

# CLASS 2 POWER SUPPLIES

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## Installation Guide



### Warning

- Installation must only be performed by a licensed electrician.
- To prevent death, injury or damage to property this product must be installed in accordance with the National Electric Code in the USA or Canadian Electrical Code (CSA22.1) in Canada.
- Under no circumstance can the secondary outputs of a Class 2 driver be tied together, whether it is a multi-leg driver or multiple single leg drivers.
  - Doing so voids the Class 2 UL rating.
  - Any power supply warranty is voided where this occurs.

# CLASS 2 POWER SUPPLIES

## Installation Guide

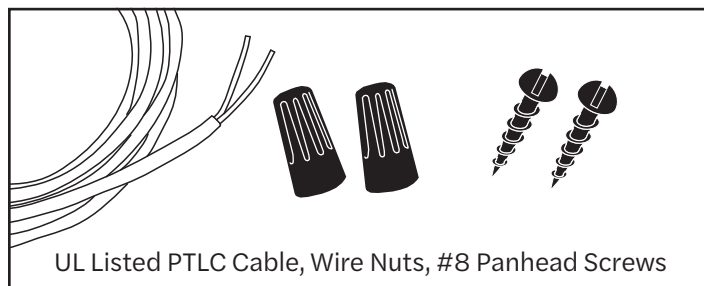
### Principal Sloan Power Supplies

PL-60-12-MU, Installation Guide, PS  
Input: 100-277 / Output: 12 VDC

#### Tools required



#### Supplies required

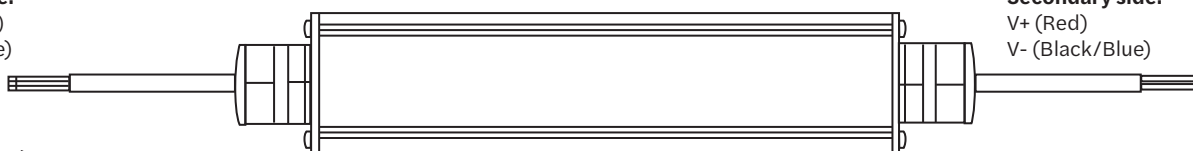


#### Power Supply:

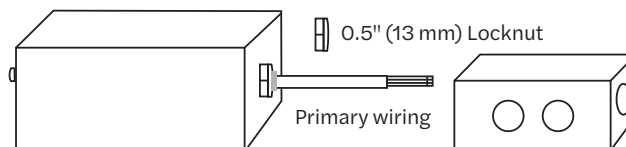
**Primary side:**  
AC/L (Black)  
AC/N (White)

FG  $\frac{|||}{-}$  (Green)

**Secondary side:**  
V+ (Red)  
V- (Black/Blue)



**Attach power supply to J-box:** Attach power supply(s) to junction box using 0.5" locknut. Multiple power supplies may be connected and configured to the same junction box. For wet locations, use a junction box that is UL-rated for wet use.



**NOTE:** Operating temperature is -22° to 140° F (-30° to 60° C) therefore it is required by UL that the power supplies are spaced at least 4" (102 mm) apart side-to-side, 1" (25 mm) end to end, and not in secondary enclosure to ensure optimal ventilation to ensure maximum lifetime of the power supply, it is highly recommended that a photo-cell or timer be used to prevent operation during daylight hours. Do not use more modules than recommended on the product installation guide. Total amperage should not exceed 5.0 A per power supply

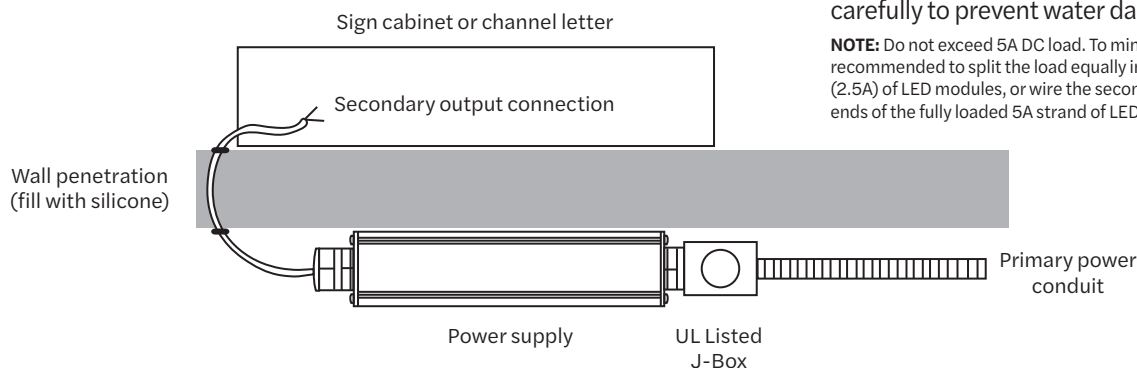
**Mount power supply:** Using a drill and the #8 Panhead screws, mount the power supply using the mounting tabs at the bottom of the supply.

**Make primary connection:** A licensed electrician is required in order to bring conduit to the junction box and make the primary connection.

#### Make secondary connections:

Secondary output is 12VDC or 24VDC. Secondary Class 2 Cables DO NOT require conduit per NEC 2008 Articles 725.121-130. Always seal wall penetrations carefully to prevent water damage.

**NOTE:** Do not exceed 5A DC load. To minimize light loss it is recommended to split the load equally in two parallel runs (2.5A) of LED modules, or wire the secondary input to both ends of the fully loaded 5A strand of LEDs



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## Installation Guide

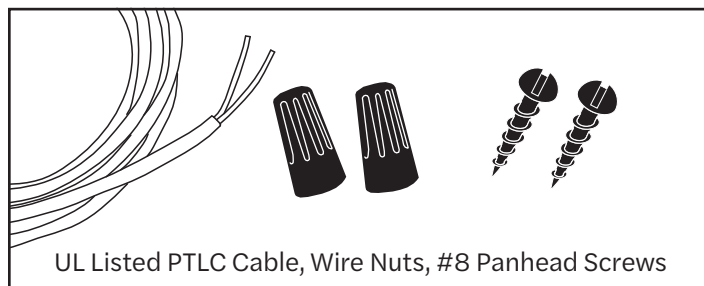
### Enclosure/Raceway Mount Power Supplies

Installation guide, self-contained PS  
Input: 100-277 VAC or 277-347 VAC / Output: 12 or 24 VDC

#### Tools required




#### Supplies required

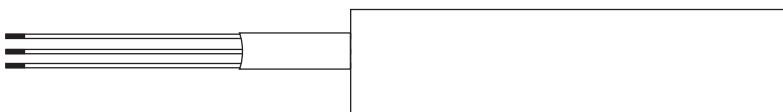


#### Power Supply:

##### Primary side:

AC/L (Black)  
AC/N (White)

FG  (Green)



##### Secondary side:

V+ (Red)  
V- (Black/Blue)



**NOTE:** Operating temperature is -22° to 158° F (-30° to 70° C) (see de-rating chart at [PrincipalSloan.com](http://PrincipalSloan.com) for higher temperature option), therefore it is recommended that the power supplies are spaced at least 4" (102 mm) apart side-to-side, 2" (51 mm) end-to-end (some models have been approved for 2" (51 mm) and 1" (25 mm) end-to-end), and not in secondary enclosure to ensure optimal ventilation (please see table for details). To ensure maximum lifetime of the power supply, it is highly recommended that a photocell or timer be used to prevent operation during daylight hours. Do not use more modules than recommended on the product installation guide. Total amperage should not exceed max. output current (full list on next page).

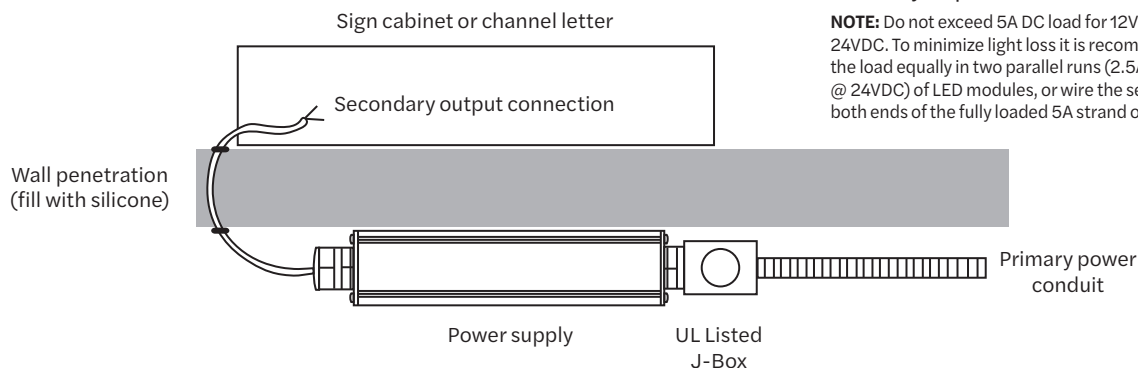
**Mount power supply:** Using a drill and the #8 Panhead screws, mount the power supply inside the channel letter, inside the raceway, or in a separate UL enclosure using the mounting tabs at the bottom of the supply.

**Make primary connection:** A licensed electrician is required in order to bring conduit to the junction box and make the primary connection.

#### Make secondary connections:

Secondary output is 12VDC or 24VDC. Secondary Class 2 Cables DO NOT require conduit per NEC 2008 Articles 725.121-130. Always seal wall penetrations carefully to prevent water damage.

**NOTE:** Do not exceed 5A DC load for 12VDC or 4 A load for 24VDC. To minimize light loss it is recommended to split the load equally in two parallel runs (2.5A @ 12VDC or 2.0A @ 24VDC) of LED modules, or wire the secondary input to both ends of the fully loaded 5A strand of LEDs



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### E#341517 UL Recognized Principal Sloan LED Power Supplies

Model	SKU	Input voltage	Input current	Output voltage	Output current	Frequency	Location rating
Energizer Series 20W 12VDC Power Supply	P-OH020-12-EC	90-305 VAC	Max. 0.5 A	12 VDC	0-1.67 A	47-63 Hz	Wet/Damp/Dry
Energizer Series 20W 24VDC Power Supply	P-OH020-24-EC	90-305 VAC	Max. 0.5 A	24 VDC	0-0.833 A	47-63 Hz	Wet/Damp/Dry
Energizer Series 60W 12VDC Power Supply	P-OH060-12-EC	90-305 VAC	Max. 1.35 A	12 VDC	0-5 Amps	47-63 Hz	Wet/Damp/Dry
Energizer Series 60W 24VDC Power Supply	P-OH060-24-EC	90-305 VAC	Max. 1.35 A	24 VDC	0-2.5 Amps	47-63 Hz	Wet/Damp/Dry
Energizer Series Threaded 100W 24VDC Power Supply	P-OH100-24-EC-T	90-305 VAC	Max. 2.5 A	24 VDC	0-4 Amps	47-63 Hz	Wet/Damp/Dry
Energizer Series Threaded 60W 12VDC Power Supply	P-OH060-12-EC-T	90-305 VAC	1.33 A/100 VAC, 0.65 A/230 VAC	12 VDC	0-5 Amps	47-63 Hz	Wet/Damp/Dry
HE 120 W 12VDC Power Supply	P-OH120-12-HE	120-277 VAC	1.2 A/120 VAC, 0.51 A/277 VAC	12 VDC	0.5-5.0 Amps	50-60 Hz	Damp/Dry
HE 180 W 12VDC Power Supply	P-OH180-12-HE	120-277 VAC	1.8-0.76 A	12 VDC	0.5-5.0 Amps (per channel, 3-channel)	50-60 Hz	Damp/Dry
HE 300 W 24VDC Power Supply	P-OH300-24-HE	120-277 VAC	2.9-1.27 A	24 VDC	0.41-4.1 Amps (per channel, 3-channel)	50-60 Hz	Damp/Dry
HE 60 W 12VDC Power Supply*	P-OH060-12-HE	110-277 VAC	0.61 A/100 VAC, 0.27 A/277 VAC	12 VDC	0.5-5.0 Amps	50-60 Hz	Damp/Dry
HE 96 W 24VDC Power Supply*	P-OH096-24-HE	110-277 VAC	0.98 A/100 VAC, 0.42 A/277 VAC	24 VDC	0.41-4.1 Amps	50-60 Hz	Damp/Dry
Universal 100 W 24VDC Micro-Driver Power Supply	P-OH100-24-MD	120-277 VAC	0.9 A/120 VAC, 0.39 A/277 VAC	24 VDC	0-4.0 Amps	50-60 Hz	Damp/Dry
Universal 60 W 12VDC Micro-Driver Power Supply	P-OH060-12-MD	100-277 VAC	Max. 0.7 A	12 VDC	0-5.0 Amps	50-60 Hz	Damp/Dry

## Voltage Drop Chart

NOTE: All distance denoted in feet.

Voltage (VDC)	Current (A)	Power (W)	Wire Gauge											
			24	22	20	18	16	14	12	10	8	6	4	2
12	0.5	6	40	64	100	160	250	400	650	1000	1600	2550	4000	6500
	1.0	12	20	32	50	80	125	200	325	500	800	1275	2000	3200
	1.5	18	13	22	33	55	85	132	215	330	525	850	1400	2150
	2.0	24	10	16	25	40	62	100	160	250	400	650	1000	1600
	2.5	30	8	13	20	32	50	80	125	200	325	500	800	1290
	3.0	36	7	11	17	26	42	66	110	165	265	425	675	1100
	3.5	42	6	9	14	23	36	58	90	145	230	365	575	925
	4.0	48	5	8	13	20	32	50	78	125	200	320	500	800
	4.5	54	4	7	11	18	28	45	70	110	175	280	450	720
	5.0	60	4	6	10	16	25	40	65	100	160	255	400	640
24	0.5	12	80	128	200	320	500	800	1300	2000	3200	5100	8000	13000
	1.0	24	40	64	100	160	250	400	650	1000	1600	2550	4000	6400
	1.5	36	26	44	66	110	170	264	430	660	1050	1700	2800	4300
	2.0	48	20	32	50	80	124	200	320	500	800	1300	2000	3200
	2.5	60	16	26	40	64	100	160	250	400	650	1000	1600	2580
	3.0	72	14	22	34	52	84	132	220	330	530	850	1350	2200
	3.5	84	12	18	28	46	72	116	180	290	460	730	1150	1850
	4.0	96	10	16	26	40	64	100	156	250	400	640	1000	1600

#### Customer service and technical support

principalsloan.com

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