LLX18 Pixel SPI | Dynamic Color, RGB Pixel SPI - 24 VDC

optic arts by luminii

LLRGBX18

LLRGBWX18

Pixel

Features

LLRGBX18 Pixel SPI is a small profile and energy efficient pixel color-changing light strip. It is easily installed directly on to the mounting surface with double sided tape or within discrete mounting extrusions.

LLRGBX18 is a smart pixel controlled LED with a microcontroller every six LEDs resulting in a uniquely controlled pixel every 4". This advanced design allows for mind blowing animations such as cascading and chasing effects at the granular level.

Infinite RGB lighting possibilities are now achievable with ease when using the LineLED RGB X18 with SPI protocol pixel control.

Mounting
LLED strip is equipped with 3M™ adhesive transfer tape (9472LE).

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

Declare. | CE | Single Bin +/- 30 CCT
LM80 | RoHS
UL LISTED c(UL)us | TITLE 24 JA8 COMPLIANT | DIM

Technical information

TYPE	LLRGBX18	LLRGBWX18
OUTPUT OPTIONS	**SO**	**SO**
Lumens Output (all channels full on)	169 lm/ft	256 lm/ft
Average Power Consumption (for a 4' section)	4.5 W/ft	5.7 W/ft
Efficacy	38 lm/W	45 lm/W
Cutting Increment	3.94"	
Pitch Length	0.66"	
Max Run Length (in series)	30 ft	20 ft
Dimensions	0.39" W x 0.09" H	
Control/Dimming Protocol	SPI Protocol UCS 2903	SPI Protocol UCS 2904

RGBW (3000K)

Tape	TM-30			
	CRI	R$_f$	R$_g$	R$_9$
LLRGBWX18-SO	93	91	99	64

Dominant Wavelength

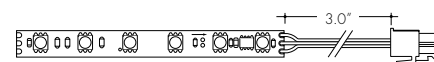| Color	RGB/RGBW
Red	621nm
Green	519nm
Blue	465nm

Section Start/End Options

SL
Soldered lead wires (72")
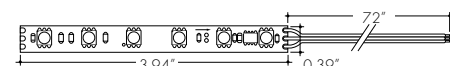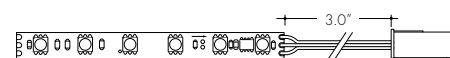

LF
Lead Female 3" cable

LM
Lead Male 3" cable

NC
No connector

Ordering code

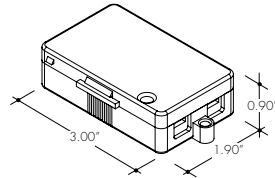| MODEL	OUTPUT	COLOR TEMPERATURE	SECTION START	SECTION END	LENGTH
	-		-	-	
LLRGBWX18-LineLED LLRGBWX18 LLRGBX18-LineLED LLRGBX18	SO-Standard	PXSPI-Smart Pixel Control (SPI)	SL-Soldered lead wires (72") LF-Female Quick Connect LM-Male Quick Connect NC-No Connector	SL-Soldered lead wires (72") LF-Female Quick Connect LM-Male Quick Connect NC-No Connector	Ordered in one foot increments. See chart above for max run length.

*LUMINII RESERVES THE RIGHTS TO CHANGE SPECIFICATION & INSTRUCTION WITHOUT NOTICE   www.luminii.com   tel: 224-333-6033

Accessories

CL1
Mounting clip

0.20"
0.05"
0.40"
1.00"
0.23"
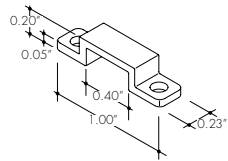
Recommended every 12" when LineLED strip is facing down

LVSP-4T-BK
Low Voltage, 4 Terminal Splice Box, Black

0.90"
3.00"
1.90"

LL.ZIP
Strain relief clip

0.19"
0.37"
0.77"

zip tie included
4.25"

Lens Options / Light Transmission

C	HF	GR	F	FF	R	S	Q	13°
Clear	Half (50%) Frosted	Graze	Frosted	Flat Frosted	Raised	Square Frosted	Round Square Frosted	13° Semi-Frosted

BOS Channel (BOSC-XX)

0.37"
0.60"
0.34"
0.48"
0.60"

F	SI	R	G
52%	66%	60%	76%

CLA Channel (CLAC-XX)

0.84"
0.53"
0.64"
0.77"

S	Q
62%	65%

MCAL Channel (MCALC-XX)

2.60"
1.50"

C
86%

K45V Channel (K45V-XX)

0.50"
0.75"
0.75"

C	HF	F	13°
82%	68%	45%	76%

K45R Channel (K45R-XX)

0.50"
0.75"
0.75"

RF
61%

KiloR Channel (KILORC-XX)

1.50"
1.05"
1.44"
0.78"
2.04"

C	F
85%	75%

Kilo Channel (KILOC-XX)

0.78"
1.50"
1.05"
1.50"

C	F
85%	75%

KL Channel (KLC-XX)

0.62"
0.30"
0.22"
0.65"
0.83"

C	HF	F
81%	67%	51%

Installation

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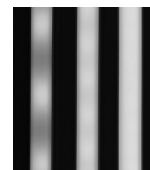
Ordering

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 Model LLRGBX18
KSC, KRSC	CD
KMC, KRMC, K45V	CD
KXLC, KRXLC	SD
KLC, KRLC	CD
KILOC, KILORC	SD
RO15	SD
BOSC	CD
CLAC	SD
MCAL	ND

CD   SD   ND

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

Lens Options / Light Transmission

C	HF	GR	F	FF	R	S	Q	13°
Clear	Half (50%) Frosted	Graze	Frosted	Flat Frosted	Raised	Square Frosted	Round Square Frosted	13° Semi-Frosted

KRL Channel (KRLC-XX)

0.83"
0.65"
0.36"
0.45"
0.22"
0.62"
1.21"

C	HF	F
81%	67%	51%

KM Channel (KMC-XX)

0.46"
0.49"
0.42"
0.51"
0.69"

C	HF	F	FF	R	GR
82%	68%	45%	52%	58%	56%

KRM Channel (KRMC-XX)

0.69"
0.51"
0.42"
0.63"
0.46"
1.00"

C	HF	F	FF	GR
82%	68%	45%	52%	56%

KS Channel (KSC-XX)

0.47"
0.30"
0.22"
0.51"
0.69"

C	HF	F	FF	R	M
86%	71%	56%	60%	64%	85%

KRS Channel (KRSC-XX)

0.69"
0.51"
0.22"
0.44"
0.47"
1.01"

C	HF	F	FF	M
86%	71%	56%	60%	85%

KXL Channel (KXLC-XX)

0.62"
0.50"
0.41"
0.65"
0.83"

C	HF	F
79%	66%	49%

KRXL Channel (KRXLC-XX)

0.83"
0.65"
0.55"
0.63"
0.41"
0.62"
1.21"

C	HF	F
79%	66%	49%

RO15 Channel (RO15-XX)

0.71"
Ø1.50"
0.55"
1.40"

C	F
65%	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 Model LLRGBX18
KSC, KRSC	CD
KMC, KRMC, K45V	CD
KXLC, KRXLC	SD
KLC, KRLC	CD
KILOC, KILORC	SD
RO15	SD
BOSC	CD
CLAC	SD
MCAL	ND

CD **SD** **ND**

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

Power Consumption

Tested at full power with PDC Series power supplies.

Nominal Length	LLRGBX18		LLRGBWX18	
	W/ft	Total Wattage	W/ft	Total Wattage
1	4.6	4.6	5.7	5.7
2	4.6	9.1	5.7	11.3
3	4.5	13.1	5.7	16.5
4	4.5	17.4	5.6	21.9
5	4.4	21.7	5.5	27.1
6	4.4	25.8	5.5	32.3
7	4.3	29.8	5.4	37.1
8	4.3	33.4	5.3	41.6
9	4.2	37.2	5.3	46.4
10	4.2	40.9	5.2	51.2
11	4.1	45.7	5.1	57.4
12	4.0	49.2	5.1	61.9
13	4.0	52.3	5.0	66.0
14	3.9	55.6	4.9	69.6
15	3.9	58.8	4.8	73.0
16	3.8	61.8	4.7	76.2
17	3.7	64.0	4.6	78.4
18	3.7	66.8	4.5	81.2
19	3.7	69.4	4.4	83.6
20	3.6	72.0	4.3	86.0
21	3.6	74.6		
22	3.5	75.9		
23	3.4	78.2		
24	3.4	80.2		
25	3.3	82.3		
26	3.3	84.3		
27	3.2	85.0		
28	3.1	86.7		
29	3.1	88.2		
30	3.0	89.7		

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

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Power Supplies

See fixture and power supply instructions & spec sheet for wiring information. Dimming possible in select models - view Luminii website for list of compatible dimmers.

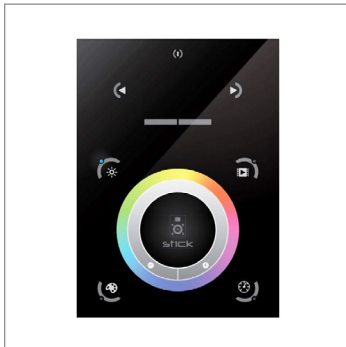### Ordering Code Non-Dimming Power Supply 120VAC - 277VAC   Requires Controller and Decoder

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"

PS-ND-D-96-24

INPUT 120 - 277VAC — Load / Ground / Neutral — 24V DC / 24V DC — To Decoder
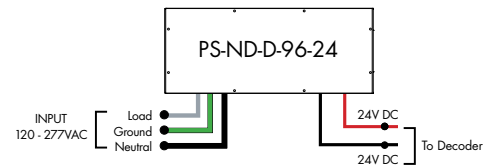
Touch DMX Controller

Touchscreen digital LED controller

Programmable advanced DMX512 lighting controller featuring a touch-screen interface. Operates as stand alone controller or integrated with most architectural lighting control systems. Can controller endless DMX512 enabled devices.

Mounts to standard single or dual gang wall box with the included power supply inside the junction box. Terminal block design for power and data connections.

Features

- Sleek glass design which sits 0.43" from the wall
- Graphical color display to show selected environment
- Color/dimmer/speed palette
- Color temperature mixing
- Touch sensitive buttons. No mechanical parts
- Touch sensitive wheel allows for accurate color selection
- Multi-zone microSD memory
- Multi-room control with 500 scenes, 10 zones
- 1024 DMX channels. Control 340 RGB fixtures
- USB & Ethernet connectivity for programming and control

Power Supply

7 VDC (included)

Programmability

PC, Mac, Tablet, Smartphone

Output Signal

DMX512 (1024 channels)

Color Parameters

- Brightness
- Saturation
- Speed of color changing sequence
- Fading / dimming / brightness

MODEL
TSDMX-E

TSDMX-E - Touchscreen DMX controller

Smart Pixel Decoder

SPI signal to DMX signal decoder

The SR-DMX-SPI is a smart LED pixel decoder that controls RGB/RGBW pixel LED strips with SPI signal. Designed with an OLED backlit panel, the pixel controller allows for easy configuration of most settings. Four push buttons are available for control of the LED functions.

*For pixel only.

Features

- 2 in 1 in-Wall Controller: DMX Control or Wireless RGB-W
- SPI signal output for RGB/RGBW pixel light control
- DMX512 controllable and RF/WIFI remote controllable
- Capable of addressing up to 1020 RGB pixels & 765 RGBW pixels
- OLED panel allows for easy configuration

Operating Voltage

12 - 36V DC

Power capacity

up to 96W at 24V

Operating temperature range

from -4°F to +122°F in case

ORDERING CODE

MODEL

SR-DMX-SPI

SR-DMX-SPI - Smart Pixel Decoder