Magnetic Ballast Specifications

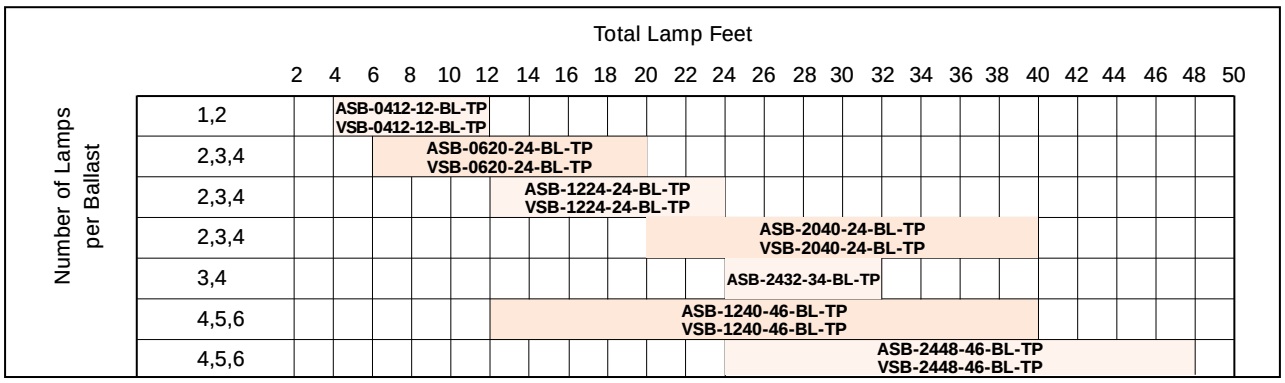
Lamp Data			Min. Starting Temp. (°F)	Input Volts	Catalog Number	Max. Line Current (Amps)	Max. Input Power (Watts)	Open Circuit Volts	Dim.	Wiring Diag.	Weight (lbs.)
No. of Lamps	Lamp Footage Min	Lamp Footage Max									
1,2	4	12	-20°F	120	**ASB-0412-12-BL-TP**	1.48	175	480	BL-1	21, 39	12
				277	**VSB-0412-12-BL-TP**	0.65					
2, 3, 4	6	20		120	**ASB-0620-24-BL-TP**	2.56	304	720	BL-1	5, 8, 13	12
				277	**VSB-0620-24-BL-TP**	1.12					
2, 3, 4	12	24		120	**ASB-1224-24-BL-TP**	2.70	312	785	BL-2	7, 9, 13	14
				277	**VSB-1224-24-BL-TP**	1.15					
2, 3, 4	20•	40•		120	**ASB-2040-24-BL-TP**	4.00	472	720	BL-3	5, 9, 13	21
				277	**VSB-2040-24-BL-TP**	1.75					
3, 4	24	32		120	**ASB-2432-34-BL-TP**	3.30	370	975	BL-4	8, 13	21
4, 5, 6	12▾	40▾		120	**ASB-1240-46-BL-TP**	3.90	462	720	BL-3	14, 15, 19	21
				277	**VSB-1240-46-BL-TP**	1.70					
4, 5, 6	24▪	48▪		120	**ASB-2448-46-BL-TP**	5.19	604	720	BL-3	14, 15, 19	21
				277	**VSB-2448-46-BL-TP**	2.25					

NEW

- • Total lamp length of each circuit (A) and (B) must not be less than 10 ft. nor more than 20 ft. Circuit (A) is comprised of lamps 1,2. Circuit (B) is comprised of lamps 3,4. (See wiring diagrams)
- ▾ Total lamp length of each circuit (A) and (B) must not be less than 6 ft. nor more than 20 ft. Circuit (A) is comprised of lamps 1,2,3. Circuit (B) is comprised of lamps 4,5,6. (See wiring diagrams)
- ▪ Total lamp length of each circuit (A) and (B) must not be less than 12 ft. nor more than 24 ft. Circuit (A) is comprised of lamps 1,2,3. Circuit (B) is comprised of lamps 4,5,6. (See wiring diagrams)

Note: See Page 8 for Dimensions and Wiring Diagrams.

Ballast Selection Guide



To select the ballast for your particular plastic sign application:

1.) Determine the total number of lamp feet required (from 4 to 48 feet) and read down to select the proper Advance Catalog Number. Note that the first ballast you come to, reading down the chart, will be the most economical for your application.

2.) The number of lamps per ballast is shown in the left column.

Magnetic Sign Ballast Specifications

1. The ballast shall be Advance signPRO electromagnetic core & coil design.
2. The ballast shall be provided with integral leads, color-coded to ANSI standard C82.1 (latest version).
3. The ballast shall operate from a nominal line voltage of 120 or 277 volts +/- 10%, 60 Hz.
4. The ballast shall operate the lamps at 60 Hz.
5. The ballast shall have a Power Factor greater than 90% at maximum input power.
6. The ballast shall start the lamps at a minimum temperature of -20°F/-29°C.
7. The ballast shall comply with all applicable state and federal efficiency standards.
8. The ballast shall be Underwriters Laboratories (UL) listed (Class P, Type 2 Outdoor) and CSA Certified.
9. The ballast shall be specified Advance or equal.
10. The ballast shall not contain Polychlorinated Biphenyls (PCB's).
11. The ballast shall carry a two-year warranty.
12. The manufacturer shall be a full-line ballast manufacturer with 50 years or more of ballast manufacturing experience.

Electronic Ballast Specifications

Lamp Data			Min. Starting Temp. (°F)	Input Volts	Catalog Number	Max. Line Current (Amps)	Max. Input Power (Watts)	Open Circuit Volts	Dim.	Wiring Diag.	Weight (lbs.)
No. of Lamps	Lamp Footage Min	Lamp Footage Max									
1, 2	4	16	-20°F	120	**ASB-0416-12-E**	1.46	175	750	BL-1	21, 39	6
2, 3, 4	12•	32•			**ASB-1232-24-E**	2.95	350	1000	BL-2	5, 9, 13	8
4, 5, 6	20▾	48▾			**ASB-2048-46-E***	4.17	490	1000	BL-3	14, 15, 19	10

• Total lamp length of each circuit (A) and (B) must not be less than 6ft. nor more than 16ft. .
Circuit (A) is comprised of lamps 1, 2. Circuit (B) is comprised of lamps 3, 4. (See wiring diagrams)

▾ Total lamp length of each circuit (A) and (B) must not be less than 10ft. nor more than 24ft. .
Circuit (A) is comprised of lamps 1, 2, 3. Circuit (B) is comprised of lamps 4, 5, 6. (See wiring diagrams)

* ASB-2048-46-E will operate (3) 10ft. lamps. (See wiring diagram 28)

Note: See Page 8 for Dimensions and Wiring Diagrams.

Ballast Selection Guide

Total Lamp Feet

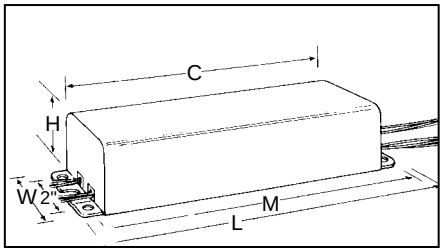
Number of Lamps per Ballast	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
1,2		**ASB-0416-12-E**																							
2,3,4							**ASB-1232-24-E**																		
4,5,6											**ASB-2048-46-E**														

Electronic Sign Ballast Specifications

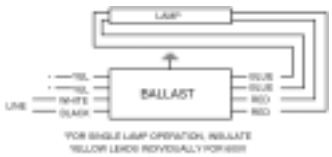
1. The ballast shall be Advance signPRO electronic design for T12/HO lamps.
2. The ballast shall be provided with integral leads, color-coded to ANSI standard C82.11 (latest version).
3. The ballast shall operate from a nominal line voltage of 120V +/- 10%, 60 Hz.
4. The ballast shall operate the lamps above 20 KHz.
5. The ballast shall have input current Total Harmonic Distortion (THD) of less than 20% at max. load.
6. The ballast shall have a Power Factor greater than 98% at max. load.
7. The ballast shall start the lamps at a minimum temperature of -20° F / -29° C.
8. The ballast shall provide a nominal Lamp Current Crest Factor of less than 1.7.
9. The ballast shall operate the lamps in series or series parallel.
10. The ballast shall support a sustained short to ground or open circuit of any output leads.
11. The ballast shall be Underwriters Laboratories (UL) listed (Class P, Type 2 Outdoor) and CSA certified.
12. The ballast shall have an audible noise rating of Class B or better.
13. The ballast shall comply with Federal Communications Commission (FCC) Part 18 for non-consumer equipment both conducted and radiated.
14. The ballast shall meet ANSI C62.41 for transient protection.
15. The ballast shall carry a three-year warranty from the date of manufacture with a 90°C maximum case temperature.

Ballast Dimensions and Diagrams

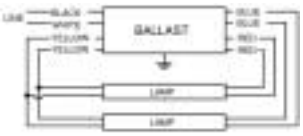
Designation	Dimension (inches)			
	Length (L)	Width (W)	Height (H)	Mounting (M)
BL-1	11.75	3.19	2.63	11.13
BL-2	14.30	3.19	2.63	13.75
BL-3	19.20	3.19	2.69	18.63
BL-4	16.70	3.19	2.63	16.13



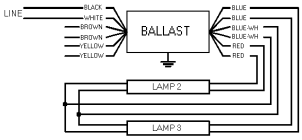
Wiring Diagrams



Diag. 39

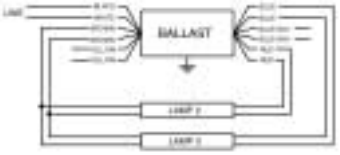


Diag. 21



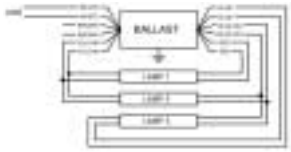
Note: Insulate unused leads individually as shown on ballast label.

Diag. 5



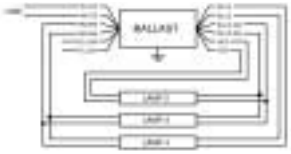
Note: Insulate unused leads individually as shown on ballast label.

Diag. 7



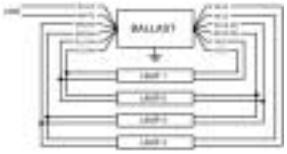
Note: Insulate unused leads individually as shown on ballast label.

Diag. 8

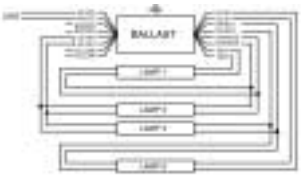


Note: Insulate unused leads individually as shown on ballast label.

Diag. 9

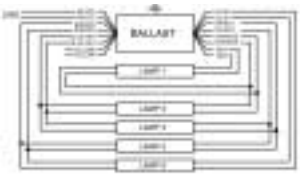


Diag. 13



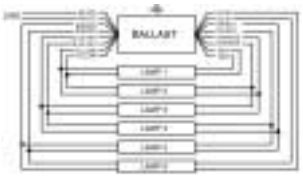
Note: Insulate unused leads individually as shown on ballast label.

Diag. 14

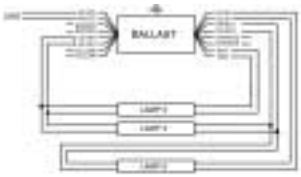


Note: Insulate unused leads individually as shown on ballast label.

Diag. 15



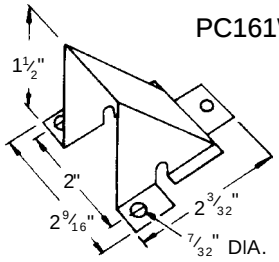
Diag. 19



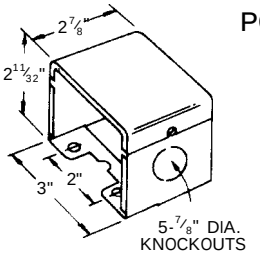
Diag. 28

Wiring Compartments

PC161W



PC857W



SECTION III – HID

Ballast Specification for HID Ballasts

HID

INCLUDING: Metal Halide, High Pressure Sodium, Low Pressure Sodium & Mercury Vapor

Performance Requirements:

1. Ballasts shall be designed in accordance with all applicable ANSI specifications including ANSI C82.4.
2. The Core & Coil ballast shall be designed with class "H" (180°C) or higher insulation system and vacuum-pressure impregnated with a silica-filled polyester resin.
3. All coils shall be precision wound.
4. Core & Coil ballasts shall be designed to operate for 60,000 hours of continuous operation at their maximum rated temperature.
5. Core & Coil ballasts and starter combinations shall be designed to provide a reliable lamp starting down to -40°C for High Pressure Sodium and -30°C for Metal Halide at nominal line voltage of plus or minus 10%.
6. All HID ballast shall have a nominal ballast factor of 1.0
7. All HID ballasts shall contain no exposed live parts.

Regulatory and Other Requirements

1. Ballast shall be manufactured in an ISO 9002 and ISO 14001 Certified Facility.
2. Manufacturer shall provide written warranty against defects in workmanship, including replacement, for two years from date of manufacture.
3. Manufacturer shall have been manufacturing HID ballasts for at least ten years.
4. All HID ballasts shall be UL component recognized.
5. All HID ballasts shall be CSA certified.
6. Ballast must be Advance Transformer (or approved equal).

CAPACITORS for HID

1. All capacitors will be provided with a self-contained internal bleeder resistor where required according to UL1029.
2. Oil-filled capacitors will be housed in aluminum or corrosion-resistant steel cans and contain .25" quick disconnect terminals.
3. Oil filled capacitors shall have a 90°C max case temperature rating.
4. Dry film capacitors shall have a 105°C max. case temperature rating.
5. All dry film capacitors shall be manufactured by the ballast manufacturer.
6. All capacitors rated 400V or less shall be dry film type.
7. All dry film capacitors shall have no exposed live parts.

IGNITORS for HID

1. All ignitors will be polyester resin-filled with either a plastic or aluminum external housing.
2. The ignitor shall be so designed to provide six months of lamp open circuit operation without failure.
3. All ignitors shall have a case rating temperature of 105°C.
4. All ignitors shall be designed to withstand 10,000 hours of continuous pulsing.
5. All ignitors shall have no exposed live parts.

HID RETROFIT KITS

1. All HID kits shall be precision wound to insure proper insulation.
2. All HID kits shall be pre-wired with ignitors.
3. HID core and coil shall be interchangeable with prior ballast or include mounting bracket to adapt ballast to intended fixture.
4. All HID kits shall be supplied with pre-insulated input voltage leads.
5. All HID kits are to be UL and CSA recognized following the guidelines found in UL 1029 and CAN/CSA-22.2 No. 74-92 (part 2 and 3).
8. The core & coil shall be designed with class "H" (180°C) or higher insulation system and vacuum-pressure impregnated with a silica-filled polyester resin.
9. All capacitors rated 400V or less shall be dry film type rated 105°C.
10. There are to be no exposed live parts on the core & coil, ignitor, or dry capacitor.
11. Must meet all ANSI Specifications for the specified lamp.
12. Kit must include installation instructions and a 1-800# for field assistance.
13. Ballast must be Advance Part # _____ (or approved equal).