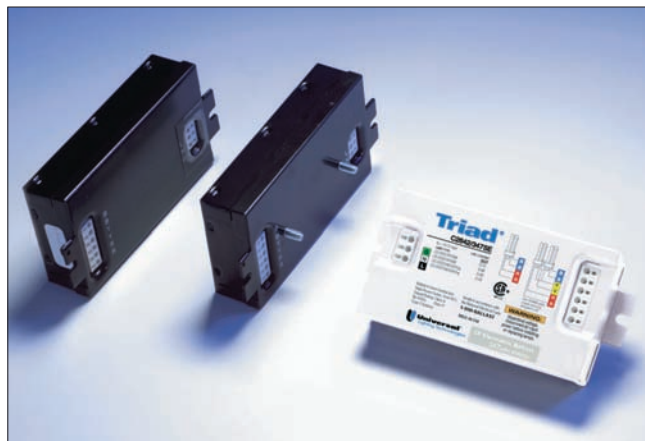


Compact Fluorescent Ballasts

The Courage To Dream Small

Universal Lighting Technologies (“Universal”) offers a full range of magnetic and electronic compact fluorescent ballasts. Our magnetic models come in a variety of shapes and sizes, from core and coils to High Power Factor potted ballasts with bottom exit leads and mounting studs for all downlighting applications.

Our newest electronic models offer installer-friendly universal input voltage, which reduces your inventory and ensures that you have the right voltage ballast every time. These models feature a low profile case that fits in any fixture. And their metal housing construction meets all plenum codes and delivers maximum heat transfer to extend ballast life.



Our newest compact fluorescent models offer installer-friendly universal input voltage.

Product Overview

Electronic Compact Fluorescent Ballasts

Universal's newest TRIAD® electronic compact fluorescent ballasts feature installer-friendly universal input voltage (108 to 305 volts) and metal case designs for compliance with all plenum and construction code requirements. They also offer an end-of-lamp-life shutdown circuit with auto-reset that meets ANSI/NEMA requirements—a feature that eliminates lamp/socket damage while allowing you to replace failed lamps after shutdown without turning off the power.

Our universal voltage compact fluorescent ballasts offer both 1- and 2-lamp operation—and they're ideal for a wide variety of downlight and surface mount applications for atriums, hotel corridors, offices, and outdoors. All models operate multiple lamp types for added versatility in many different applications.

All universal voltage compact fluorescent ballasts incorporate Universal's Programmed Rapid Start (PRS) technology that increases lamp life for those frequently switched applications where occupancy sensors are used. PRS is recommended by all lamp manufacturers.

For the Canadian market, we have 347 volt compact fluorescent models. These also offer outstanding reliability and lamp performance. These 347 volt models are available for 1 and 2 lamp operation for lamps ranging from 13 to 70 Watts.

These ballasts are designed and manufactured for long life. Lamps can be mounted in close proximity to these ballasts because they have no temperature-critical components near the can sides. And their circuit board potting enhances reliability by lowering case temperatures.

CFL Mult-E Kit

The multi-exit ballast lead wire connectors accommodate side and bottom lead exit requirements. The snap mount adapter plate adds bottom-exit studs and additional flexibility for replacement of older magnetic ballasts. They also fit virtually every j-box cover and fixture application. This product is for distribution sale only.

Mult-E Kit products:

C213UNVME000K
C218UNVME000K
C2642UNVME000K

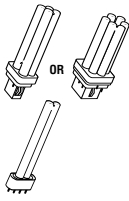
Mult-E Kit contains:

Multi-exit ballast
Snap-mount adapter plate
Lead wire set
Wire extraction tool
Instructions

Magnetic Compact Fluorescent Ballasts

Universal offers a complete line of magnetic compact fluorescent ballasts, ranging from 5 - 40 watts (10 - 38 watts for 2D lamps). Both core & coil and F-can models are available...in a variety of configurations that include Side Exit, Bottom Exit and Bottom Exit Studs.

TWIN, QUAD & MULTIPLE LAMPS
18 WATTS

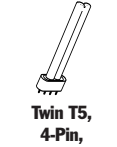


- Ideal for downlights, surface mount & outdoor fixtures
- Electronic models feature universal input voltage from 120V to 277V. 347V models are also available.
- Electronic models feature programmed rapid start for excellent lamp performance & auto reset shutdown circuit

MAGNETIC AND ELECTRONIC COMPACT FLUORESCENT BALLASTS FOR TWIN, QUAD AND MULTIPLE LAMPS
18 WATTS

QUICK REFERENCE
Nominal lamp watts and configuration

Lamp Type	Mag or Elec	Qty of Lamps	Line Volt	Catalog Number	Input Watts	Line Current Amps	Starting Current Amps	Ballast Factor	Min Start Temp	Power Factor	THD	Lead Configuration			Starting Method	Dim	Wir Diag
												Side Exit	Bottom Exit	Bottom Exit Studs			
Electrical Characteristics - 60 Hz																	
18 Watts CFQ18W/G24d	M	2	120	4122PBES	50	0.45	0.27	0.88	15° F	High	<20%	—	—	X	PH	C6	10
Quad, 2-Pin																	
18 Watts CFQ18W/G24q OR CFM18W/GX24q	E	1	120	C218UNV♦×	19	0.16	—	1.00	0° F	High	<10%	X	X	X	PRS	C10	18
			277			0.07					<15%						
	E	2	120	C218UNV♦×	35	0.30	—	0.95	0° F	High	<10%	X	X	X	PRS	C10	19
			277			0.13											
	E	1	347	C218/347♦	21	0.11	—	1.00	0° F	High	<10%	X	X	X	PRS	C10	18
			2		38	0.06	—	0.98									19
Quad or Multiple, 4-Pin																	
18 Watts FT18W/2G11RS	E	1	120	CT218UNVSE♦	23	0.19	—	1.00	0° F	High	<10%	X	—	—	PRS	C10	18
			277		43	0.37	—	0.98	0° F	High	<10%	X	—	—	PRS	C10	19
	E	2	120	CT218UNVSE♦	42	0.16	—										
			277														



Twin T5, 4-Pin,

- ♦ PH = Preheat; PRS = Programmed Rapid Start; RS=Rapid Start
- ◆ Add following suffix for complete catalog #: "SE" for Side Exit connectors or "BE" suffix for Bottom Exit connectors or "BES" for Bottom Exit connectors with 2" O.C. screw studs.
- ✕ Add "ME" suffix for Mult-E Kit. For Distribution only.
- ⊕ Add "B" for Bottom Exit or "S" for Side Exit or "BS" for Bottom Exit with 2" O.C. screw studs.

The enclosed ballasts listed on this page are available in white (001) or black (000) cans, except CBT's, which are all in white cans. All ballasts are UL listed, CSA approved and designated Class P (thermally protected), Type HL.

See page 4-13 for Dimensions and Wiring Diagrams.

Ballasts For High Intensity Discharge Lamps

Universal Means Higher Expectations In High Intensity Discharge

Universal Lighting Technologies (“Universal”) offers a wide array of ballasts for High Intensity Discharge (HID) lamps. Applications include Metal Halide (MH), Pulse Start Metal Halide (PSMH), and High Pressure Sodium (HPS) lamps ranging from 35 to 1500 watts.

Universal is the technology leader in every category of HID ballasts.



Universal offers a complete line of HID ballasts for applications ranging from 35 - 1500 watts.

Product Overview

Core & Coil

Core & coil ballasts are used in over 90% of all HID fixtures. Universal's core & coil models are available for all HID lamp types, including single-, dual-, tri-, quad- and multi-volt designs. For added versatility and reduced inventory costs, Universal has also introduced the industry's first Multi-5™ ballast (120, 208, 240, 277, or 480 volt), featuring a 480-volt tap on a conventional quad-tap ballast.

Our core & coil models are ideal for a wide variety of lighting applications, including factories, warehouses, gymnasiums and retail stores. All these ballasts feature precision-wound coils, ensuring even heat dissipation and the highest electrical integrity.

Universal provides the next generation in core & coil technology, featuring a smaller, lightweight design and improved temperature performance. This design fits virtually all applications, and has no exposed live metal parts. There are no plastic extrusions, which prevents breakage during shipping. Color-coded leads make installation easy.

50 Hertz

Universal offers 50 Hz core & coil ballasts to meet the rapid growth in demand in international markets. Our ballasts are available for 220, 230, and 240 volt electrical systems.

F-Can

These ballasts are used primarily for indoor downlighting applications where quiet operation is essential. All the components of these ballasts are enclosed in a fluorescent-style ballast can and are thermally protected.



F-Can Ballasts



Core and Coil Ballasts



HID Ballast Kits

Product Overview

For maximum safety and reliability, all Universal capacitors come with built-in bleed resistors (patented by Universal) and approved by CSA (CSA file #LR51331, metal cases only). Environmental safety is assured by use of biodegradable, nontoxic (no PCBs) dielectric fluid (soybean oil), patented by Universal for use in capacitors. Dry-film capacitors do not include protective devices. Since they can fail in a hazardous manner, it is the responsibility of the purchaser to take appropriate precautions.

Capacitors

Universal has a comprehensive line of capacitors in metal cases (up to 525V ratings) and plastic cases (up to 400V ratings). All Universal capacitors are designed for 60,000 hours of continuous life. They're exceptionally reliable because we put them through accelerated life testing at 125% rated voltage and rated temperature +10°C.

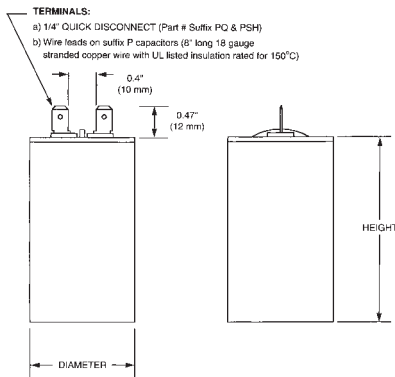
Universal capacitors are normally packaged with ballasts. They may also be ordered separately, bulk packaged, or individually boxed with the suffix "BH" (metal cases only). Capacitor weights vary from 1/4 lb. to 1 lb. each.

Dry Capacitors

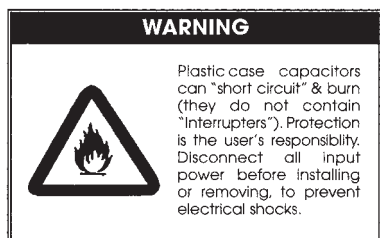
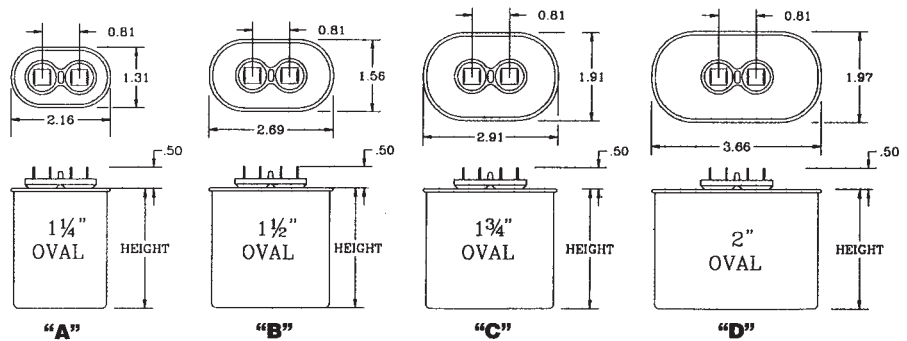
Type "P" plastic case capacitors described in this section are dry and do NOT contain safety interrupters (or oil). Plastic cases are UL rated "94V-O" (for use up to 100°C maximum). Type "P" capacitors are supplied with stranded copper wire leads 8 inches long (18 awg, with 150°C rated insulation). Capacitor rolls are sealed inside plastic cases using epoxy. Design and testing of Universal capacitors follow specifications in Electronic Industries Association (EIA) Standard 456-A, titled "Metalized Film Dielectric Capacitors for Alternating Current Application."

"P" capacitors are designed and rated for continuous duty AC voltages below 400VAC @ 50 or 60 Hz. Capacitors used with HID ballasts at voltages above 400VAC should contain interrupters (available from Universal in oval "MF" and round "RMF" oil-filled metal cases).

Plastic Dry Type Capacitors

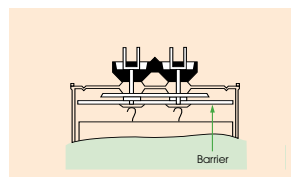


Metal and Oil Filled Capacitors

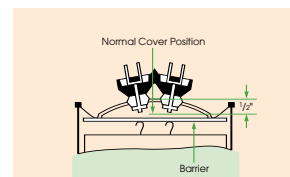


Protective Device (Only in metal cases)

Protective device to prevent case rupture



Normal Position of Protective Device



Position of Protective Device After Activation

HID CORE & COIL BALLASTS

METAL HALIDE

- 60 Hz
- Minimum starting temperature: -30° C
- Normal and High Power Factor models available

MH
35/39-100
WATT

Input Volts	Catalog* Number	Circuit Type	Watts Input	Max Input Current	Nom Open Circuit Voltage	Fuse Rating	Wir Dia	Dimensions			Capacitor				Total Weight (lbs.)	Ignitor				
								Ref Dwg	A	B	μF	Min Volt	Dry Film			Oil Filled		Catalog Number	Max Distance to lamp (ft)	UL Bench Top Rise
(1) 35/39 WATT M130 METAL HALIDE LAMP																				
120 or 277 or 347	M35TRILC3M	HX-HPF	54	.84 .40 .30	235	2 1 1	4	PC1	0.85	2.15	5	300	1.26	2.36	1.31x2.16	2.2	1.7	MH100-3A	5	A
120 or 208 or 240 or 277	M35MLTLC3M	HX-HPF	50	.82 .48 .42 .36	230	2 1 1 1	3	PC1	0.85	2.0	5	277	1.26	2.83	1.31x2.16	2.2	1.7	MH100-3A	5	A
(1) 50 WATT M110 METAL HALIDE LAMP — Medium Base																				
120 or 277 or 347	M50TRILC3M	HX-HPF	67	1.30 .61 .48	250	3 2 2	5	PC1	1.05	2.55	6	300	1.26	2.83	1.31x2.16	2.2	4.25	MH100-3A	10	A
120 or 208 or 240 or 277	M50MLTLC3M	HX-HPF	67	1.16 .67 .57 .50	252	3 3 2 2	3	PC1	1.05	2.55	6	300	1.26	2.36	1.31x2.16	2.2	4.25	MH100-3A	10	A
(1) 70 WATT M98 METAL HALIDE LAMP - Medium Base																				
120 or 277 or 347	M70TRILC3M	HX-HPF	91	1.85 0.80 0.65	260	4 2 2	4	PC1	1.5	2.65	8	280	1.65	2.83	1.31x2.16	2.2	5.0	MH100-3A	10	A
120 or 208 or 240 or 277	M70MLTLC3M	HX-HPF	95	1.70 1.04 0.87 0.78	250	4 3 3 2	3	PC1	1.33	2.88	8	300	1.65	2.83	1.31x2.16	2.2	4.25	MH100-3A	10	B
480	M7048TLC3M	HX-HPF	100	0.50	250	1	6	PC1	1.38	2.88	8	300	1.65	2.83	1.31x2.16	2.2	4.25	MH100-3A	10	E
(1) 70 WATT M85 METAL HALIDE LAMP - Double Ended																				
120 or 208 or 240 or 277	M70MLTLC3D	HX-HPF	95	1.70 1.04 0.87 0.78	250	4 3 3 2	3	PC1	1.38	2.88	8	300	1.65	2.83	1.31x2.16	2.2	4.25	MH70-3B	10	B
(1) 100 WATT M90 OR M92 METAL HALIDE LAMP - Medium Base																				
120 or 277 or 347	M100TRILC3M	HX-HPF	125	2.50 1.10 0.90	265	7 3 3	4	PC1	1.6	2.95	12	280	1.65	2.83	1.31x2.16	3.13	5.5	MH100-3A	10	A
120 or 208 or 240 or 277	M100MLTLC3M	HX-HPF	130	2.40 1.45 1.20 1.00	260	5 4 3 3	13	PC1	1.5	2.8	12	300	1.65	2.83	1.31x2.16	3.12	5.0	MH100-3A	10	A
480	M10048TLC3M	HX-HPF	132	0.62	285	2	6	PC1	1.7	3.0	10	300	1.65	2.83	1.31x2.16	2.7	5.5	MH100-3A	10	C
(1) 100 WATT M91 METAL HALIDE LAMP - Double Ended																				
120 or 208 or 240 or 277	M100MLTLC3D	HX-HPF	130	2.40 1.45 1.20 1.00	260	5 4 3 3	13	PC1	1.5	2.6	12	300	1.65	2.83	1.31x2.16	3.12	5.0	MH70-3B	10	A

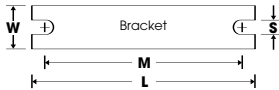
³ Capacitors are available as an option for high power factor operation.

See page 5-23 for Reference Drawings and Wiring Diagrams.

HID CORE & COIL

HID CORE & COIL BALLASTS METAL HALIDE

DESCRIPTION	SUFFIX *
For Ballast Only	000
For Bracket Only (see pg. 5-7)	200
For Capacitor Only (see pg. 5-5, 5-6)	500
For Distributor Replacement Kit (see pg. 5-13 thru 5-15)	500K
For Canadian Distributor Replacement Kit (see pg. 5-16)	502K
For Dry-Capacitor & Ballast (see pg. 5-6)	518
For Bracket & Capacitor (see pg. 5-5, 5-7)	700
For Bracket & Dry-Capacitor (see pg. 5-6, 5-7)	718

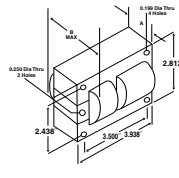
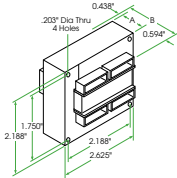


Ref. Dwg.	L	W	M	S
1	4.00"	0.75"	3.35"	0.25"
PC1	5.25"	1.25"	4.60"	0.25"
PC2	7.75"	2.75"	6.10"	0.25"
PC3	7.75"	2.75"	6.10"	0.25"

See p. 5-7 for adjustable mounting brackets and detailed bracket drawings.

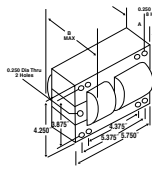
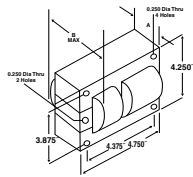
REFERENCE DRAWING 1

REFERENCE DRAWING PC1



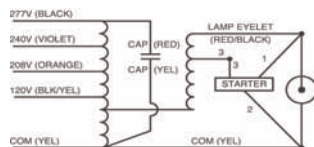
REFERENCE DRAWING PC2

REFERENCE DRAWING PC3

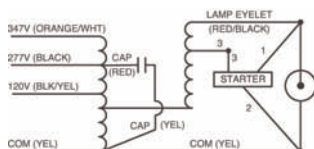


WIRING DIAGRAMS

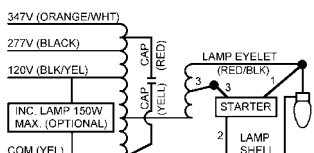
Wiring Diagram 3



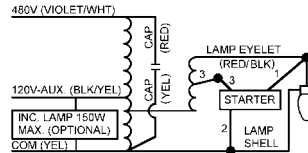
Wiring Diagram 4



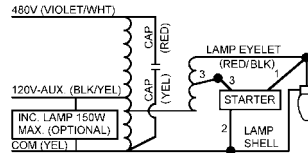
Wiring Diagram 5



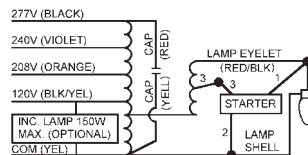
Wiring Diagram 6



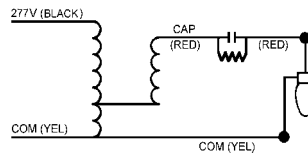
Wiring Diagram 9



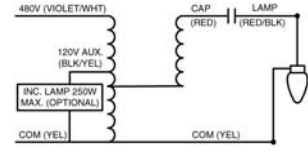
Wiring Diagram 13



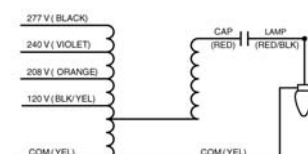
Wiring Diagram 14



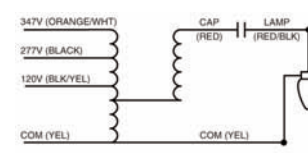
Wiring Diagram 15



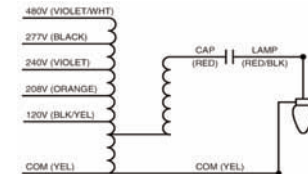
Wiring Diagram 16



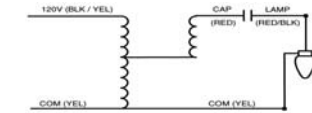
Wiring Diagram 17



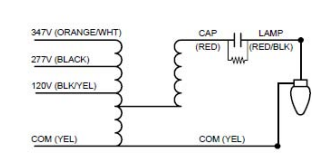
Wiring Diagram 25



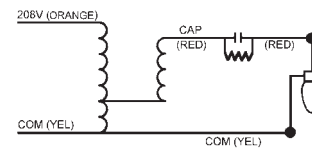
Wiring Diagram 28



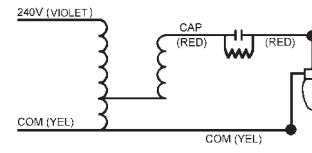
Wiring Diagram 29



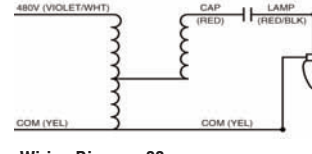
Wiring Diagram 30



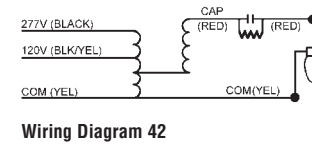
Wiring Diagram 31



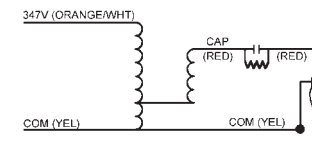
Wiring Diagram 32



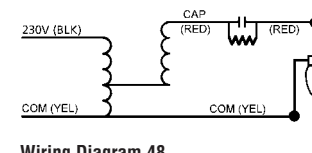
Wiring Diagram 33



Wiring Diagram 42



Wiring Diagram 46



Wiring Diagram 48

