

HOWARD INDUSTRIES, INC.



Howard Industries

PULSE-START METAL HALIDE BALLASTS

Developed in-house by the Howard Industries design team, our pulse-start metal halide ballast is designed to operate with all the new pulse start lamps available from the leading lamp manufacturers. Pulse-start metal halide lamps were developed by the industry to address compromise in performance of standard probe-start metal halide systems.



The new high wattage pulse-start lamps use an external pulse-start voltage from an ignitor coupled with the ballast and capacitor. Until recently, this starting method has been in use only with high-pressure sodium lamps and low wattage metal halide lamps. The introduction of pulse-start technology with higher wattage metal halide lamps provides significant improvement in system efficiency and lumen maintenance and a faster warm up and re-strike time-line.

Standard size

The CWA pulse-start is the same size as existing standard CWA ballasts. Our linear reactor pulse-start is even smaller. Both models are designed for ease in retrofit or substitution for standard metal halide ballasts in new fixture.



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INPUT VOLTAGE	CATALOG NUMBER	CIRCUIT TYPE	INPUT POWER (WATTS)	LAMP POWER		MAXIMUM INPUT CURRENT	NOM. OPEN CIRC. VOLT.	WIR. DIA. PAGE 37	DIMENSIONS			CAPACITOR CATALOG NUMBER SPECIFICATIONS PAGE 35	TOTAL WT. (LBS.)	IGNITOR PART NUMBER	U.L. BENCH TOP RISE CODE
				NOM. LAMP WATTS	NOM. BALLAST FACTOR				FIG PG 36.	A (IN.)	B (IN.)				
200 WATT, ANSI Code M-136, METAL HALIDE LAMP															
277	M0200-08C-611	PS-CWA	231	200	100%	0.9	240	C	2	2.40	3.80	15.0 / 300 - (1 or 2) C	7.4	ST1001	A
480	M0200-11C-611	PS-CWA	239	200	100%	0.53	240	C	2	2.40	3.80	15.0 / 300 - (1 or 2) C	7.4	ST1001	B
120T/277	M0200-23C-611	PS-CWA	234/231	200	100%	2.0/0.9	240	C	2	2.40	3.80	15.0 / 300 - (1 or 2) C	7.4	ST1001	B/A
120T/480	M0200-29C-611	PS-CWA	239	200	100%	0.53	240	C	2	2.40	3.80	15.0 / 300 - (1 or 2) C	7.4	ST1001	A
120/208/240/277	M0200-71C-611	PS-CWA	234/233/231/231	200	100%	2.0/1.25/1.0/0.9	240	C	2	2.40	3.80	15.0 / 300 - (1 or 2) C	7.4	ST1001	B/A/A/A
250 WATT, ANSI Code M-138, M-153, METAL HALIDE LAMP															
480	M0250-11C-611	PS-CWA	288	250	100%	0.62	272	C	2	1.60	3.53	15.0 / 400 - (1 or 2) C	10.0	ST1001	A
120/208/240/277	M0250-71C-611	PS-CWA	288/288/288/288	250	100%	2.45/1.40/1.23/1.06	275	C	2	1.60	3.53	15.0 / 400 - (1 or 2) C	10.0	ST1001	A/A/A/A
320 WATT, ANSI Code M-132, M-154, METAL HALIDE LAMP															
277	M0320-08C-711	R-HPF	340	320	100%	1.3	277	F	5	1.73	3.90	17.5 / 280 - (1B or 2C)	8.9	ST1000	A
120/208/240/277	M0320-71C-611	PS-CWA	364/364/364/364	320	100%	3.1/1.8/1.6/1.4	270	C	2	1.80	3.73	19.5 / 400 - (1 or 2) C	11.0	ST1001	A/A/A/A
350 WATT, ANSI Code M-131, METAL HALIDE LAMP															
277	M0350-08C-711	R-HPF	372	350	100%	1.4	277	F	5	1.83	4.00	20.0 / 280 - (1B or 2C)	9.4	ST1000	A
120/208/240/277	M0350-71C-611	PS-CWA	400/400/400/400	350	100%	3.4/1.9/1.7/1.5	270	C	2	1.80	3.73	20.5 / 400 - (1 or 2) C	11.0	ST1001	A/B/D/B
400 WATT, ANSI Code M-135, M-155, METAL HALIDE LAMP															
277	M0400-08C-711	R-HPF	426	400	100%	2.10	277	F	5	1.60	3.80	20.0 / 280 - (1B or 2C)	8.4	ST1000	A
480	M0400-11C-611	PS-CWA	462	400	100%	1.0	305	C	2	2.30	4.23	26.0 / 330 - (1 or 2) C	12.0	ST1001	D
120T/480	M0400-29C-611	PS-CWA	462	400	100%	1.0	305	C	2	2.30	4.23	26.0 / 330 - (1 or 2) C	12.0	ST1001	D
120/208/240/277	M0400-71C-611	PS-CWA	455/454/455/456	400	100%	3.8/2.17/1.91/1.65	265	C	2	1.73	3.66	26.0 / 330 - (1 or 2) C	10.6	ST1001	D/D/D/D



Additional Benefits

Faster warm-up and re-strike time

Warm-up time:

2 minutes vs. 4 minutes

Re-strike time:

3-5 minutes vs. 15-20 minutes

Improved lumen depreciation

Lower crest factor at < 1.5, improved starting design and improved lamp designs all combine to improve lumen depreciation. Fewer fixtures are required for the same square footage and lamp replacement cycles are extended, lowering maintenance costs.

For additional information regarding the Multi-Volt products, please contact your local Howard Industries' representative or Howard Industries at 1-800-956-3456.



BALLAST PRODUCTS DIVISION

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