

Features

LineLED LL Series Double Row is a small profile high performance LED strip. It offers excellent color quality with 96+ CRI and 89+ R9 values across the entire range of outputs, while sustaining efficacy above 89 lumens per watt. The LL60X2 consists of two outputs ranging from over 660 to over 830 lumens per foot. Industry-best color consistency is ensured with single-binned LEDs. The durable but flexible product features heavier copper weight for improved heat dissipation and reduced voltage drop.



Mounting

LED strip is equipped with 3M™ self-adhesive tape.

Applications

Indoor only - millwork, cove, architectural reveals, undercabinet, display case, handrail, accent lighting.

Approvals

Class 2 damp listed

Operating voltage

24 VDC

Average Life (L70)

50,000 hours

Warranty

7 years



Technical Information

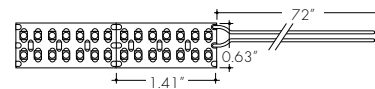
TYPE	LL60X2	
	HO	VHO
OUTPUT OPTIONS		
Lumens Output (3000K)	668 lm/ft	834 lm/ft
Average Power Consumption (for a 4' section)	7.3 W/ft	9.4 W/ft
Efficacy	92 lm/W	89 lm/W
Cutting Increment (in)	1.41"	
Pitch Length	0.2"	
Max Run Length (in series)	26 ft	21 ft
Dimensions	0.63"W x 0.09" H	

CCT	Multiplier (reference - 3000K)	TM-30			
		CRI	R _f	R _g	R ₉
2200K	0.70	96	95	101	89
2400K	0.72	98	97	101	91
2700K	0.74	97	96	101	91
3000K	1.00	97	95	104	97
3500K	1.02	97	94	105	97
4100K	1.07	97	90	99	97

Section Start/End Options

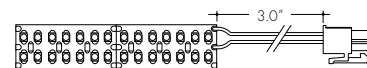
SL

Soldered lead wires (72")



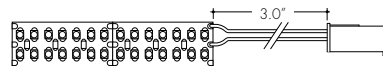
LF

Lead Female 3" cable



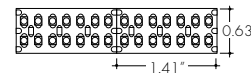
LM

Lead Male 3" cable



NC

No connector

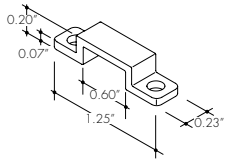


Ordering code

MODEL	OUTPUT	CCT	SECTION START	SECTION END	LENGTH
LL60X2-LineLED Double Row LL60X2	HO-High VHO-Very High	22K-2200K 24K-2400K 27K-2700K 30K-3000K 35K-3500K 41K-4100K	SL-Soldered lead wires (72") LF-Female Quick Connect LM-Male Quick Connect NC-No Connector	SL-Soldered lead wires (72") LF-Female Quick Connect LM-Male Quick Connect NC-No Connector	Ordered in one foot increments. See chart above for max run length.

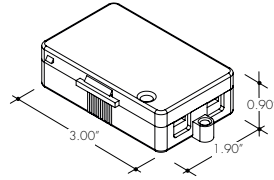
Accessories

CL2
Mounting Clip



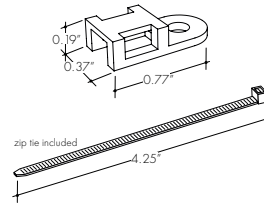
recommended at every 12" when lineLED strip is facing down.

LVSP-4T-BK
Splice Box



low voltage, 4 terminal splice box, black.

LL.ZIP
Cable/Wire Strain Relief Clip



Lens Options / Light Transmission

C
Clear

HF
Half (50%)
Frosted

GR
Graze

F
Frosted

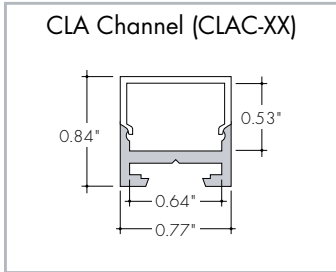
FF
Flat
Frosted

R
Raised

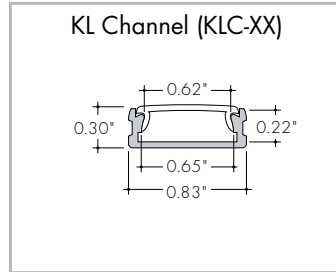
S
Square
Frosted

Q
Round Square
Frosted

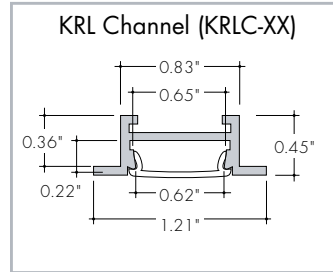
13°
13°
Semi-Frosted



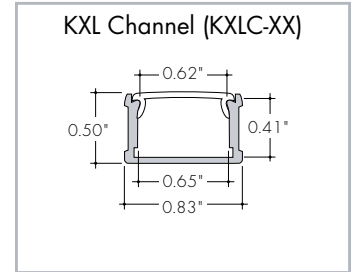
S **Q**
62% 65%



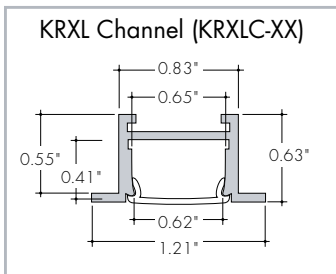
C **HF** **F**
81% 67% 51%



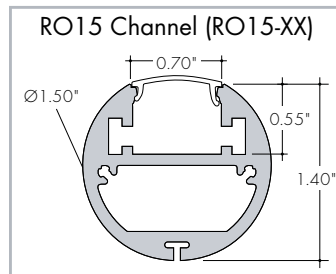
C **HF** **F**
81% 67% 51%



C **HF** **F**
79% 66% 49%



C **HF** **F**
79% 66% 49%



C **F**
79% 41%

Installation

All mounting channels are field cuttable using miter saw with circular blade suitable for cutting aluminum.

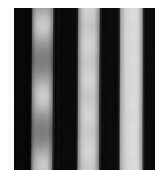
Ordering

Extrusions are sold separately. View respective specsheets for details on ordering extrusions and their accessories (endcaps, mounting brackets, etc).

Led Dotting per Extrusion

using the frosted lens option

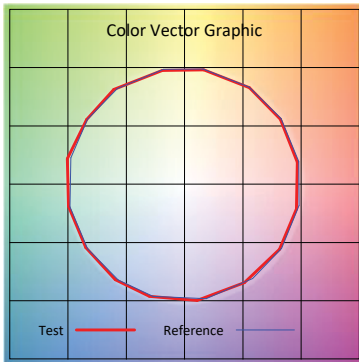
Extrusion	LED Models
	LL60X2
KL	SD
KXL	ND
CLA	ND
KRL	SD
KRXL	ND
RO15	ND
MCAL	ND



CD **SD** **ND**
CD - Clear Dotting
SD - Slight Dotting
ND - No Dotting

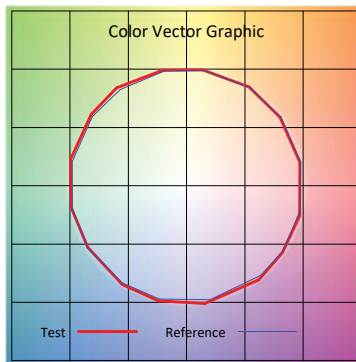
TM-30-15: Data

2200K



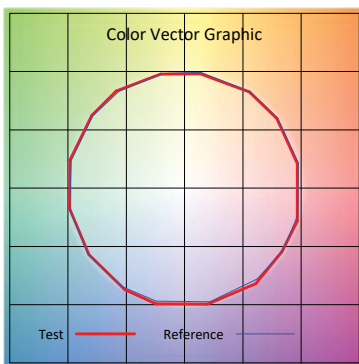
Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	96.8	-1.4%	-0.2%
2	97.4	-0.7%	-0.3%
3	96.2	-0.5%	-0.4%
4	97.5	-0.8%	-1.0%
5	97.3	-0.8%	1.1%
6	95.4	1.0%	2.8%
7	98.1	0.5%	0.6%
8	95.7	2.8%	1.3%
9	97.0	1.1%	-0.8%
10	96.4	0.6%	-1.6%
11	96.0	1.3%	-2.2%
12	94.7	0.8%	-3.0%
13	92.0	0.2%	-7.8%
14	87.2	-1.1%	-7.9%
15	96.6	-0.9%	-1.7%
16	94.1	-1.6%	-3.2%

2400K



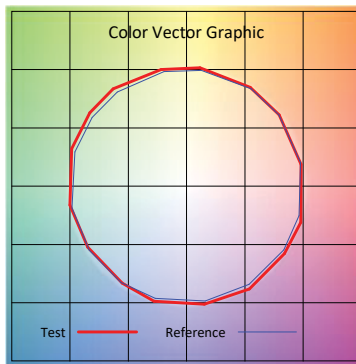
Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	97.3	-0.7%	-0.6%
2	98.0	-0.7%	0.1%
3	96.7	0.1%	1.2%
4	97.4	0.0%	0.5%
5	97.0	1.0%	1.9%
6	95.0	2.9%	1.6%
7	96.4	1.7%	-0.9%
8	96.2	1.9%	-1.3%
9	97.2	0.4%	-1.1%
10	97.9	-0.3%	-0.3%
11	96.9	1.2%	1.2%
12	94.8	1.7%	-0.4%
13	93.6	2.2%	-4.9%
14	92.7	2.2%	-3.9%
15	96.7	0.4%	-2.0%
16	92.9	0.3%	-4.7%

2700K



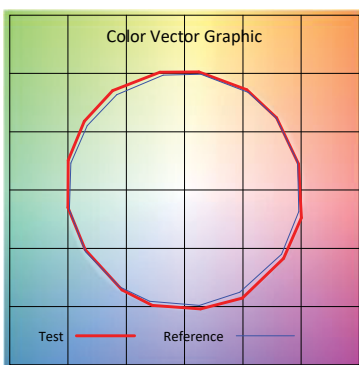
Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	97.1	-1.0%	-0.6%
2	98.2	-0.7%	-0.2%
3	97.0	-0.5%	0.8%
4	97.1	-1.2%	0.2%
5	96.9	-0.1%	1.9%
6	96.2	1.7%	1.8%
7	97.3	0.8%	-0.1%
8	97.9	1.0%	-0.3%
9	98.2	-0.1%	-0.1%
10	96.8	-0.2%	1.5%
11	94.8	0.9%	3.0%
12	94.4	2.4%	0.2%
13	95.7	1.6%	-2.4%
14	94.2	2.7%	-3.1%
15	96.5	-0.0%	-1.4%
16	92.3	0.7%	-5.3%

3000K



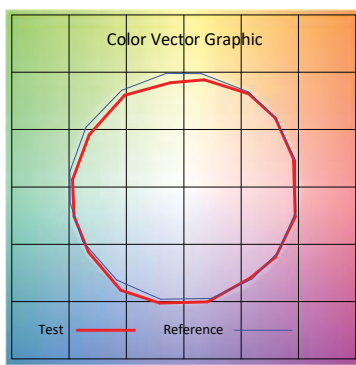
Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	95.9	0.2%	-1.7%
2	97.4	0.2%	-0.2%
3	96.3	0.7%	1.2%
4	95.1	1.9%	1.6%
5	94.9	2.3%	2.1%
6	92.6	4.3%	1.2%
7	92.1	3.9%	-2.2%
8	93.1	3.3%	-2.3%
9	94.8	1.2%	-2.8%
10	94.6	-0.5%	-2.7%
11	96.2	-0.1%	1.0%
12	93.7	2.7%	-0.3%
13	95.7	2.5%	-1.3%
14	94.2	3.6%	-2.1%
15	94.2	2.2%	-2.5%
16	92.0	2.5%	-5.3%

3500K



Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	96.4	0.5%	-1.5%
2	97.7	0.3%	0.2%
3	94.7	1.0%	2.2%
4	94.4	1.7%	2.2%
5	93.4	3.0%	2.3%
6	91.4	5.0%	1.0%
7	92.7	4.1%	-1.6%
8	94.1	2.8%	-2.1%
9	95.0	0.9%	-2.1%
10	95.9	-0.8%	-1.6%
11	93.5	1.1%	3.4%
12	91.7	3.1%	3.0%
13	95.3	3.1%	0.5%
14	93.0	5.3%	-0.8%
15	93.5	3.4%	-2.1%
16	90.9	3.2%	-4.6%

4100K



Hue Bin	Rf	Graphic Shifts (%)	
		Chroma	Hue
1	91.5	-1.3%	1.6%
2	95.3	-0.1%	-0.4%
3	95.4	-1.0%	-1.3%
4	89.1	-4.8%	-3.5%
5	86.6	-8.7%	-2.1%
6	91.9	-5.0%	0.5%
7	87.8	-6.2%	4.0%
8	86.7	-3.5%	6.7%
9	82.7	-1.2%	11.7%
10	81.6	1.0%	10.5%
11	84.5	5.4%	8.0%
12	92.6	3.3%	-0.3%
13	90.9	2.3%	3.9%
14	92.6	-1.5%	-1.5%
15	86.6	0.5%	-4.4%
16	86.7	0.5%	-4.7%

Power Consumption

Tested at full power with PDC Series power supplies.

Nominal Length	LL60X2-HO		LL60X2-VHO	
	W/ft	Total Wattage	W/ft	Total Wattage
1	8.2	8.9	10.4	11.3
2	7.8	15.5	10.1	20.2
3	7.6	23.3	9.7	29.9
4	7.3	29.3	9.3	37.4
5	7.2	35.9	9.2	45.8
6	7.0	41.9	8.8	52.9
7	6.7	47.2	8.5	59.2
8	6.6	52.6	8.3	66.4
9	6.4	57.9	7.7	69.3
10	6.3	63.5	7.4	74.2
11	6.1	67.6	6.9	75.4
12	5.9	70.8	6.5	77.8
13	5.7	73.8	6.2	80.6
14	5.5	76.6	6.0	83.1
15	5.3	79.2	5.7	86.2
16	5.0	80.0	5.3	85.6
17	4.9	82.6	5.3	90.8
18	4.7	84.3	4.9	88.2
19	4.5	86.0	4.9	92.9
20	4.4	88.6	4.7	94.5
21	4.2	88.9	4.5	95.2
22	4.1	89.7		
23	3.9	90.0		
24	3.8	90.8		
25	3.7	91.1		
26	3.5	91.9		

Voltage Drop Calculator

The below chart assumes nominal voltage of 24 Volts and a Voltage Drop Allowance of 3% through the wire

Wattage [W]	Maximum Wire Length From Power Supply to Start of Run [ft]						
	12 AWG	14 AWG	16 AWG	18 AWG	20 AWG	22 AWG	24 AWG
5	1088.2	684.4	430.3	270.6	170.2	107.1	67.3
10	544.1	342.2	215.1	135.3	85.1	53.5	33.7
15	362.7	228.1	143.4	90.2	56.7	35.7	22.4
20	272.0	171.1	107.6	67.7	42.6	26.8	16.8
25	217.6	136.9	86.1	54.1	34.0	21.4	13.5
30	181.4	114.1	71.7	45.1	28.4	17.8	11.2
35	155.5	97.8	61.5	38.7	24.3	15.3	9.6
40	136.0	85.5	53.8	33.8	21.3	13.4	8.4
45	120.9	76.0	47.8	30.1	18.9	11.9	7.5
50	108.8	68.4	43.0	27.1	17.0	10.7	6.7
55	98.9	62.2	39.1	24.6	15.5	9.7	6.1
60	90.7	57.0	35.9	22.6	14.2	8.9	5.6
65	83.7	52.6	33.1	20.8	13.1	8.2	5.2
70	77.7	48.9	30.7	19.3	12.2	7.6	4.8
75	72.5	45.6	28.7	18.0	11.3	7.1	4.5
80	68.0	42.8	26.9	16.9	10.6	6.7	4.2
85	64.0	40.3	25.3	15.9	10.0	6.3	4.0
90	60.5	38.0	23.9	15.0	9.5	5.9	3.7
96	56.7	35.6	22.4	14.1	8.9	5.6	3.5

Power Supplies

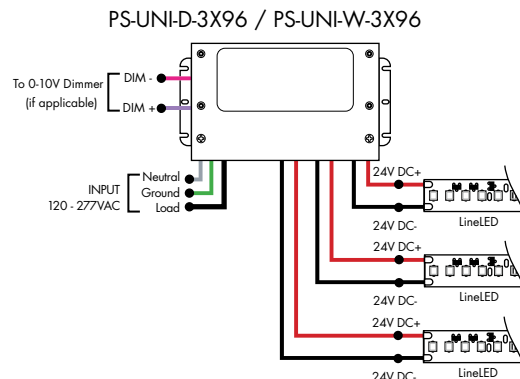
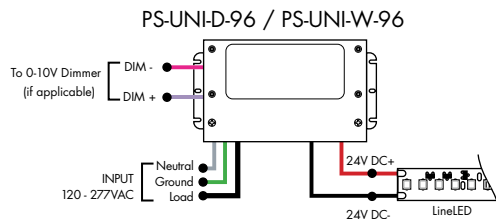
See Power Supply instructions and spec sheet for wiring information. For a complete list of compatible dimmers, see Compatible Dimming Chart on the Resources page.

Ordering Code Universal Dimming Power Supplies 1% 120VAC - 277VAC

MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT
PS-Power Supply, 120-277VAC	UNI-0-10V Dimming, Phase Dimming	D-Dry W-Wet	30-30 Watts 60-60 Watts 96-96 Watts 3x96-3x96 Watts	24-24 VDC

Compatibility: View a complete list of compatible dimmers on product page [\(Link\)](#)

0-10V - 1% dimming
MLV/ELV/TRIAC - 1% dimming, consult dimming compatibility chart



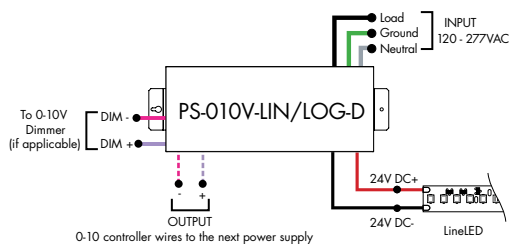
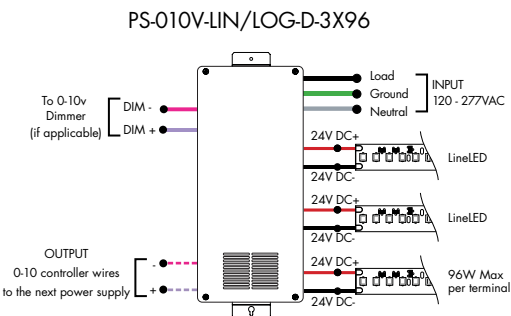
MODELS	PS-UNI-W-30W	PS-UNI-W-60W	PS-UNI-W-96W	PS-UNI-W-3X96W
Length	6.50"	7.40"	8.66"	11.85"
Width	3.73"	3.73"	3.73"	4.32"
Depth	1.61"	1.61"	1.61"	1.81"

MODELS	PS-UNI-D-30W	PS-UNI-D-60W	PS-UNI-D-96W	PS-UNI-D-3X96W
Length	8.77"	8.77"	8.11"	9.94"
Width	4.27"	4.27"	5.60"	7.61"
Depth	1.83"	1.83"	1.83"	2.02"

Ordering Code 0-10V Dimming Power Supplies 0.1% 120VAC - 277VAC

MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT
PS-Power Supply, 120-277VAC	010V-LIN-0-10V Dimming (0.1%), Linear 010V-LOG-0-10V Dimming (0.1%), Logarithmic	D-Dry	96-96 Watts 3X96-3x96 Watts	24-24 VDC

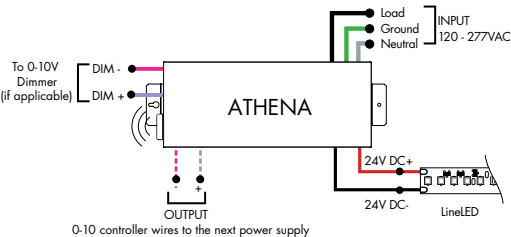
MODELS	96W	3X96
Length	14.40"	15.00"
Width	5.20"	6.62"
Depth	2.60"	4.45"



Athena 0-10V LED Driver

MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT	FEATURE
PS-Power Supply, 120-277VAC	010V-LIN-0-10V Dimming, Linear 010V-LOG-0-10V Dimming, Logarithmic	D-Dry	96-96 W	24-24 VDC	AWNR-Athena

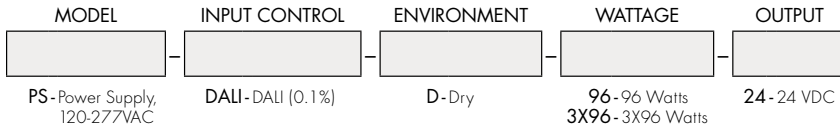
MODELS	96W
Length	14.40"
Width	5.20"
Depth	2.60"



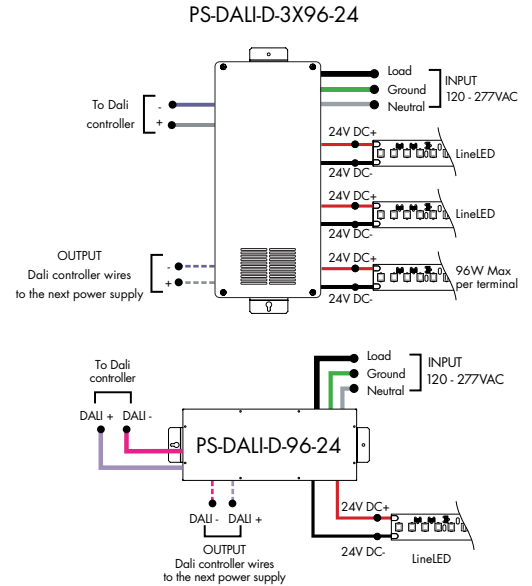
Power Supplies

See Power Supply instructions and spec sheet for wiring information. For a complete list of compatible dimmers, see Compatible Dimming Chart on the Resources page.

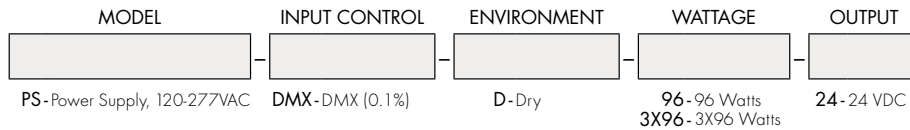
Ordering Code DALI1 Dimming Power Supplies 0.1% 120VAC - 277VAC



Model	96W	3X96
Length	14.40"	15.00"
Width	5.20"	6.62"
Depth	2.60"	4.56"

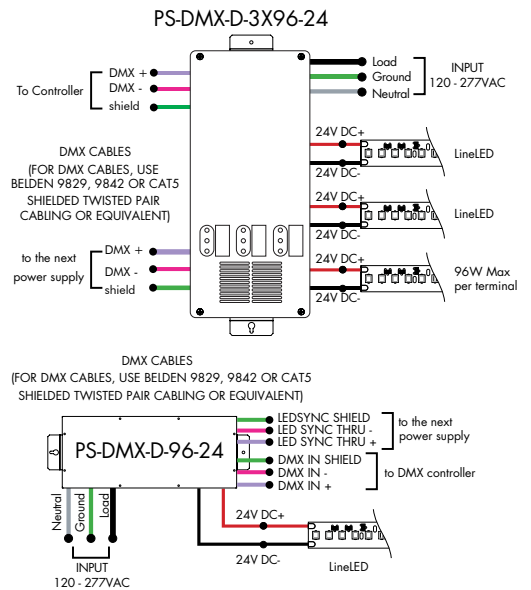


Ordering Code DMX Dimming Power Supplies 0.1% 120VAC - 277VAC Requires Zonal Control

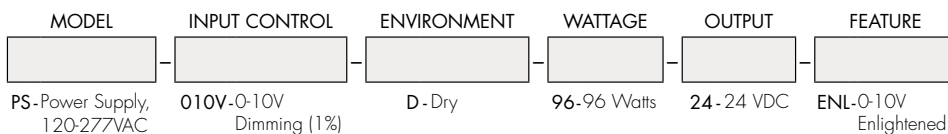


*Zonal control power supplies. Control multiple tapes/zones using DMX channels.

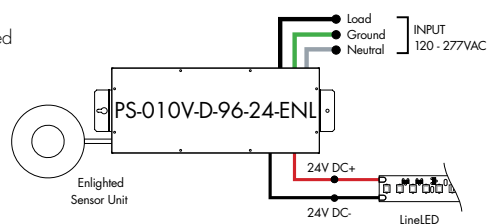
MODELS	96W	3X96
Length	14.40"	15.00"
Width	5.20"	6.62"
Depth	2.60"	4.56"



Ordering Code Enlightened Enabled Dimming Power Supplies 1% 120VAC - 277VAC



Model	96W
Length	14.40"
Width	5.20"
Depth	2.60"

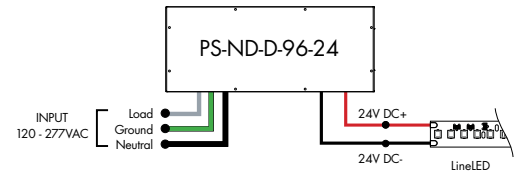


Power Supplies

See Power Supply instructions and spec sheet for wiring information. For a complete list of compatible dimmers, see Compatible Dimming Chart on the Resources page.

Ordering Code Non-Dimming Power Supply 120VAC - 277VAC

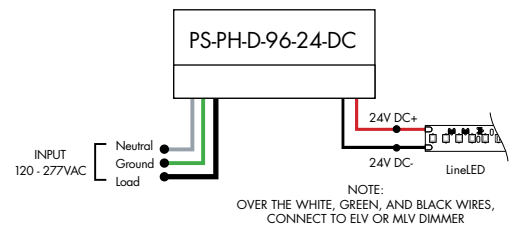
MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT
PS - Power Supply, 120-277VAC	ND - Non Dimming	D - Dry	96-96 Watts	24 - 24 VDC



MODELS	96W
Length	14.40"
Width	5.20"
Depth	2.60"

Ordering Code Phase Dimming Power Supply 1% 120VAC - 277VAC

MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT	OUTPUT CONTROL
PS - Power Supply, 120-277VAC	PH - Phase Dimming (Triac, ELV, MLV)	D - Dry	96 - 96 Watts	24 - 24 VDC	DC - Direct Current

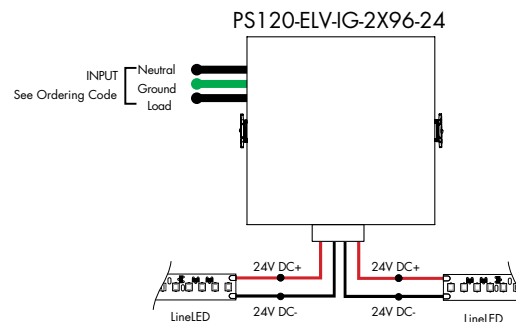


MLV/ELV/TRIAC - 1% dimming, consult dimming compatibility chart ([link](#))

MODELS	96W
Length	8.25"
Width	4.10"
Depth	1.56"

Ordering Code In-Ground Power Supplies

MODEL	INPUT CONTROL	ENVIRONMENT	WATTAGE	OUTPUT
PS120 - Power Supply, 120VAC PS240 - Power Supply, 240VAC PS277 - Power Supply, 277VAC	ELV - ELV Dimming (1%)	IG - In Ground	2X96 - 2X96 Watts	24 - 24 VDC



MODELS	2X96W
Length	8.40"
Width	8.30"
Depth	8.10"

Power Supplies

See Power Supply instructions and spec sheet for wiring information. For a complete list of compatible dimmers, see Compatible Dimming Chart on the Resources page.



Luminii is a Lutron OEM Advantage Partner

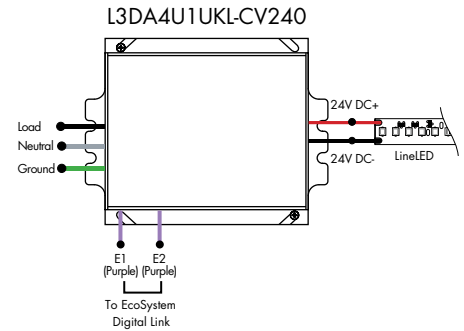
Lutron Power Supplies 1%

MODEL

L3DA4U1UKL-CV240

HiLume™ 1% EcoSystem Voltage LED driver
40W max

MODELS	L3DA4U1UKL-CV240
Length	4.98"
Width	4.00"
Depth	2.62"



Luminii is a Lutron OEM Advantage Partner

Lutron Power Supplies 0.1%

MODEL

L3D0-96W24V-U

HiLume™ 0.1% EcoSystem Voltage LED Driver with Soft-On, Fade-to-Black™
96W max

MODELS	L3D0
Length	10.50"
Width	5.50"
Depth	2.00"

