

WORLD SERIES™



ON, AND ON, AND ON.

Robertson™
WORLDWIDE
INNOVATIVE LIGHTING SOLUTIONS



Lighting Industry Leader for Fifty-Seven Years

For over 57 years, the lighting industry has relied upon Robertson Worldwide for innovative lighting solutions. From the first magnetic ballasts, through developing the ballast for the compact fluorescent lamp to today's high performance electronic ballast, Robertson is known for its dedication to solving customer problems. With four series of ballasts to address specific performance requirements, you can rely on Robertson for the quality products you need to satisfy your customer's expectations:

World Series - World Class, Highest Performance Ballast on the Market Today

Sterling Series - Professional Grade, High Efficiency, Commercial and Residential Applications

Electra Series - Economical, Energy Star Rated, Ideal for the Residential and Hospitality Market

Performance Series - Competitive Performance, High Quality OEM Grade Products

All Robertson ballasts have the same quality of design, components and manufacturing consistency. Each series has specific features and performance targets utilizing the latest in electronic and magnetic technology. Our newest ballasts correctly support more lamp types in more combinations, which in conjunction with wide, multi-voltage support reduce inventory costs and complexity.

Robertson has solutions for the following lighting Technologies

Fluorescent	T5, T8 and T12 Linear, Compact and Circular
High Intensity Discharge	Metal Halide, High and Low Pressure Sodium
Ultraviolet	Air and Water Quality, Germicidal
Dimming	Local, Continuous, 2-Step, 3-Step
Halogen	Voltage Transformers
OptoElectronic (LED)	High Accuracy, Stabilized Power Supplies

Leading manufacturers of the highest quality lighting fixtures and commercial appliances choose Robertson when performance is paramount.

On and On and On . . . Rely on Robertson for Your Lighting Solution.

WHEN SAFETY COMES FIRST. . .

You will want to choose World Series Ballasts from Robertson Worldwide with the exclusive patented All-Star Protection package. These multi-voltage (120V – 277V and 347V) products offer the highest level of safety for electronic ballast applications in the industry.



All-Star Protection Safeguards Against:

- Open Filaments
- High Lamp Voltage
- High Temperature Conditions
- Lamp Rectification
- Low Line Voltage
- Damaged or Shattered Glass

Robertson's "World Series" family of high efficiency, program start, high power factor, multi-volt ballasts have been the industry standard for almost a decade. Additional features:

- A 90°C maximum case temperature and -30°C starting temperature accommodates the most severe environments
- Full 5 year 90°C warranty.
- Color coded Dual Entry connectors provide an efficient and accurate ballast installation
- Program start electronic ballasts extend lamp life and therefore improve life cycle cost.
- Compatible with leading manufacturers of Emergency Battery Packs

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Ballasts for Single-Based Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram
COMPACT FLUORESCENT TWIN TUBE											
5	CFT5W/2G7	1	PSM213CQMVW	120	0.06	7	≥0.98	1.10	≤10	28	152
				277	0.03						
		2		120	0.10	12	≥0.98	1.05	≤15	28	153
				277	0.05						
7	CFT7W/2G7	1	PSM213CQMVW	120	0.07	9	≥0.98	1.07	≤15	28	152
				277	0.04						
		2		120	0.14	16	≥0.98	1.03	≤12	28	153
				277	0.06						
9	CFT9W/2G7	1	PSM213CQMVW	120	0.09	11	≥0.98	1.05	≤15	28	152
				277	0.04						
		2		120	0.16	20	≥0.98	1.02	≤10	28	153
				277	0.07						
13	CFT13W/2GX7	1	PSM218CQMVW	120	0.11	14	≥0.97	0.94	≤15	28	152
				277	0.05						
		2		120	0.21	25	≥0.98	0.90	≤10	28	153
				277	0.09						
COMPACT FLUORESCENT QUAD & TRIPLE TUBE											
10	CFQ10W/G24q	1	PSM213CQMVW	120	0.09	12	≥0.98	1.02	≤12	28	152
				277	0.05						
		2		120	0.17	21	≥0.98	1.02	≤10	28	153
				277	0.08						
13	CFQ13W/G24q, CFTR13W/GX24q	1	PSM213CQMVW	120	0.14	18	≥0.96	1.02	≤12	28	152
				277	0.07						
		2		120	0.27	32	≥0.98	1.01	≤10	28	153
				277	0.12						
18	CFQ18W/G24q, CFTR18W/GX24q	1	PSM218CQMVW	120	0.20	23	≥0.98	1.00	≤10	28	152
				277	0.09						
		2		120	0.35	42	≥0.98	0.98	≤10	28	153
				277	0.15						
26	CFQ26W/G24q, CFTR26W/GX24q	1	PSM226CQMVW	120	0.26	32	≥0.98	1.01	≤10	28	152
				277	0.12						
		2		120	0.48	59	≥0.98	1.00	≤10	28	153
				277	0.21						
		2	PSP242TRMVW	120	0.48	58	≥0.98	1.02	≤10	24	153
				277	0.22						
32	CFTR32W/GX24q	1	PSM157MTMVW	120	0.36	40	≥0.98	1.02	≤10	28	152
			277	0.16							
		1	PSM226CQMVW	120	0.32	38	≥0.98	1.00	≤10	28	152
			277	0.14							
		2	PSP242TRMVW	120	0.59	72	≥0.98	0.98	≤10	24	153
				277	0.27						
42	CFTR42W/GX24q	1	PSM157MTMVW	120	0.45	49	≥0.98	1.02	≤10	28	152
			277	0.20							
		1	PSM226CQMVW	120	0.42	49	≥0.98	1.00	≤10	28	152
			277	0.18							
		1	PSP242TRMVW	120	0.45	52	≥0.98	0.99	≤10	24	152
				277	0.20						
		2		120	0.77	93	≥0.98	0.98	≤10	24	153
				277	0.33						
COMPACT FLUORESCENT MULTI TUBE											
57	CFM57W/GX24q	1	PSM157MTMVW	120	0.60	66	≥0.98	1.01	≤10	28	152
				277	0.26						
		1	PSP242TRMVW	120	0.49	60	≥0.98	1.00	≤10	24	152
				277	0.22						
70	CFM70W/GX24q	1	PSP242TRMVW	120	0.64	77	≥0.98	1.00	≤10	24	152
				277	0.27						

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Ballasts for Single-Based Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram
COMPACT FLUORESCENT LONG TWIN TUBE											
18	FT18W/2G11	1	PSM218FTPHMVW	120	0.23	26	≥0.98	1.03	≤10	28	152
		2		277	0.11						
24	FT24W/2G11	1	PSM226CQMVW	120	0.42	46	≥0.98	1.04	≤10	28	153
				277	0.19						
		2	PSM226CQMVW	120	0.25	32	≥0.98	1.01	≤10	28	152
				277	0.12						
		2	PSP242TRMVW	120	0.45	54	≥0.98	1.00	≤10	28	153
				277	0.20						
		2	PSP242TRMVW	120	0.42	51	≥0.98	1.02	≤10	24	153
				277	0.18						
		1	PST139T5MVW	120	0.23	29	≥0.98	0.99	≤10	19	004
				277	0.11						
36	FT36W/2G11	1	PST139T5MVW	120	0.40	48	≥0.98	0.95	≤10	19	068
				277	0.18						
		2	PSV239T5MVW	120	0.47	58	≥0.98	1.08	≤10	23	068
				277	0.23						
		1	PST139T5MVW	120	0.31	39	≥0.98	0.97	≤10	19	004
				277	0.13						
		1	PSM218FTPHMVW	120	0.39	43	≥0.98	1.02	≤10	28	152
				277	0.17						
		1	PSP242TRMVW	120	0.28	35	≥0.96	0.83	≤15	24	152
				277	0.13						
		2	PSP242TRMVW	120	0.54	65	≥0.98	0.86	≤10	24	153
				277	0.24						
		1	PSR255FTMV	120	0.36	44	≥0.98	1.10	≤10	12	152
				277	0.17						
40	FT40W/2G11/RS	1	PSP242TRMVW	120	0.67	80	≥0.98	1.10	≤10	12	153
				277	0.30						
		2	PSV239T5MVW	120	0.60	72	≥0.98	0.97	≤10	23	068
				277	0.26						
		2	PSV254T5MVW	120	0.72	86	≥0.98	1.10	≤10	23	068
				277	0.32						
50	FT50W/2G11/RS	1	PSP242TRMVW	120	0.42	49	≥0.98	1.01	≤10	24	152
				277	0.19						
		2	PSP242TRMVW	120	0.76	91	≥0.98	1.00	≤10	24	153
				277	0.34						
		1	PST139T5MVW	120	0.41	49	≥0.98	0.99	≤10	19	004
				277	0.18						
		1	PSM218FTPHMVW	120	0.48	57	≥0.98	0.98	≤10	28	152
				277	0.20						
55	FT55W/2G11/RS	1	PSM218FTPHMVW	120	0.51	60	≥0.98	1.03	≤10	12	152
				277	0.23						
		2	PSR255FTMV	120	0.92	110	≥0.98	1.03	≤10	12	153
				277	0.40						
		1	PST154T5MVW	120	0.49	58	≥0.98	1.12	≤10	19	004
				277	0.21						
		2	PSV254T5MVW	120	0.82	103	≥0.98	1.03	≤10	23	068
				277	0.39						
		1	PSP242TRMVW	120	0.43	53	≥0.98	0.85	≤10	28	152
				277	0.20						
		1	PSR255FTMV	120	0.46	56	≥0.98	0.85	≤10	12	152
				277	0.21						
		2	PST154T5MVW	120	0.84	102	≥0.98	0.85	≤10	12	153
				277	0.37						
55	FT55W/2G11/RS	1	PST154T5MVW	120	0.45	54	≥0.98	0.85	≤10	19	004
				277	0.20						
		2	PSV254T5MVW	120	0.83	96	≥0.98	0.85	≤10	23	068
				277	0.34						

Ballasts for Single-Based Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram	
COMPACT FLUORESCENT SQUARE TUBE (2-D)												
10	CFS10W/GR10q	1	PSM213CQMVW	120	0.12	14	≥0.98	1.00	≤12	28	152	
				277	0.06							
		2		120	0.22	26	≥0.98	1.00	≤10	28	153	
				277	0.11							
16	CFS16W/GR10q	1	PSM213CQMVW	120	0.16	20	≥0.98	1.00	≤10	28	152	
				277	0.07							
		2		120	0.32	38	≥0.98	0.98	≤10	28	153	
				277	0.14							
21	CFS21W/GR10q	1	PSM218CQMVW	120	0.20	25	≥0.98	1.00	≤10	28	152	
				277	0.09							
		2		120	0.40	42	≥0.98	0.98	≤10	28	153	
				277	0.16							
28	CFS28W/GR10q	1	PSM226CQMVW	120	0.27	33	≥0.98	1.00	≤10	28	152	
				277	0.13							
		2	PSP242TRMVW	120	0.52	61	≥0.98	1.00	≤10	24	153	
				277	0.22							
38	CFS38W/GR10q	1	PSM218FTPHMVW	120	0.37	41	≥0.98	0.96	≤10	28	152	
				277	0.16							
CIRCULAR FLUORESCENT TUBE												
22	FC9T5 (22W)	1	PSM226CQMVW	120	0.23	28	≥0.98	1.01	≤10	28	152	
				277	0.11							
		2		277	120	0.46	55	≥0.98	1.02	≤10	28	153
					277	0.20						
		2	PSP242TRMVW	120	0.43	51	≥0.98	1.02	≤10	24	153	
				277	0.18							
2	PSV239T5MVW	120	0.48	58	≥0.98	1.10	≤10	23	068			
		277	0.23									
40	FC12T5 (40W)	1	PSM226CQMVW	120	0.37	45	≥0.98	1.00	≤10	28	152	
				277	0.16							
		1	PSP242TRMVW	120	0.37	45	≥0.98	0.98	≤10	24	152	
				277	0.17							
		2		277	120	0.65	80	≥0.98	0.98	≤10	24	153
					277	0.28						
2	PSV239T5MVW	120	0.73	86	≥0.98	0.99	≤10	23	068			
		277	0.32									
55	FC12T5HO (55W)	1	PSM218FTPHMVW	120	0.43	53	≥0.98	0.85	≤10	28	152	
				277	0.19							
		1	PST154T5MVW	120	0.44	53	≥0.98	0.85	≤10	19	004	
				277	0.19							
		1	PSR255FTMV	120	0.45	57	≥0.98	0.85	≤10	12	152	
				277	0.21							
		2		120	0.84	103	≥0.98	0.85	≤10	12	153	
					277							0.37
2	PSV254T5MVW	120	0.84	103	≥0.98	0.85	≤10	23	068			
		277	0.34									
22&40	FC9T5 & FC12T5 (22W & 40W)	2	PSP242TRMVW	120	0.55	66	≥0.98	0.98	≤10	24	153	
				277	0.23							
		2	PSV239T5MVW	120	0.62	73	≥0.98	1.05	≤10	23	068	
				277	0.28							

Individual product specifications for these ballasts are available on the Robertson Worldwide Website
Visit: www.robertsonww.com

Ballasts for T5 Linear Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram
14	F14T5	1	PST135T5MVW	120	0.16	19	≥ 0.98	1.08	≤ 10	19	004
	F14T5	2	PST228T5MVW	277	0.08						
21	F21T5	1	PST135T5MVW	120	0.30	26	≥ 0.98	1.03	≤ 10	19	068
	F21T5	2	PST228T5MVW	277	0.14						
24	F24T5	1	PST139T5MVW	120	0.22	29	≥ 0.98	1.05	≤ 10	19	004
	F24T5	2	PST228T5MVW	277	0.10						
28	F28T5	1	PST135T5MVW	120	0.42	50	≥ 0.98	1.00	≤ 10	19	068
	F28T5	2	PST228T5MVW	277	0.19						
35	F35T5	1	PST139T5MVW	120	0.23	29	≥ 0.98	1.00	≤ 10	19	004
	F35T5	2	PST224T5MVW	277	0.11						
39	F39T5	1	PSV239T5MVW	120	0.44	55	≥ 0.98	0.99	≤ 10	23	068
	F39T5	2	PSV239T5MVW	277	0.22						
54	F54T5	1	PSR255FTMV	120	0.30	35	≥ 0.98	1.03	≤ 10	19	004
	F54T5	2	PSR255FTMV	277	0.14						
54	F54T5	1	PSR255FTMV	120	0.56	67	≥ 0.98	1.00	≤ 10	19	068
	F54T5	2	PSR255FTMV	277	0.24						
54	F54T5	1	PST135T5MVW	120	0.34	40	≥ 0.98	1.00	≤ 10	19	004
	F54T5	2	PST135T5MVW	277	0.16						
54	F54T5	1	PST139T5MVW	120	0.35	44	≥ 0.98	0.99	≤ 10	19	004
	F54T5	2	PST139T5MVW	277	0.16						
54	F54T5	1	PSV239T5MVW	120	0.69	82	≥ 0.98	0.99	≤ 10	23	068
	F54T5	2	PSV239T5MVW	277	0.30						
54	F54T5	1	PSR255FTMV	120	0.47	57	≥ 0.98	1.00	≤ 10	12	152
	F54T5	2	PSR255FTMV	277	0.21						
54	F54T5	1	PSR255FTMV	120	0.92	108	≥ 0.98	1.00	≤ 10	12	153
	F54T5	2	PSR255FTMV	277	0.39						
54	F54T5	1	PST154T5MVW	120	0.51	61	≥ 0.98	1.00	≤ 10	19	004
	F54T5	2	PST154T5MVW	277	0.22						
54	F54T5	1	PSV254T5MVW	120	1.00	117	≥ 0.98	1.00	≤ 10	23	068
	F54T5	2	PSV254T5MVW	277	0.43						



Ballasts for T12 High Output Linear Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram
24	F24T12HO	1	PSD248T12HOMV	120	0.29	35	≥ 0.98	1.05	≤ 12	15	15B
				277	0.14						
		2	PSD248T12HOMV	120	0.56	66	≥ 0.98	1.01	≤ 10	15	15B
				277	0.24						
		1	PSR248T12HOMV	120	0.29	35	≥ 0.98	1.05	≤ 10	12	15B
				277	0.14						
45	F36T12HO	1	PSD248T12HOMV	120	0.44	52	≥ 0.98	1.03	≤ 10	15	15B
				277	0.20						
		2	PSD248T12HOMV	120	0.81	97	≥ 0.98	1.00	≤ 10	15	15B
				277	0.36						
		1	PSR248T12HOMV	120	0.44	52	≥ 0.98	1.03	≤ 10	12	15B
				277	0.20						
55	F48T12HOES	1	PSD248T12HOMV	120	0.46	55	≥ 0.99	0.93	≤ 10	15	15B
				277	0.20						
		2	PSD248T12HOMV	120	0.89	105	≥ 0.99	0.93	≤ 10	15	15B
				277	0.37						
		1	PSR248T12HOMV	120	0.46	55	≥ 0.99	0.93	≤ 10	12	15B
				277	0.20						
60	F48T12HO	1	PSD248T12HOMV	120	0.54	65	≥ 0.98	1.00	≤ 10	15	15B
				277	0.24						
		2	PSD248T12HOMV	120	1.05	126	≥ 0.99	1.00	≤ 10	15	15B
				277	0.46						
		1	PSR248T12HOMV	120	0.54	65	≥ 0.98	1.00	≤ 10	12	15B
				277	0.24						
75	F60T12HO	1	PSD248T12HOMV	120	0.70	82	≥ 0.98	1.00	≤ 10	15	15B
				277	0.30						
			PSR248T12HOMV	120	0.70	82	≥ 0.98	1.00	≤ 10	12	15B
				277	0.30						
85	F72T12HO	1	PSD248T12HOMV	120	0.77	90	≥ 0.99	1.00	≤ 10	15	15B
				277	0.33						
			PSR248T12HOMV	120	0.77	90	≥ 0.99	1.00	≤ 10	12	15B
				277	0.33						
95	F96T12HOES	1	PSD248T12HOMV	120	0.86	102	≥ 0.99	1.00	≤ 10	15	15B
				277	0.37						
			PSR248T12HOMV	120	0.86	102	≥ 0.99	1.00	≤ 10	12	15B
				277	0.37						
100	F84T12HO	1	PSD248T12HOMV	120	0.96	115	≥ 0.99	1.00	≤ 10	15	15B
				277	0.43						
			PSR248T12HOMV	120	0.96	115	≥ 0.99	1.00	≤ 10	12	15B
				277	0.43						
110	F96T12HO	1	PSD248T12HOMV	120	1.09	130	≥ 0.99	1.00	≤ 10	15	15B
				277	0.46						
			PSR248T12HOMV	120	1.09	130	≥ 0.99	1.00	≤ 10	12	15B
				277	0.46						



Ballasts for Single-Based Lamps

Lamp Watts	Lamp Type	No. Of Lamps	Ballast Catalog Number	Input Voltage (V)	Line Current (A)	Input Power (W)	Minimum Power Factor	Ballast Factor	Max. Current THD (%)	Case Style	Wiring Diagram
COMPACT FLUORESCENT TWIN TUBE											
13	CFT13W/2GX7	1	PSM218CQ347W	347	0.05	15	≥0.90	0.90	≤20	28	152
		2			0.08	25	≥0.97	0.85	≤12		153
COMPACT FLUORESCENT QUAD & TRIPLE TUBE											
10	CFQ10W/G24q	1	PSM213CQ347W	347	0.04	12	≥0.98	1.01	≤15	28	152
		2			0.07	22	≥0.98	1.01	≤10		153
13	CFQ13W/G24q, CFTR13W/GX24q	1	PSM213CQ347W		0.05	16	≥0.98	0.98	≤15	28	152
		2			0.09	31	≥0.98	0.98	≤10		153
18	CFQ18W/G24q, CFTR18W/GX24q	1	PSM218CQ347W		0.06	22	≥0.98	1.01	≤10	28	152
		2			0.12	41	≥0.98	1.00	≤10		153
26	CFQ26W/G24q, CFTR26W/GX24q	1	PSM226CQ347W		0.09	31	≥0.98	1.02	≤10	28	152
		2			0.17	58	≥0.98	0.99	≤10		153
		2	PSM242TR347W		0.16	53	≥0.98	0.90	≤10	28	153
32	CFTR32W/GX24q	1	PSM226CQ347W		0.11	36	≥0.98	0.99	≤10	28	152
		2			0.20	70	≥0.98	0.99	≤10		153
		2	PSM242TR347W		0.19	65	≥0.98	0.90	≤11	28	153
42	CFTR42W/GX24q	1	PSM226CQ347W		0.15	50	≥0.98	1.00	≤10	28	152
		1			PSM242TR347W	0.12	42	≥0.97	0.92	≤14	28
		2	0.25			85	≥0.98	0.90	≤10	153	
57	CFM57W/GX24q	1	PSM226CQ347W		0.17	56	≥0.98	0.95	≤10	28	152
		1	PSM242TR347W		0.17	60	≥0.98	0.98	≤11	28	152
COMPACT FLUORESCENT LONG TWIN TUBE											
24	FT24W/2G11	1	PSM226CQ347W	347	0.09	29	≥0.98	0.91	≤10	28	152
		2			0.15	52	≥0.98	0.88	≤10		153
		2	PSM242TR347W		0.15	50	≥0.98	0.90	≤13	28	153
36	FT36W/2G11	1	PSM242TR347W		0.10	35	≥0.98	0.83	≤16	28	152
		2			0.18	62	≥0.98	0.79	≤12		153
40	FT40W/2G11/RS	1	PSM242TR347W		0.14	46	≥0.98	1.03	≤10	28	152
		2			0.25	86	≥0.98	0.98	≤12		153
COMPACT FLUORESCENT SQUARE TUBE (2-D)											
10	CFS10W/GR10q	1	PSM213CQ347W	347	0.04	14	≥0.98	1.00	≤15	28	152
		2			0.08	26	≥0.98	1.00	≤10		153
16	CFS16W/GR10q	1	PSM213CQ347W		0.06	19	≥0.98	0.96	≤15	28	152
		2			0.11	37	≥0.98	0.96	≤10		153
21	CFS21W/GR10q	1	PSM218CQ347W		0.07	24	≥0.98	0.98	≤10	28	152
28	CFS28W/GR10q	1	PSM226CQ347W		0.10	33	≥0.98	0.96	≤10	28	152
		2			0.17	60	≥0.98	0.95	≤10		153
		2	PSM242TR347W		0.18	60	≥0.98	0.98	≤12	28	153
CIRCULAR FLUORESCENT TUBE											
22	FC9T5 (22W)	1	PSM226CQ347W	347	0.08	27	≥0.98	0.99	≤10	28	152
		2	PSM242TR347W		0.15	50	≥0.98	1.00	≤13	28	153
40	FC12T5 (40W)	1	PSM226CQ347W		0.12	40	≥0.98	0.99	≤10	28	152
		1	PSM242TR347W		0.11	50	≥0.97	0.86	≤15	28	152
					2	0.21	39	≥0.98	0.83		≤10
22&40	FC9T5 & FC12T5 (22W & 40W)	2	PSM242TR347W		0.18	61	≥0.98	0.88	≤11	28	153

Ballast Specifications

1) Physical Characteristics

- 1.1) The electronic ballast shall be furnished with lead wires when applicable
- 1.2) The tolerance of the lead length is +2/-1 inch.

2) Performance requirements

- 2.1) The electronic ballast operates at a line voltage of 120V thru 277V $\pm$ 10% or 347V $\pm$ 10%, 50/60 Hz.
- 2.2) The electronic ballast shall have a power factor greater than 0.95.
- 2.3) The electronic ballast shall have a starting time less than 1.5 second for T5 lamps and less than 1 second for compact fluorescent lamps
- 2.4) The electronic ballast shall have a Current Crest Factor (CCF) less than 1.7.
- 2.5) The electronic ballast shall have a THD less than 10% on primary lamps.
- 2.6) The electronic ballast shall have a lamp end-of-life detection and shutdown circuit for compact and T5 fluorescent lamps compliant with IEC61347-2-3 or ANSI C82.11-2005.
- 2.7) The electronic ballast shall have a starting temperature of -22°F/-30°C. Not recommended for extreme temperature variations.
- 2.8) The electronic ballast shall be sound rated A.
- 2.9) The electronic ballast output frequency to the lamp shall range from 20 to 33 kHz. or greater than 40 kHz to avoid interference with infrared devices and eliminate visible flicker.
- 2.11) The electronic ballast shall carry a five-year warranty from date of manufacture provided operating case temperature is 194°F / 90°C or less.

3) Regulatory requirements

- 3.1) The electronic ballast shall meet the requirements of the Federal Communications Commission rules and regulations, Title 47 CFR part 18 for Non-Consumer equipment.
- 3.2) The electronic ballast shall comply with all applicable state and federal efficiency standards.
- 3.3) The electronic ballast shall meet ANSI C82.11.
- 3.4) The electronic ballast shall withstand transients specified in ANSI C62.41-1991, Category A.
- 3.5) The electronic ballast shall be Underwriters Laboratories (UL) Listed (Class P), Canadian Underwriters Laboratories (cUL), and CSA Certified where applicable.
- 3.6) The electronic ballast shall not contain Polychlorinated Biphenyl (PCB's).
- 3.7) RoHS compliance are available as special order items.

Understanding the Robertson Electronic Ballast Model Number

Example Model No.

P S M 2 26 CQ MV DW

1 2 3 4 5 6 7 8

1 Circuit Type	2 Case Material	3 Case Style	4 Lamp Qty	5 Lamp Watts	6 Lamp Type	7 Voltage	8 Features
P=Program	A=Aluminum	M=(28)			CQ=Compact Quad	MV=120-277	DW=Dual Entry
	P=Plastic	P=(24)			CS=Compact Square	347V	DSW Dual Entry/Studs
	S=Steel	T=(19)			CT=Compact Twin		
		V=(23)			M=Compact Multi		
		R=(12)			T=Linear		
		D=(15)			TR=Compact Triple		
					FT=Long Twin		

Robertson Limited Warranty

Robertson Worldwide (Robertson), 13611 Thornton Road, Blue Island, IL 60406, warrants those products manufactured and distributed by the company will be free from defects in material and workmanship but not against damage caused by abnormal stress or operating conditions for the following periods from the date of manufacture.

World Series Electronic Products	Warranted for a Period of 5 Years
----------------------------------	-----------------------------------

This warranty is conditional upon proper storage, installation, use, and maintenance. This warranty is not applicable to any product, which is not installed and operated in accordance with Robertson specifications and instructions or in accordance with the National Electrical Code (NEC), the Standards for Safety of Underwriters Laboratories, Inc. (UL), and the Standards of the American National Standards Institute (ANSI) or, in Canada, the Canadian Standards Association (CSA).

The conditions of any test for product, which is claimed to not perform according to the terms of this warranty, shall be mutually agreed upon in writing; Robertson reserves the right to be represented at any such test.

The company's obligation under this warranty shall be the repair or replacement of any defective part or parts or providing a replacement product.

NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY BEYOND THE AFOREMENTIONED WARRANTY PERIOD. The foregoing warranty is exclusive of all other statutory, written, or oral warranties, and no other warranties of any kind, statutory or otherwise, are given or herein expressed. This warranty sets forth Robertson's responsibilities regarding the ballast and claimant's exclusive remedy.

LIMITATIONS OF LIABILITY. Under no circumstances, whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise, will Robertson be liable for consequential, incidental, special or exemplary damages, including, but not limited to, loss of profits, loss of use or damage to any property or equipment, cost of capital, cost of substitute product, facilities or services, down time costs or claims of claimant's customers.

Robertson's liability on any claim of any kind for any loss or damages arising out of, resulting from or concerning any aspect of this agreement or from the product or services furnished hereunder shall not exceed the price paid to Robertson for the specific ballast or ballasts, which gives rise to the claim.

This warranty gives the claimant specific legal rights. The claimant may also have other rights, which vary from state to state.

ORDERING INFORMATION

W - Side Lead

D - Dual Entry

DS - Dual Entry w/Studs

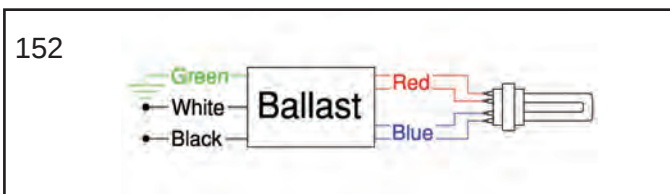
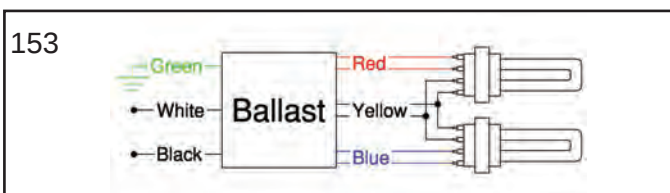
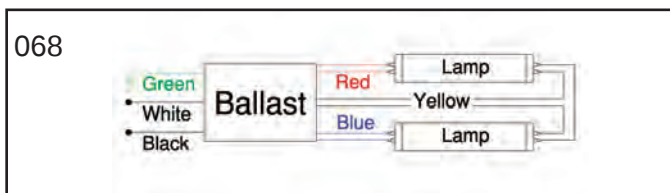
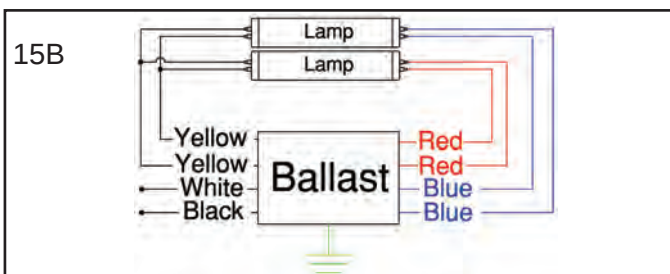
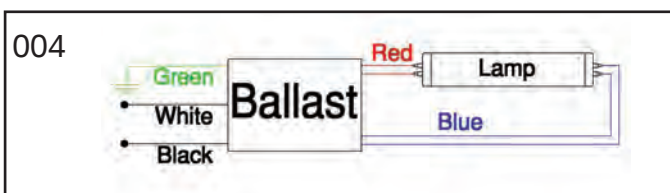
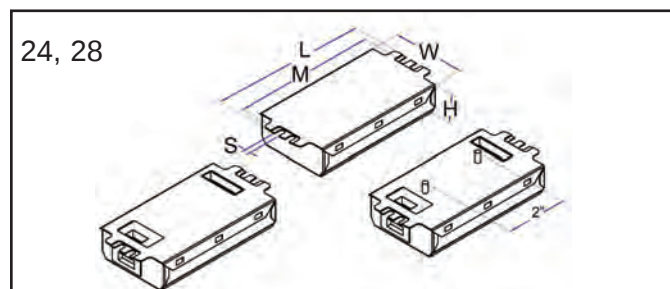
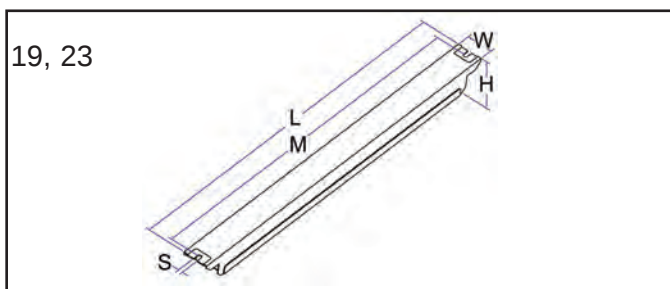
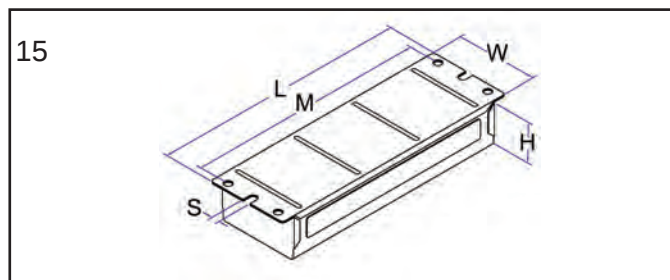
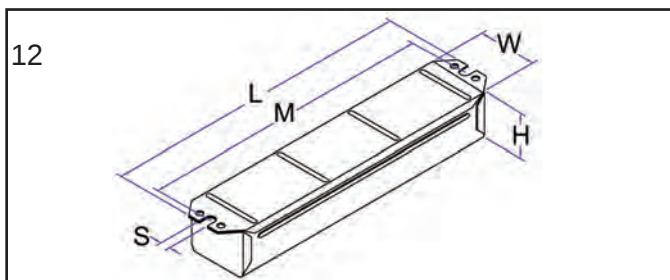


On and On and On. . .

Rely on Robertson for Your Lighting Solution

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Case Styles and Wiring Diagrams



Case Style	H	W	L	M	S
12	1 7/16	1 7/8	9 7/16	8 7/8	5/16
	1.44	1.88	9.44	8.88	0.31
	3.66cm	4.78cm	23.98cm	22.56cm	0.79cm
15	1 13/16	3 3/32	11 11/16	11 1/4	5/16
	1.81	3.09	11.69	11.25	0.31
	4.60cm	7.85cm	29.69cm	28.58cm	0.79cm
19	1	1 5/32	14 1/4	13 3/4	3/16
	1.00	1.16	14.25	13.75	0.19
	2.54 cm	2.95 cm	36.20 cm	34.93 cm	0.47cm
23	1 1/8	1 5/32	16 1/2	16	3/16
	1.13	1.16	16.50	16.00	0.19
	2.87 cm	2.95 cm	41.91 cm	40.64 cm	0.47cm
24	1 3/8	3	5	4 5/8	1/4
	1.38	3.00	5.00	4.63	0.25
	3.51cm	7.62cm	12.70cm	11.76cm	0.64cm
28	1	2 3/8	5	4 5/8	3/16
	1.00	2.38	5.00	4.63	0.19
	2.54cm	6.05cm	12.70cm	11.76cm	0.47cm

NOTES:

U.S. PATENT NUMBERS: 6,366,032 B1 and 6,420,838 B1
Specifications subject to change without notice.



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