72" T12 (2) 84" T12	75 60 48 50 55 65	277	ES275HTP-27	0.55 max	UL-CSA	27 EEE	30	7.25	320

High Power Factor

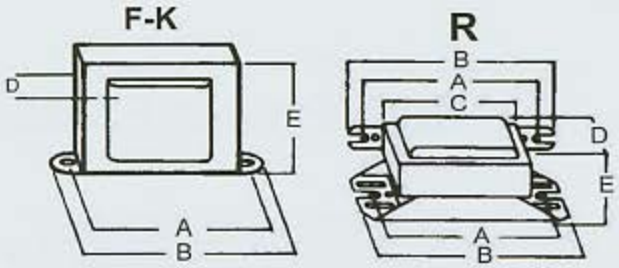
Preheat

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
ONE LAMP/HIGH POWER FACTOR									
F15T8	15	120	BH115	.300	UL	29 BB	14	1.75	20
F15T12	15	120	BH115	.300	UL	29 BB	14	1.75	20
F20T12	20	120	BH120	.380	UL	29 BB	14	1.75	20
F30T8	30	120	BH130	.430	UL	29 CC	15	3.75	12
F40T12	40	120	BH140	.430	UL	29 CC	15	3.75	12
F13T8	13	120	A452H	.300	UL-CSA	23 Y	6	.75	56
F13T5	13	120	DT113H	.165	UL	20 LL	24	1.60	25
F4T5	4	120	A468H A104H	.170	UL-CSA	31 Y	6	.70	56
F8T5	8	120	D108H	.180	UL	20 LL	24	.160	30
PL-13	13	120	A452HTP-13	.300	UL-CSA	23 Y	6	.75	56

220-240 Volt Ballasts

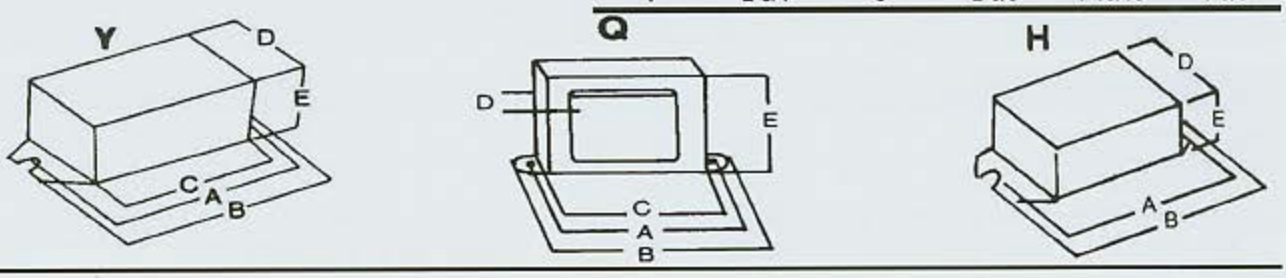
Preheat

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data	
Description	Watts							Weight Per Unit (pounds)	Standard Pack
F8T5	8	220-5	C108-22	.180		29 K	6	.80	65
FTB8	8	240-5	C108-24	.180			6	.80	65
F15T8	15	220-5	C452-22	.350		29 K	6	.98	65
FTB15	15	240-5	C452-24	.350		29 K	6	.98	65
F25T12	25	240-5	C125-24	0.5		29 L	6	.98	65
FTB25	25	240-5							
(2)F25T12	25	240-5	C225-24	1		29 L	6	.98	65
(2)FTB25									
F15T8	15	220-5	C115N-25	0.3		29 L	6	.98	65
F25T12	25	220-5	C125-22	0.35		29 L	6	.98	65
FTB25									
PL13	13	220-5	C452-22-5-13	0.3		29 L	6	.98	65
F14T8	14-22	220-5	C452-22-5	0.3		29 L	6	.98	65
F15T8									
F20T12									
FC8T9									
F6T5	6	240-5	C468-24-5	0.18		26 Q	6	.50	80
F8T5	8	220-5	CE108-22-5	0.18		19 R5	6	.63	70
(2)F96T12	75	220-5	ES275HTP-22	0.55 max		27 EEE	30	7.25	320
(2)F96T12	60								
(2) 60" T12	48								
(2) 64" T12	50								
(2) 72" T12	55								
(2) 84" T12	65								



DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E
F	2-1/8	2-3/8	-----	15/16	1-3/8
Q	2-3/8	2-3/4	2	1-1/16	1-5/8
K	2-13/16	3-1/4	-----	1-3/8	2
R	2-3/4	3-1/16	2	1-3/4	1-1/4
H	2-3/4	3-1/16	-----	1-13/16	1
Y	2-3/4	3	2-3/8	1-13/16	1-3/8



Popular Class "B" (130° C)

Preheat

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
OPEN COIL / NORMAL POWER FACTOR									
F6T5 F8T5 PL7-9	6/7/8/9	120	C179B	.160	UL	31 F	6	.5	65
F6T5 F8T5 PL7-9	6/7/8/9	120	C108B	.160	UL	31 F	6	.5	80
F20T12 PL13	13/15/20	120	C452B S452B	.300	UL	31 Q 16 RR	6 6	.5 .6	80 80
FULLY ENCLOSED / NORMAL POWER FACTOR									
F6T5 F8T5 PL7-9	6/7/8/9	120	CE108B	.160	UL	31 R	6	.63	70
F15T8 F20T12 PL13	13/15/20	120	CU452B	.300	UL	31 R	6	.63	.70
CANNED & POTTED / NORMAL POWER FACTOR									
F6T5 F8T5 PL7-9	6/7/8/9	120	A179 A468	.160	UL	31 H	6	.70	56
F15T8 F20T12 PL13	13/15/20	120	A452	.300	UL	31 Y	6	.75	56

Contact the Radionic engineering department for these and other Class "B" applications

TR

CASE STYLE	DIMENSIONS (in inches) A	B	C	D	E	F
TR	6-1/32	6-1/4	5-1/2	1-13/16	31/32	2-3/8

Electronic, Instant Start and Hybrid T5

Type 1 Outdoor

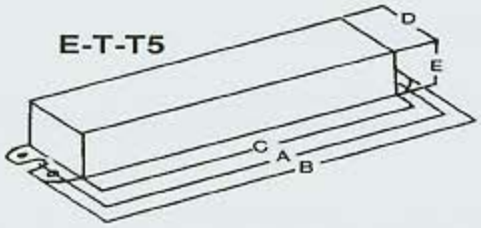
Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data Weight Per Unit (pounds)	Shipping Data Standard Pack
Description	Watts								
ONE and TWO LAMP / NORMAL POWER FACTOR / CLASS P									
(1) F8T5 (1) F13T5	8 13	120	E1813NP	0.20	UL-CUL	32 TR	57	.55	30
(2) F8T5 and/or (2) F13T5	8/13	120	E2813NP	0.40	UL-CUL	32 TR	58	.65	30
(1) F8T5 (2) F8T5	8	120	NPS108TP NPS208TP	0.18 0.36	UL-CSA	32 TR	45 46	.66 .98	30
(1) F13T5 (2) F13T5	13	120	NPS113TP NPS213TP	0.18 0.36	UL-CSA	32 TR	47	.98	30
(1) F8T5 and (1) F13T5	8 & 13	120	NPS2813TP	0.36	UL-CSA	32 TR	47	.98	30
ONE and TWO LAMP / HIGH POWER FACTOR / CLASS P									
(1) F8T5 (1) F13T5	8 13	120	E1813HP	.14	UL-CUL	32 TR	57	.55	30
(2) F8T5 and/or (2) F13T5	8/13	120	E1813HP	.24	UL-CUL	32 TR	58	.65	30
(1) F13T5 (2) F13T5	13	120	IS113HTP IS213HTP	0.14 0.28	UL-CSA	32 TR	45 50	.66 .98	30
(1) F8T5 (2) F8T5	8	120	IS468HTP IS208HTP	0.1 0.2	UL-CSA	32 TR	48 49	.66 .98	30
(1) F8T5 and (1) F13T5	8 & 13	120	IS2813HTP	0.24	UL-CSA	32 TR	51	.98	30
(1) F13T5 (2) F13T5	13	120	ISL113HTP ISL213HTP	0.14 0.28	UL-CSA	32 TR	45 46	.66 .98	30
(1) F8T5 (2) F8T5	8	120	ISL468HTP ISL208HTP	0.1 0.2	UL-CSA	32 TR	45 46	.66 .98	30
(1) F8T5 and (1) F13T5	8 & 13	120	ISL2813HTP	0.24	UL-CSA	32 TR	47	.98	30

Hybrid for T8, T10 & T12 Lamps

Lamp Data		Volts	Catalog Number	ANSI Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Shipping Data Weight Per Unit (pounds)	Shipping Data Standard Pack
Description	Watts								
(1) or (2) F15T8/T12 F20T8/T12 F30T10/T12 F40T10/T12 F40 / 25W F40 / 34W FC8T9 (22W) FC12T9 (32W)	15 20 30 40 24 34 22 32	120	IS215-40CTP IS215-40CTP-M	0.70	UL-CUL	26 T 27 E	59	1.55 2.65	1,000 500

U.S. PATENT NOS.: 5,019,938 5,023,521
and 5,249,099 5,387,847
PATENTS PENDING 5,581,449

MAGNETIC



DIMENSIONS (in inches)

CASE STYLE	A	B	C	D	E
E	8-7/8	9-7/16	8-5/16	2-5/16	1-9/16
T	6-1/8	6-1/2	5-3/8	1-7/8	1-3/8
T5	6	6-9/16	5-9/16	2-5/16	1-7/16

Rapid Start HPF Energy Saving Ⓔ Ballasts

High Power Factor and Normal Power Factor

Lamp Data				ANSI				Shipping Data	
Description	Watts	Volts	Catalog Number	Lamp Current (Amps)	Certification & Approval	Dimension Pg. & Illus.	Wiring Diagram (No.)	Weight Per Unit (pounds)	Standard Pack
ENERGY SAVING / HIGH POWER FACTOR									
(1) F40T12	40	120	ES140HTP	0.40	UL-CSA	33 E	30	3.5	320
(1) F40/25	25			0.36					
(1) F40/34	34								
(2) F40T12	40	120	ES240HTP	0.50	UL-CSA	33 E	18	3.5	320
(2) F40/25	25			0.42					
(2) F40/34	34								
(2) F30T12	40								
(2) F40/25	40	120	ES240HTP-CW**	0.43	UL-CSA	33 E	30	3.5	320
(2) F40/34	25			0.46					
(2) F40T12	40	120	ES240RTP*	0.61	UL/CSA	33 E	18	3.5	320
(2) F40/34	34			0.50					
(2) F96T12	75	120	ES275HTP	0.65 max	UL-CSA	33 E	30	7.25	320
(2) F96T12	60	277	ES275HTP-277	0.55 max					
(2) 60" T12	48	120	ES296HTP*	0.55 max					
(2) 64" T12	50								
(2) 72" T12	55								
(2) 84" T12	65								
ENERGY SAVING / NORMAL POWER FACTOR									
(1) F30T12	30	120	RT134ZTP	0.55	UL-CSA	33 E	13	2.0	500
(1) F40T12	40			0.55					
(1) F40/34	34			0.66					
(1) FC12T9	32			0.60					
(1) FC8T9	22	120	RT2232ZTP-WC	0.45 max	UL-CSA	33 T5	60	2.5	400
(1) FC12T9	32								
(2) F14T8	14	120	RT2452ZTP	0.32	UL-CSA	33 T5	17	2.5	400
(2) F15T8/T12	15			0.32					
(2) F20T8/T12	20			0.36					
(1) F14T8	14	120	RT452ZTP	0.32	UL-CSA	33 T	13	2	500
(1) F15T8/T12	15			0.32					
(1) F20T8/T12	20			0.36					
(2) F40T12	40	120	SL234NTP	0.48	UL-CSA	33 T5	17	2.5	400
(2) F40/34W	34			0.75					
(2) 48" T12	25			0.50					
THREE and FOUR LAMP / TWO STEP DIMMERS									
(3) F15T8/T12	15	120	RT3452ZTP-D	0.45 max	UL-CSA	33 E	61	3.5	320
(3) F20T12	20								
(4) F15T8/T12	15	120	RT4452ZTP-D	0.45 max	UL-CSA	33 E	62	3.5	320
(4) F20T12	20								

* High Power. Residential

** 0° F Start, Cold Weather

RADIONIC Lamp Ballast Limited Warranty (Summary)

Radionic Industries, Inc. ("Radionic") warrants to the original purchaser that lamp ballasts purchased from it will be free from defects in material and workmanship from the date of manufacture for the following time periods ("Warranty Period"):

Magnetic and Hybrid Ballasts	2 years
Special Ballasts*	2 years
NPF Electronic Ballasts	2 years
HPF Electronic Ballasts	5 years

Radionic's obligation hereunder is limited to repair or replacement, at Radionic's option, at Radionic's factory, of any ballasts proving defective during the Warranty Period. All returns for repair or replacement must be approved by Radionic in advance. All transportation charges are the buyer's responsibility. Radionic is not responsible for any labor cost related to defective ballasts. However, at Radionic's sole option, Radionic may, by writing in advance, agree to reimburse the original purchaser for labor costs for ballast replacement at up to $10 per ballast. Radionic warrants only lamp ballasts manufactured by Radionic, not products distributed by it that are manufactured by others.

This warranty is only extended to the original purchaser. This warranty does not apply if the ballast is subjected, negligently or intentionally, to improper storage temperatures, installation, use or maintenance. This warranty does not apply to any ballast which is not installed and operated in accordance with Radionic's "Caution and Installation Instructions" and in accordance with the current edition of the National Electrical Code (NEC), the standards for Safety of Underwriters Laboratories, Inc. (UL) or CSA, the Standards of the American National Standards Institute (ANSI) and instructions, specifications and guidelines for installation, maintenance, proper application and/or operation of the ballast and any product containing the ballast. This warranty does not cover any ballast that is operated in an ambient temperature exceeding 50° C and does not cover any ballast where the hottest spot on the ballast case (sometimes marked TC point) exceeds 75° C.

RADIONIC MAKES NO OTHER GUARANTY OR WARRANTY OTHER THAN THE LIMITED WARRANTY EXPRESSLY SET FORTH ABOVE. ANY IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR OTHER EXPRESS OR IMPLIED WARRANTY OF ANY KIND, STATUTORY OR OTHERWISE, HEREBY IS DISCLAIMED AND EXCLUDED.

*Special ballasts, including but not limited to, Catalog No. E1813, E2813, (all with or without HP or NP suffix) or any ballast specified in a letter or quote sent to a purchaser as special and includes all normal power factor electronic ballasts , are warranteed for 2 years.

Radionic will not under any circumstances, whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise, be liable for special or exemplary damages, including but not limited to loss of profits or revenues, loss of use of the ballast or any other goods or associated equipment, damage to any associated equipment, cost or capital cost or substitute products, facilities or services, down time cost or claims of claimant's customers. Radionic's liability on any claim of any kind for any loss or damages arising out of, resulting from or concerning any aspect of its agreement with a buyer or from the products or services furnished thereunder shall not exceed the price of the specific ballast or ballasts which gives rise to the claim. This warranty only covers ballasts sold by Radionic to OEM fixture manufacturers and installed in fixtures by them. Ballasts installed by anyone else are not covered.

This warranty gives the claimant specific legal rights. This warranty is construed and enforced under the internal laws of the State of Illinois. A particular claimant may also have other rights, which vary from state to state. See our complete warranty and terms and conditions of sales on the back of your acknowledgement or invoice. In case of any conflict our complete warranty governs.

ELECTRONIC BALLASTS

CAUTION WARNINGS AND INSTALLATION INSTRUCTIONS

Installation Instructions:

Caution, this product is to be installed only by a licensed electrician in accordance with National, State and Local electrical codes as well as UL/CSA standards. Do not open ballast enclosure. Use wire 18 AWG solid copper stripped to 3/8" for all ballast connections. Use proper rated UL labeled wire, (600V/105°C, 1000 V/90°C) for all high frequency output lamp connections.

Use proper wiring techniques, including but not limited to: minimize wire lengths, eliminate any intermediate connections and use of proper strain relief techniques. Do not twist any excess wires together and avoid running high frequency lamp wires with any input power wires.

To insure maximum performance and trouble free operation, the Red Leads, should not exceed a maximum length of 1M (3.3 ft) to reduce the effects of stray capacitance ≤ 100pf. The other wires should not exceed 2M (6.6 ft).

Maximum starting voltage may reach 1500 volts, so always disconnect power before relamping. Keep hot connection wire (between power source and ballast) as short as possible (less than 1 meter max).

Safety Functions:

This electronic ballast will turn off under faulty lamps, no lamp and short circuit condition. There is no user replaceable fuse. **Disconnect power before servicing lamps/ballast.** After elimination of the faulty or defective lamp, the ballast will automatically restart after lamp change. **IF IT DOES NOT, DISCONNECT POWER FOR 10 SECONDS AND THEN RECONNECT POWER TO AUTOMATICALLY RESTART.**

Heat Elimination or Heat Exchange:

It should be noted that high ambient temperatures reduce the life of any electronic ballast. When installing ballasts in a lighting fixture, special care is necessary to ensure adequate ventilation of the electronic ballast. Using our electronic ballast to a maximum ambient temperature of 50° C (122° F) is allowed provided the ballast enclosure temperature Tc point will not exceed 75° C (167° F). If unit is operated under improper ambient temperatures, our warranty is void.

Important Information:

High Energy surge immunity of Radionic Electronic Ballast surpasses the IEC10004-5 standard of 1000V. Do not install electronic ballasts together with inductive loads such as, but not limited to, conventional fluorescent luminaries, motors and ventilators in the same electrical circuit because these inductive loads can generate excessive high energy surges of several thousand volts when switched off, thereby subjecting electronic ballasts to abnormal stresses. Our warranty is not applicable for defects caused by aforesaid high-energy surges. Install electronic ballast on separate circuits from inductive loads.

Hi-Pot Testing:

Before hi-pot test is done, short-circuit all primary connections and disconnect the earth terminal. To avoid voltage surges, the test voltage should only be applied after all connections have been made. Initially, apply no more than half the maximum test voltage (as per UL/CSA standards), then gradually increase to the maximum test voltage and hold for 1 second as per applicable standards.

Warranty: See our complete warranty for further details.

GENERAL BALLAST INFORMATION

Safety

The National Electrical Code requires grounding of fluorescent fixtures. The fluorescent ballast case must be grounded either to the fluorescent fixture or, if remote mounted, by other means such as a wire from ballast case to ground. Without proper fixture and ballast grounding, a shock hazard may exist due to the fluorescent fixture becoming energized by an internal ballast failure to case. Also, all ballasts have normal leakage current. We suggest reading the complete National Electronic Code for more detailed information.

Starting

The metal of a fluorescent fixture is a starting aid when properly grounded. Fluorescent lamps rated at 40 watts or less used for rapid or trigger start operation must be mounted within ½" of a grounded metal surface. All other lamps must be mounted within 1" of a grounded metal surface.

An important additional factor for proper lamp starting is polarity. The white ballast lead must be connected to the ground of the power supply (neutral) and the black lead to the hot line wire. A reversal of polarity may result in lamp damage or improper lamp starting.

Cold Weather Operation

Lumen ratings of fluorescent lamps apply for operation in still air at a temperature of 77° F. While many fluorescent lamps and fluorescent lamp ballasts are designed to give their best performance at 77° F., they will provide reasonably good light output down to 50° F. Further decreases in ambient temperature will result in decreased light output.

Variables such as humidity, line voltage, fixture design and variations within the particular design of the lamp and the fluorescent lamp ballast play an important part in determining the low temperature starting limit.

These are the two considerations for low temperature application:

1. Starting of the lamps
2. Operating the lamps

1. Low temperatures change the electrical starting characteristics of a fluorescent lamp. As the fluorescent lamp becomes colder, it becomes more difficult to start. Therefore, a fluorescent ballast must have a higher starting voltage, thus follow the temperature recommendations shown in the tables. Ballasts designed for low temperature use insure reliable starting only and not light output.

2. The light output of any fluorescent lamp depends on the mercury vapor pressure within the lamp. Maximum light output for most fluorescent lamps occurs when the bulb temperature is about 100° F. As the bulb wall temperature goes above 100° F the mercury vapor pressure within the tube increases and the light output decreases.

Interestingly enough, at lower bulb-wall temperatures, the mercury condenses on the tube, pressure drops and the light output again decreases. This is inherent in all fluorescent lamps. In order to prevent reduction in light output at low temperatures the lamp should be enclosed so it has a chance to overcome the low bulb-wall temperature by the heat generated by the lamp.

In general, outdoor lighting installations have tended toward 800 and 1500 mA lamps since the additional heat generated by these lamps will provide better illumination in cold weather than can be obtained with 430 mA lamps. The 430 mA lamps are not recommended by lamp manufacturers for starting conditions below 0° F. Above this temperature, shielding is required to a greater degree than with the more heavily loaded lamps. Special low temperature lamps, which may be purchased with shields, are available for 1500 mA operation.

Ballast Sound

The slight hum present in magnetic fluorescent lighting installations originates from the inherent magnetic action in the core and coil assembly of the ballasts. This hum may be amplified by the method of mounting the ballast in the fixture . . . the fixture design . . . and more often than not, this hum is amplified by the resonant qualities of the ceilings, walls floors and furniture. In planning a lighting installation, careful consideration must be given to the selection of the fluorescent lamp ballast, the lighting fixture and room components. These precautions will insure the quietest installation possible.

The choice of fluorescent lamp ballasts should be made on the basis of selecting the one rated quietest for a specific location or interior as some ballasts have a more discernible hum due to basic construction features and electrical ratings.

Temperature & Ventilation

Underwriters' Laboratories, Inc. stipulates that the temperature limitation of a magnetic fluorescent lamp ballast using Class A insulation at normal operation should have a maximum ballast coil temperature of 105° C (221° F) and maximum ballast case temperature of 90° C (194° F) at its hottest spot. Ballast life will be reduced if it is operated at a temperature above these limits.

A fluorescent lamp ballast, like other electrical equipment, generates heat during normal operation. If not maintained within prescribed limits, this heat will become the primary cause of reduced ballast life. Heat generated in the conventional ballast is transferred to the case through a silica compound, which totally surrounds the internal components, and is then dissipated to the surrounding air or mounting surface by conduction, convection or radiation.

It is therefore essential that a ballast which is placed in an enclosure be suitably ventilated. Where more than one ballast is installed in an enclosure, the ballasts should be positioned far enough apart to provide adequate heat dissipation.

To assist in limiting the temperature rise of ballasts, the following procedures are recommended:

- Mount ballast with maximum number of sides in direct contact with metal channel of fixture. Radiators are an excellent means of dissipating heat.
- Provide fixture ventilation.
- Paint the unpainted fixture channels with a non-metallic finish to increase radiation.
- Place fixture to attain maximum dissipation of heat by conduction, convection or radiation.

Class P Ballast Protection

Section 410-71 (e) of the NECode requires that all indoor fluorescent fixtures manufactured after July 1, 1969 shall incorporate ballast protection. Those fixtures employing a simple reactive type ballast are excepted. UL requires that ballasts for most twin tube and similar lamps be thermally protected.

The protector is located within the ballast case to prevent physical damage and tampering.

Radionic ballasts ordered with Class P ballast protection are equipped with a thermally actuated automatic reclosing protective device.

FIXTURE DESIGN

There is no substitute for safe fixture design and testing. No ballast made is safe for every application without regard to fixture design, ventilation, materials used and other factors. Heat rise and other testing should always be done on any fixture incorporating a ballast, before it is put on the market. It is also important to consider the application your fixture will be used in and to design it for the most adverse possible factors.

Every fixture using a Radionic ballast should be designed and operated according to UL, NEC and ANSI specifications. See our warranty.

Glossary of Terms

ANSI – American National Standards Institute. It establishes the performance standards for ballasts, lamps and testing methods which are accepted by the lighting industry.

ANSI C82.2 – A specific standard for the method of measurement of the fluorescent lamp ballast including a means of determining the *relative light output* of the ballast.

This is a bench top test conducted at room temperature (77° F) with the ballast and lamps exposed to open air. The lamp bulb wall temperature will be approximately 100° F.

Under these conditions, the spot brightness of the lamp(s) is measured on both the ballast under test and a reference ballast made to specific industry standards. The light reading with the test ballast is expressed as a percentage of the reading with the reference ballast and is termed *relative light output*.

CBM – Certified Ballast Manufacturers Association. A group of ballast manufacturers who accept the ANSI specifications and design their ballasts to meet these standards.

ETL – Electrical Testing Laboratories. A nationally recognized independent laboratory that tests ballasts for CBM and certifies that the ballasts meet ANSI standards.

INPUT WATTS – The total power input to the ballast which includes lamp watts and ballast losses. The total power input to the fixture is the input watts to the ballast or ballasts and is the value to be used when calculating cost of energy and air conditioning loads.

POWER FACTOR – The power factor of a ballast is the ratio of input watts to the input volt amperes. The equation is:

$$\text{Percent Power Factor} = \frac{\text{Input Watts}}{\text{Input Volts}} \times 100$$

Input Watts = Line Current X Line Voltage

Type 1 and Type 2 Ballasts

Type 1 – Non-weatherproof ballasts can be used in outdoor fixtures or in fixtures for wet and damp locations according to Underwriters' Laboratories, Inc. requirements. The ballast must be used within a metal enclosure. These ballasts are designed to meet Underwriters' Laboratories, Inc. requirement for outdoor Type 1 use. Consult UL for further details.

Type 2 – Non-weatherproof ballasts which are similar to Type 1 except that they may be used in a non-metallic enclosure.

HIGH POWER FACTOR – A power factor of 90 percent or higher. Electric power companies may have a penalty charge if overall building factors fall below 90 percent.

The line current is lower for a high power factor ballast than a normal or uncorrected power factor ballast by 40 to 50 percent allowing more fixtures per circuit.

Special Check Points for Rapid Start Ballasts

The following list of checks is intended to aid you in obtaining full rated performance from a Rapid Start installation:

- Be sure Rapid Start lamps are being used.
- Make certain the lamps are seated properly.
- Check socket spacing against length of lamp to assure proper contact.
- Check polarity.*
- Be sure the luminaire is grounded.*
- Lamps of forty watt (40 W) rating or less, except 265 mA., must be mounted within *one-half* inch of a grounded metal reflector, cover of the ballast channel or grounded metal strip at least one inch wide over the full length of the lamp. Spacing of three quarter inch applies to 265 mA T8 lamps. Spacing of *one* inch applies to 800 mA and 1500 mA lamps.

*Check these points by using a voltmeter. It must indicate nearly full line voltage between the black ballast lead and metal fixture.

The above check list may also be used for Trigger Start ballasts with the exception that general lamps are used instead of Rapid Start Lamps.

Specifications and data in this catalog are subject to change or correction without notice.

Compliance with National Electrical Code and Underwriters' Laboratories, Inc. Requirements

All ballasts and fixtures must be installed and operated in compliance with the National Electrical Code, requirements of Underwriters' Laboratories, Inc. and all applicable local codes and regulations. This includes, but is not limited to, proper grounding of ballasts and fixtures as well as prescribed branch and total circuit protection.

Ballast Replacement

Ballast replacement presents the possibility of exposure to potentially hazardous voltages and should be performed only by qualified personnel. All installation inspection and maintenance should be performed only with the entire circuit power to fixture or equipment turned off.

Heat

A fluorescent lamp ballast, like any other electrical device, generates heat during its normal operation. With proper planning for the maximum dissipation of this heat in both fixture design and installation layout, a problem need not arise.

It is imperative that operating temperatures be kept as low as possible. Although excessive temperature may not cause the ballast to burn out immediately, it will definitely shorten ballast life.

According to Underwriter's Laboratories, Inc. requirements, the magnetic ballast case temperature should not exceed 90° C and the coil temperature should *not* exceed 105° C. However, the correlation between coil temperature and ballast case temperature will vary with ballast type and design. It is desirable to minimize the differential between case and coil temperatures to considerably less than 15° C – the lower the coil temperature, the longer the ballast life.

The causes of ballast overheating are many and varied:

MISAPPLICATION
- Incorrect lamp size or type
- Incorrect number of lamps
- Incorrect primary voltage or frequency
- Incorrect fixture

ABNORMAL CONDITIONS
- Shorted starter
- Dead or burned out lamp
- Rectifying lamp (nearing end of lamp life, blackened ends)
- Excessive ambient heat

FIXTURE DESIGN
- Improper design resulting in inadequate dissipation of heat from ballast and lamp

OTHER
- Incorrect wiring
- Excessive line voltage fluctuation
- Fixture surrounded by heavy insulation
- Ceiling of low heat conductivity.

To prevent damage to the ballast and fixture from overheating and to maintain proper light output, simple precautionary measures can be taken to assure long, trouble-free ballast life.

Radionic's engineering staff recommendations:
- Selection of a proper ballast to match the requirements of the lamp, fixture, voltage and installation.
- Mounting of a ballast within the fixture with as much surface contact as possible between the ballast and metal portions of the fixture.
- The use of heat conducting dissipaters, if necessary, which increase surface contact or otherwise increase heat conductivity between the ballast case and metal portions of the fixture which are cooler than the ballast.
- Designing the fixture to attain maximum dissipation of heat by conduction, convection or radiation and, where necessary, allowing space between the fixture and a low density ceiling.
- If necessary, remote location of the ballast in a cooler area outside the fixture.
- Planned lamp maintenance – the organized replacement of blinking, dead or burned out lamps.
- Use of special LOW HEAT rise or VERY LOW HEAT rise ballasts where available and necessary

Lamps, too, are affected by overheating. A rise in bulb-wall temperature beyond its rated operating point will result in reduced light output and shortened lamp life.

With the required use of Class P ballasts, it is imperative that all fixtures, equipped with the specific ballasts to be used, should be heat tested under simulated installation conditions to assure that the ballasts will not cycle when the fixtures are installed.

Low Ambient Temperature (cold)

Most fluorescent ballasts and lamps are designed for optimum performance (starting dependability and light output) at an ambient temperature of 77° F.

STARTING DEPENDABILITY – All ballasts have a limitation as to their ability to start lamps at a low ambient temperature.

Ambient temperature is not the sole factor in determining poor starting conditions. Voltage, humidity, drafts, polarity, dirt and spacing between lamps and starting aid may also influence starting dependability.

LIGHT OUTPUT – Although a ballast may start a lamp reliably in low temperatures, light output will be reduced until the lamp wall temperature reaches 100° F to 120° F. This temperature will be reached when bare lamps are exposed to still air of 70° F to 80° F. Drafts and moving cold air may cause the lamp to flicker. To avoid this problem, the use of enclosed fixtures is recommended. By so doing, heat generated by the lamp is confined within the enclosure raising the lamp temperature to a level which will maintain proper light output. Bear in mind that excessive lamp shielding may cause lamp and ballast overheating in the summertime.

BALLASTS SHOULD BE PROTECTED FROM WEATHER, MOISTURE OR OTHER ABNORMAL ATMOSPHERIC CONDITIONS AND SPECIAL APPLICATIONS SUCH AS FREEZER INSTALLATIONS BY FIXTURES DESIGNED TO MEET SPECIAL ADVERSE CONDITIONS.

Sound

Care must be taken to select a ballast with the proper sound rating for a particular lighting installation. All electrical equipment produces some noise. This is also true of fluorescent lamp ballasts. It is the degree of noise or hum which determines the existence of a problem. Ballast sound will be noticeable only when it *exceeds* the ambient sound level. It is obvious that a ballast made primarily for use in a factory location would not be suitable in a library.

The presence of objectionable ballast hum depends upon various factors:

- The ambient sound level of the area to be lighted
- The selection of properly sound-rated ballasts
- Fixture design and construction
- Method of mounting ballast to fixture
- Type and purpose of room
- Acoustics of room
- Number of ballasts in a given area
- Excessive ballast operating temperature

Careful analyses of all influences bearing on sound within an area to be illuminated will enable you to select the proper ballast to eliminate objectionable ballast noise. Just as Radionic Ballasts are produced to meet various electrical requirements, so are they made to fit particular sound needs.

In situations where required light output necessitates using a ballast with a sound rating not normally acceptable, the ballast should be remotely located.

Polarity

Polarity refers to the proper connection of ballast lead wires to line wires. To aid you in making a correct installation, Radionic Ballast leads are color-coded for easy identification. The white ballast lead is to be connected to the neutral (grounded) and the black lead always to the phase ("hot") line wire. For line systems with neither of the line wires at ground potential, specially designed ballasts are required.

A change in polarity may result in the voltage from lead to ground exceeding limits specified by Underwriters' Laboratories, Inc. In some types of ballasts, a change in polarity may decrease voltage from lead to ground thereby impeding the starting dependability of the ballast.

Grounding

Ballast cases and fixtures must always be grounded. The ballast case may be grounded to the fixture or otherwise connected to ground. It would be hazardous to make contact with an ungrounded fixture or ballast when in operation. Neglecting to properly ground the ballast and fixture combination may also result in failure of certain lamps to start.

Operating Line Voltage Limits

To receive the full benefits of rated lamp output and to prolong ballast life, it is essential that voltage supplied to an installation be maintained within limits prescribed for each circuit. These limits are listed below:

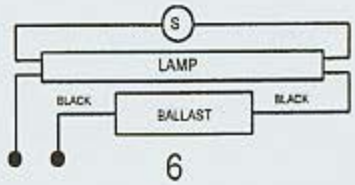
NOMINAL VOLTAGE	VOLTAGE RANGE MINIMUM	MAXIMUM
120	115	122
127	122	130
208	200	212
220	210	225
240	232	245
277	262	284
347	315	364

Subjecting a ballast to excessive voltage results in the deterioration of the insulation. This insulation breakdown will cause early ballast failure.

Low voltage has no damaging effect on the ballast. However, lamps may not start with desired reliability and early lamp failure could result.

See our complete warranty and terms and conditions of sale.

WIRING DIAGRAMS (MAGNETIC BALLASTS)



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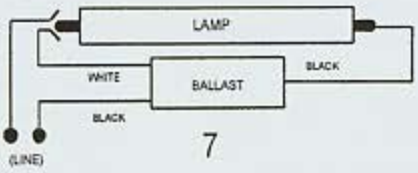

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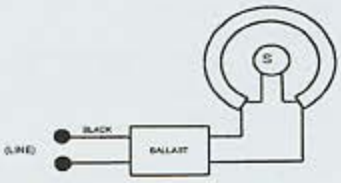

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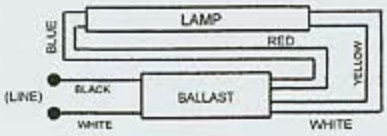

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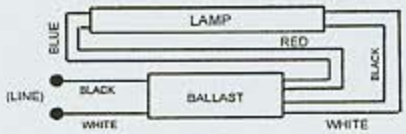

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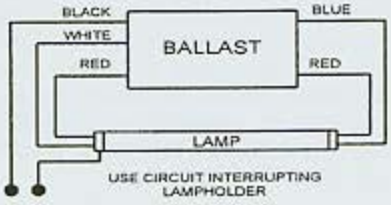

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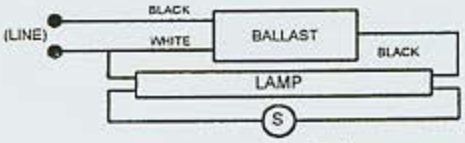

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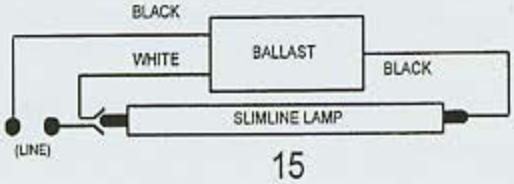

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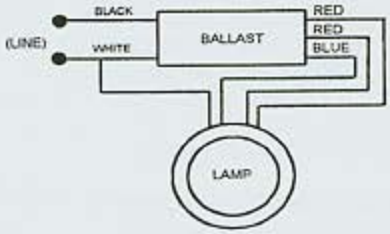

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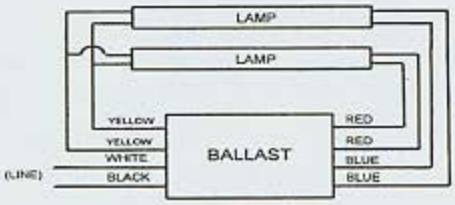

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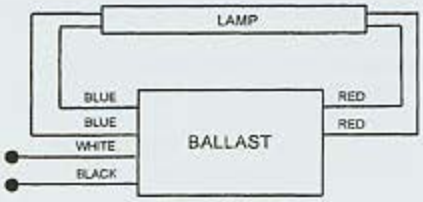

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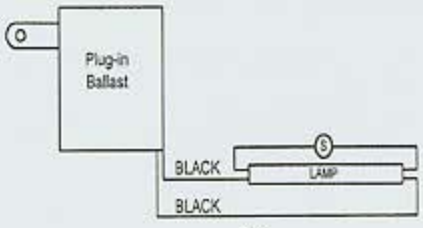

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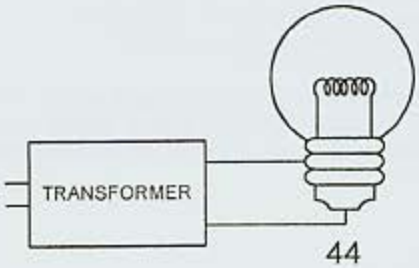

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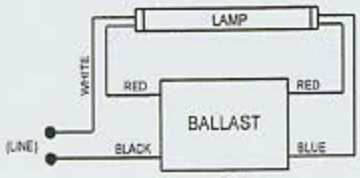
WIRING DIAGRAMS (MAGNETIC BALLASTS)



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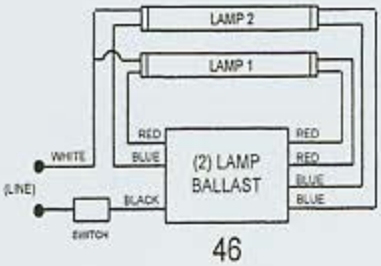

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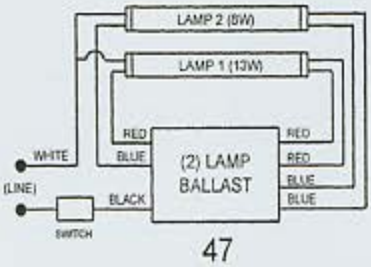

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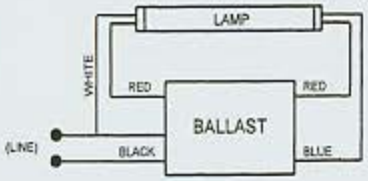

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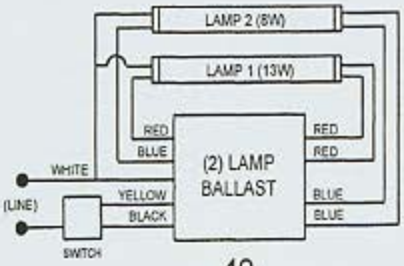

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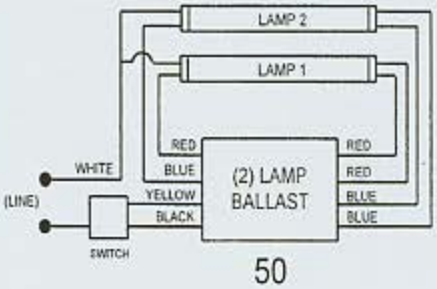

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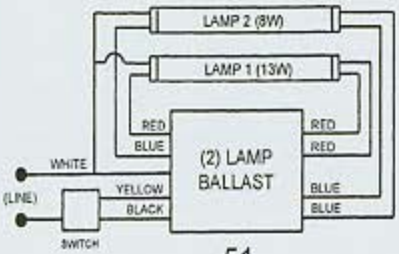

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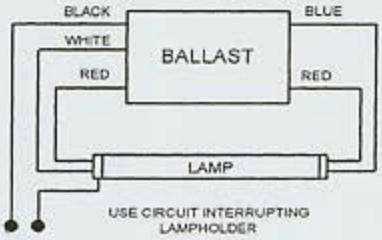

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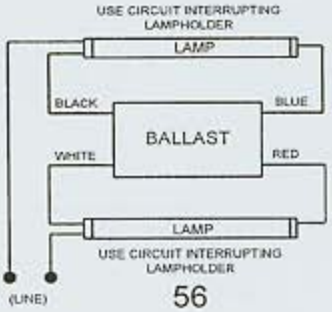

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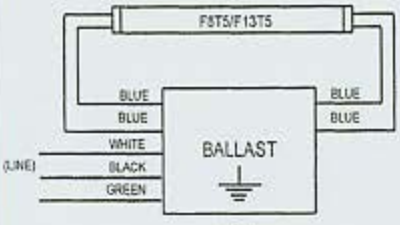

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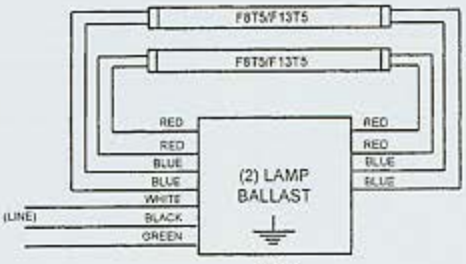

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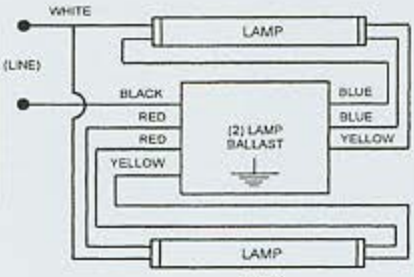

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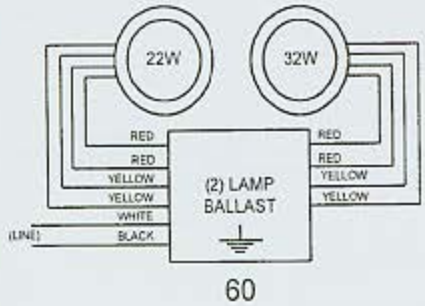

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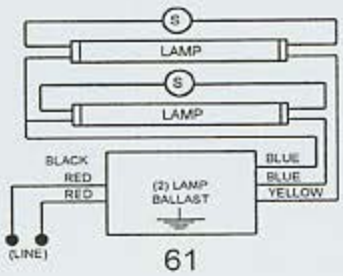

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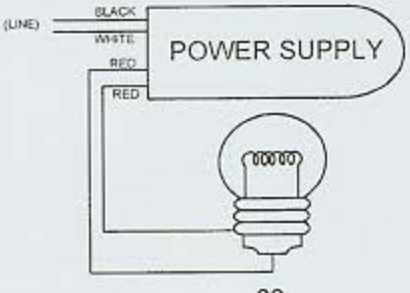

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RADIONIC Ballasts ENERGY STAR

Type	Model #	Watts	Lamp Designation (NEMA or mfr.)	# of lamps	Lamp Current Crest Factor
Electronic	RCFD-UML-13	9	CFT9/2G11	1	1.45
Electronic	RCFD-UML-13	10	FDS10(Panasonic)	1	1.45
Electronic	RCFD-UML-13	13	CFT13/2G11	1	1.45
Electronic	RCFD-UML-13	13	CFQ13/GX24q	1	1.41
Electronic	RCFD-UML-13	9	CFT9/2G11	2	1.38
Electronic	RCFD-UML-13	10	CFDS10(Panasonic)	2	1.4
Electronic	RCFD-UML-13	11	CFT13/2G11	2	1.34
Electronic	RCFD-UML-13	13	CFQ13/GX24q	2	1.37
Electronic	RCFD-UML-18	18	CFQ18/GX24q	1	1.45
Electronic	RCFD-UML-18	18	CFQ18/GX24q	2	1.37
Electronic	RCFD-UML-26	18	CFQ18/GX24q	1	1.42
Electronic	RCFD-UML-26	24	CFT24/2G11	1	1.39
Electronic	RCFD-UML-26	26	CFM26/GX24q	1	1.42
Electronic	RCFD-UML-26	18	CFQ18/GX24q	2	1.34
Electronic	RCFD-UML-26	24	CFT24/2G11	2	1.31
Electronic	RCFD-UML-26	26	CFM26/GX24q	2	1.33
Electronic	RCFD-USL-42	32	CFM32/GX24q	1	1.41
Electronic	RCFD-USL-42	36	CFT36/2G11	1	1.35
Electronic	RCFD-USL-42	40	CFT40/2G11	1	1.35
Electronic	RCFD-USL-42	42	CFM42/GX24q	1	1.36
Electronic	RPL2D13RD	5	CFT5/2G11	1	1.56
Electronic	RPL2D13RD	7	CFT7/2G11	1	1.5
Electronic	RPL2D13RD	9	CFT9/2G11	1	1.48
Electronic	RPL2D13RD	10	CFQ10/GX24q	1	1.41
Electronic	RPL2D13RD	13	CFQ13/Gx24q	1	1.48
Electronic	RPL2D13RD	16	CFS16/GR10q	1	1.44
Electronic	RPL2D13RD	5	CFT5/2G11	2	1.36
Electronic	RPL2D13RD	7	CFT7/2G11	2	1.34
Electronic	RPL2D13RD	9	CFT9/2G11	2	1.33
Electronic	RPL2D13RD	10	CFQ10/GX24q	2	1.41
Electronic	RPL2D13RD	13	CFQ13/Gx24q	2	1.39
Electronic	RPL2D13RD	13	CFT13/2G11	2	1.36
Electronic	RPL2D13RD	16(2D)	CFS16/GR10q	2	1.32
Electronic	RPL2D18RD	18	CFQ18/GX24q	1	1.47
Electronic	RPL2D18RD	21(2D)	CFS21/GR10q	1	1.5
Electronic	RPL2D18RD	18	CFQ18/GX24q	2	1.38
Electronic	RPL2D18RD	21(2D)	CFS21/GR10q	2	-
Electronic	RPL2D26RD	18	CFT18/2G11	1	1.42
Electronic	RPL2D26RD	24	CFT24/2G11	1	1.38
Electronic	RPL2D26RD	26	CFM26/GX24q	1	1.41
Electronic	RPL2D26RD	18	CFT18/2G11	2	1.37
Electronic	RPL2D26RD	24	CFT24/2G11	2	1.35
Electronic	RPL2D26RD	26	CFM26/GX24q	2	1.38
Electronic	RPL26-42R-M	26	CFM26/GX24q	1	1.48
Electronic	RPL26-42R-M	32	CFM32/GX24q	1	1.4
Electronic	RPL26-42R-M	36	CFT36/2G11	1	1.4
Electronic	RPL26-42R-M	40	CFT40/2G11	1	1.42
Electronic	RPL26-42R-M	42	CFQ42/GX24q	1	1.33
Electronic	RFL1T14-35M	14	F14T5	1	1.44
Electronic	RFL1T14-35M	21	F21T5	1	1.37
Electronic	RFL1T14-35M	28	F28T5	1	1.41
Electronic	RFL1T14-35M	35	F35T5	1	1.32
Electronic	RFL2T18-36M	18	CFT18/2G11	1	1.5
Electronic	RFL2T18-36M	24	CFT24/2G11	1	1.47
Electronic	RFL2T18-36M	36	CFT36/2G11	1	1.4
Electronic	RFL2T18-36M	18	CFT18/2G11	2	1.44
Electronic	RFL2T18-36M	24	CFT24/2G11	2	1.37
Electronic	RFL2T18-36M	36	CFT36/2G11	2	1.39
Electronic	RFL2T17-32M	17	F17T8	1	1.43
Electronic	RFL2T17-32M	25	F25T8	1	1.39
Electronic	RFL2T17-32M	32	F32T8	1	1.29
Electronic	RFL2T17-32M	17	F17T8	2	1.32
Electronic	RFL2T17-32M	25	F25T8	2	1.3
Electronic	RFL2T17-32M	32	F32T8	2	1.27
Electronic	RFLS2T24-39M	24	F24T5/HO	1	1.41
Electronic	RFLS2T24-39M	39	F39T5/HO	1	1.36
Electronic	RFLS2T24-39M	24	F24T5/HO	2	1.42
Electronic	RFLS2T24-39M	39	F39T5/HO	2	1.29
Electronic	RFLS2T18-40M	18	CFT18/2G11	1	1.52
Electronic	RFLS2T18-40M	24	CFT24/2G11	1	1.44
Electronic	RFLS2T18-40M	36	CFT36/2G11	1	1.43
Electronic	RFLS2T18-40M	40	CFT40/2G11	1	1.39
Electronic	RFLS2T18-40M	18	CFT18/2G11	2	1.46
Electronic	RFLS2T18-40M	24	CFT24/2G11	2	1.43
Electronic	RFLS2T18-40M	36	CFT36/2G11	2	1.34
Electronic	RFLS2T18-40M	40	CFT40/2G11	2	1.32
Electronic	RFLS1T54	54	F54T5/HO	1	1.41
Electronic	E1813HP	8	F8T5	1	1.54
Electronic	E1813HP	13	F13T5	1	135
Electronic	E1813NP	8	F8T5	1	1.47
Electronic	E1813NP	13	F13T5	1	1.27
Electronic	E232H12*	17	F17T8	1	1.39
Electronic	E232H12*	25	F25T8	1	1.45
Electronic	E232H12*	32	F32T8	1	1.47
Electronic	E232H12*	17	F17T8	2	1.51
Electronic	E232H12*	25	F25T8	2	1.47
Electronic	E232H12*	32	F32T8	2	1.5
Electronic	E232H12LP*	17	F17T8	1	1.55
Electronic	E232H12LP*	25	F25T8	1	1.51
Electronic	E232H12LP*	32	F32T8	1	1.47
Electronic	E232H12LP*	17	F17T8	2	1.59
Electronic	E232H12LP*	25	F25T8	2	1.55
Electronic	E232H12LP*	32	F32T8	2	1.45
Electronic	E232N12*	17	F17T8	1	1.58
Electronic	E232N12*	25	F25T8	1	1.5
Electronic	E232N12*	32	F32T8	1	1.46
Electronic	E232N12*	17	F17T8	2	1.52
Electronic	E232N12*	25	F25T8	2	1.47
Electronic	E232N12*	32	F32T8	2	1.4
Electronic	E2813HP	8	F8T5	2	1.63
Electronic	E2813HP	13	F13T5	2	1.3
Electronic	E2813NP	8	F8T5	2	1.45
Electronic	E2813NP	13	F13T5	2	1.29
Electronic	E332H12*	17	F17T8	2	1.41
Electronic	E332H12*	25	F25T8	2	1.5
Electronic	E332H12*	32	F32T8	2	1.46
Electronic	E332H12*	17	F17T8	3	1.49
Electronic	E332H12*	25	F25T8	3	1.39

Type	Model #	Watts	Lamp Designation (NEMA or mfr.)	# of lamps	Lamp Current Crest Factor
Electronic	E332H12*	32	F32T8	3	1.31
Electronic	E332H12LP*	17	F17T8	2	1.29
Electronic	E332H12LP*	25	F25T8	2	1.3
Electronic	E332H12LP*	32	F32T8	2	1.34
Electronic	E332H12LP*	17	F17T8	3	1.65
Electronic	E332H12LP*	25	F25T8	3	1.59
Electronic	E332H12LP*	32	F32T8	3	1.55
Electronic	E432H12*	17	F17T8	3	1.61
Electronic	E432H12*	25	F25T8	3	1.56
Electronic	E432H12*	32	F32T8	3	1.56
Electronic	E432H12*	17	F17T8	4	1.6
Electronic	E432H12*	25	F25T8	4	1.55
Electronic	E432H12*	32	F32T8	4	1.52
Electronic	E432H12LP*	17	F17T8	3	1.59
Electronic	E432H12LP*	25	F25T8	3	1.52
Electronic	E432H12LP*	32	F32T8	3	1.49
Electronic	E432H12LP*	17	F17T8	4	1.57
Electronic	E432H12LP*	25	F25T8	4	1.52
Electronic	E432H12LP*	32	F32T8	4	1.45
Electronic	E432N12*	17	F17T8	3	1.58
Electronic	E432N12*	25	F25T8	3	1.55
Electronic	E432N12*	32	F32T8	3	1.51
Electronic	E432N12*	17	F17T8	4	1.41
Electronic	E432N12*	25	F25T8	4	1.42
Electronic	E432N12*	32	F32T8	4	1.44
Electronic	RCFD-UML-13BL	9	CFT9/2G11	1	1.44
Electronic	RCFD-UML-13BL	10	CFQ10/GX24q	1	1.45
Electronic	RCFD-UML-13BL	11	-	1	-
Electronic	RCFD-UML-13BL	13	CFQ13/GX24q	1	1.44
Electronic	RCFD-UML-13BL	9	CFT9/2G11	2	1.34
Electronic	RCFD-UML-13BL	10	CFQ10/GX24q	2	1.43
Electronic	RCFD-UML-13BL	11	-	2	-
Electronic	RCFD-UML-13BL	13	CFQ13/GX24q	2	1.37
Electronic	RCFD-UML-18BL	18	CFQ18/GX24q	1	1.34
Electronic	RCFD-UML-18BL	18	CFQ18/GX24q	2	1.37
Electronic	RCFD-UML-26BL	18	CFT18/2G11	1	1.45
Electronic	RCFD-UML-26BL	24	CFT24/2G11	1	1.44
Electronic	RCFD-UML-26BL	26	CFM26/GX24q	1	1.42
Electronic	RCFD-UML-26BL	18	CFT18/2G11	2	1.48/1.45
Electronic	RCFD-UML-26BL	24	CFT24/2G11	2	1.57
Electronic	RCFD-UML-26BL	26	CFQ26/GX24q	2	1.53
Electronic	RCFD-USL-42BL	32	CFM32/GX24q	1	1.55
Electronic	RCFD-USL-42BL	36	CFT36/2G11	1	1.5
Electronic	RCFD-USL-42BL	40	CFT40/2G11	1	1.52
Electronic	RCFD-USL-42BL	42	CFM42/GX24q	1	1.63
Magnetic	C108	4	F4T5	1	1.55
Magnetic	C108	5	CFT5/G23	1	1.57
Magnetic	C108	6	F6T5	1	1.49
Magnetic	C108	7	CFT7/G23	1	1.53
Magnetic	C108	8	F8T5	1	1.54
Magnetic	C108	9	CFT9/G23	1	1.63
Magnetic	C115S-13	13	CFT13/GX23	1	1.53
Magnetic	C122	22	FC8T9 (8-inch circline)	1	1.37
Magnetic	C122	22	FDL22 (Panasonic)	1	1.31
Magnetic	C135	28	FDL28 (Panasonic)	1	1.34
Magnetic	C179	5	CFT5/G23	1	1.46
Magnetic	C179	6	F6T5	1	1.35
Magnetic	C179	7	CFT7/G23	1	1.32
Magnetic	C179	8	F8T5	1	1.46
Magnetic	C179	9	CFT9/G23	1	1.5
Magnetic	C452-8	13	CFT13/GX23	1	1.67
Magnetic	C452-8	14	F14T8	1	1.5
Magnetic	C452-8	15	F15T8	1	1.49
Magnetic	C452-8	15	F15T12	1	1.47
Magnetic	C452-8	20	F20T8	1	1.49
Magnetic	C452-8	20	F20T12	1	1.52
Magnetic	C452-8	22	FC8T9 (8-inch circline)	1	1.51
Magnetic	CE125	25	F25T12	1	1.5
Magnetic	D340	30	F30T12	1	1.53
Magnetic	D340	40	F40T12	1	1.64
Magnetic	D340	32	FC12T9 (12-inch	1	1.6
Magnetic	DT113ZTP	13	F13T5	1	1.55
Magnetic	ES240HTP	25	F40T12 (25w)	2	1.46
Magnetic	ES240HTP	34	F40T12 (34w)	2	1.46
Magnetic	ES240HTP	40	F40T12	2	1.52
Magnetic	ES230HTP	30	F30T12	2	1.49
Magnetic	OT17HTP	17	F17T8	1	1.55
Magnetic	OT17NTP	17	F17T8	1	1.48
Magnetic	OT25HTP	25	F25T8	1	1.51
Magnetic	OT25NTP	25	F25T8	1	1.45
Magnetic	OT32HTP	32	F32T8	1	1.5
Magnetic	OT32NTP	32	F32T8	1	1.57
Magnetic	P1068	4	F4T5	1	1.52
Magnetic	P1068	6	F6T5	1	1.47
Magnetic	P1068	8	F8T5	1	1.52
Magnetic	P115	13	CFT13/GX23	1	1.48
Magnetic	P115	15	F15T8	1	1.44
Magnetic	P115	20	F20T8	1	1.58
Magnetic	P115	20	F20T12	1	1.35
Magnetic	RT134ZTP	25	F40T12 (25W)	1	1.59
Magnetic	RT134ZTP	30	F30T12	1	1.5
Magnetic	RT134ZTP	32	FC12T9 (12-inch	1	1.5
Magnetic	RT134ZTP	34	F40T12 (34W)	1	1.5
Magnetic	RT134ZTP	40	F40T12	1	1.5
Magnetic	RT2232ZTPWC	22/32	FC8T9/FC12T9	2	1.49
Magnetic	RT2452ZTP	14	F14T8	2	1.5
Magnetic	RT2452ZTP	15	F15T8	2	1.52
Magnetic	RT2452ZTP	15	F15T12	2	1.53
Magnetic	RT2452ZTP	20	F20T8	2	1.51
Magnetic	RT2452ZTP	20	F20T12	2	1.63
Magnetic	RT452ZTP	14	F14T8	1	1.52
Magnetic	RT452ZTP	15	F15T8	1	1.5
Magnetic	RT452ZTP	15	F15T12	1	1.49
Magnetic	RT452ZTP	20	F20T8	1	1.52
Magnetic	RT452ZTP	20	F20T12	1	1.53
Magnetic	SL234NTP	25	F40T12 (25w)	2	1.48
Magnetic	SL234NTP	34	F40T12-(34w)	2	1.61
Magnetic	SL234NTP	40	F40T12	2	1.5

The model numbered ballasts that began with "C" are electrically the same as other models with the prefixes "A", "AS", "CE", "CU", or "S". The prefixes indicate the type of frame the ballast is manufactured with, or whether the frame has mounting feet. Subject to phase out of certain ballasts by Energy Star and other changes in requirements by Energy Star.

* Energy Star as of 5/03

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