

LINEARlight FLEX® Top Colormix

Flexible Colormixing LED Module



LINEARlight FLEX Top Colormix modules provide dynamic control of colored illumination. Each individual LED contains red, green and blue chips in one LED package. LINEARlight FLEX Top Colormix is optimally paired with 24Vdc power supplies, OPTOTRONIC® OT RGB 3CH DIM and OT RGB Sequencer dimming controllers to yield an infinite choice of colors, including white. This unique method of colormixing within each LED, achieves better color consistency and uniformity than by combining separate, colored LEDs. The LINEARlight FLEX Top Colormix is mounted on a flexible self-adhesive tape that can be conveniently field cut with scissors. The flexible circuit board is sold in 13.1 ft. reels for long runs of LEDs and complex geometries. These dynamic and flexible features enable the systems to be used in a wide range of large scale applications, including edge lighting of transparent and diffusing materials, illuminating facades and coves and architectural applications. These modules can be used wherever high voltage concerns or space limitations prevent use of conventional means of illumination.

Key Features & Benefits

- Flexible circuit board with self-adhesive backing allows for easy installation in complex contours
- Low profile module enables mounting in compact spaces
- Each Multi LED contains an individually powered red, green and blue chip; this unique method of colormixing achieves excellent color consistency and uniformity
- 13 foot module decreases complexity of wiring and programming simplifying installation for long linear runs
- Modules can be field cut to 7.9 inches (20mm) to achieve a customized fit
- LEDs are closely spaced to minimize hot spots in shallow installations
- RGB dimmable by pulse width modulation, a method that maintains consistent lumen output and color

Product Offering

Ordering Abbreviation	Color
LNRLXTP/LM10L/B8-RGB2 13.1FT	RGB2
LNRLXTP/LM10L/B7-RGB 13.1 FT	RGB

Application Information

Applications

- Accent lighting
- Colormixing
- Controlled color sequencing
- Cove lighting
- Custom color applications
- Edge lighting

Specifications and Certifications



The SYLVANIA LINEARlight FLEX Top Colormix is UL2108 Listed for US and Canada Class 2 Unit. (UL file # E258264)

RoHS compliant



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	Module Length	No. of LEDs	Power* (W)	Voltage (Vdc)	Current (Amps)	Wavelength	Initial Lumens	Watts/ft.
70198	LNRFLXTP/LM10L/B8-RGB2 13.1FT	13.1 ft.	200						
	Red Channel			12.1	24	0.5	625nm	385	0.9
	Green Channel			24.0	24	1.0	525nm	770	1.8
	Blue Channel			14.4	24	0.8	472nm	130	1.1
70127	LNRFLXTP/LM10L/B7-RGB 13.1 FT	13.1 ft.	200						
	Red Channel			12.0	24	0.5	617nm	213	0.9
	Green Channel			24.0	24	1.0	525nm	338	1.8
	Blue Channel			19.2	24	0.8	487nm	54	1.5

*All data is related to entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process. End users need to take into account the lumen depreciation as the temperature rises with various thermal management solutions installed.

Ordering Guide

LNRFLXTP	/	LM10L	/	B7	—	RGB/RGB2
Module Name LINEARlight FLEX® Top		Identification Code		Style		Red Green Blue Colormix

Power Supply Information

OT 20W (51512)				OT 50W (51598)			OT 75W (51514)		
LED Item Number	# of parallel branches (max. feet)	Max. feet per branch	Max. SEU's per branch	# of parallel branches (max. feet)	Max. feet per branch	Max. SEU's per branch	# of parallel branches (max. feet)	Max. feet per branch	Max. SEU's per branch
70198	1 (4.6)	4.6	7	1 (12.4)	12.4	19	2 (19.0)	13.1; 5.9	20; 9
70127	1 (4.6)	4.6	7	1 (12.4)	11.8	18	2 (17.7)	13.1; 4.6	20; 7
OT 96W (51510, 51511)				OT 240W (51515)					
LED Item Number	# of parallel branches (max. feet)	Max. feet per branch	Max. SEU's per branch	# of parallel branches (max. feet)	Max. feet per branch	Max. SEU's per branch			
70198	2 (24.9)	13.1; 11.8	20; 18	2 (20.3)*	13.1; 7.2	20; 11			
70127	2 (22.3)	13.1; 9.2	20; 14	2 (18.3)*	13.1; 5.2	20; 8			

All branches to be connected in parallel.

SEU = Smallest Electrical Unit

*The OT240 has 3 output channels. Data is given for loading one 80W channel only.

Notes:

1. OPTOTRONIC power supplies are optimally paired with SYLVANIA LED Modules and are specifically designed with protection features for safe operation.
2. The module is designed to work with constant voltage power supplies only. Reference the power supply PIB #ECS050 for product specific information.

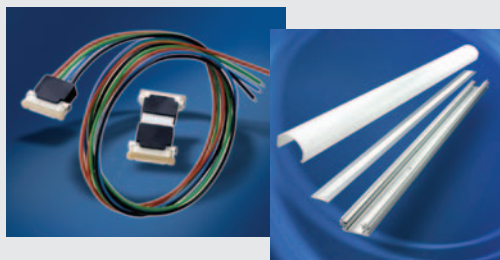
Minimum and Maximum Ratings

Parameter	Values
Operating Temperature at Tc point	-30 to +75°C (-22 to +162°F)
Storage Temperature Range	-30 to +80°C (-22 to +176°F)
Voltage Range	23 – 25Vdc
Reverse Voltage	25Vdc

Notes:

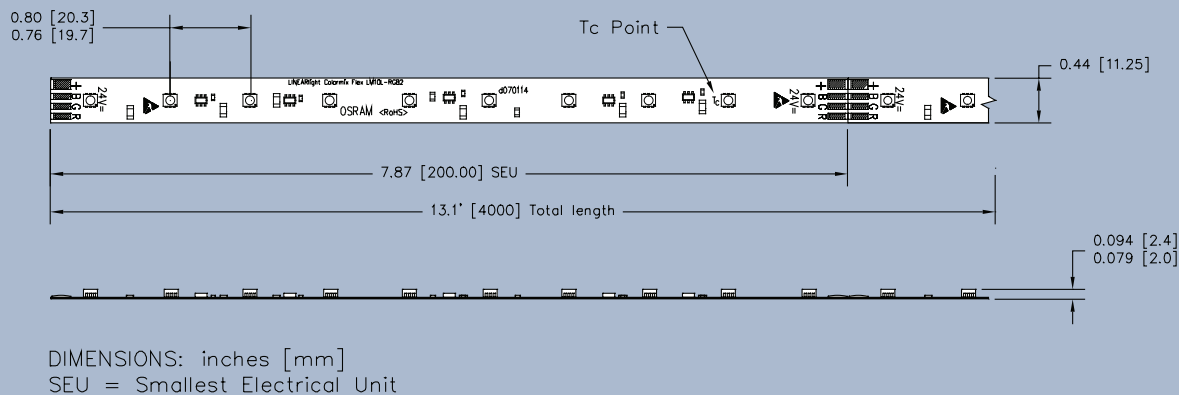
1. Exceeding maximum ratings may damage the LED module and pose potential safety hazards.
2. Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.
3. Incorrect wiring may damage the LED module.
4. Not intended for use with constant current power supplies.

Accessories

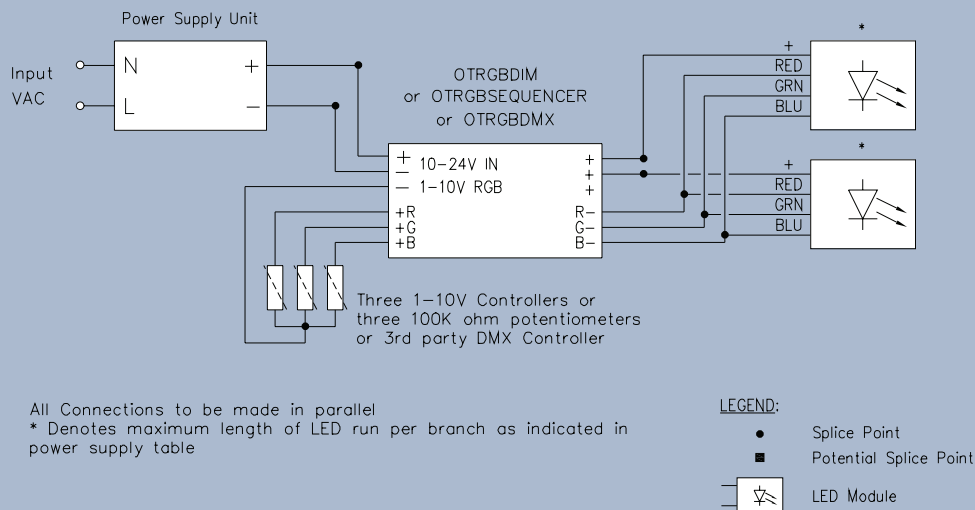


Item Number	Ordering Description	Length (in)
70183	LM4PINFLEXCONNBPS	0.48
70263	LM2CONN5FLXCONNB	1.4
70131	LINEARlight FLEX® Conn.	5.91
71236	LINEARlight Track 1.6P	18.0
71237	LINEARlight Track 4.6P	56.0
71238	LINEARlight Track 1.6D	18.0
71239	LINEARlight Track 4.6D	56.0

Assembly Diagram



Wiring Diagram



Safety Information

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.

TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriters Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
3. Observe correct electrical polarity, incorrect polarity may destroy the module.
4. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module.
5. Modules may be hot to the touch. Use caution when handling.

Assembly Information

1. Installation of the LINEARlight FLEX® Top Colormix must provide for thermal management to avoid premature failure of the product and to obtain expected service life. Service life (i.e. lumen depreciation) is primarily a function of LED temperature which is to be monitored on the circuit board at the designated Tc point temperature of 40°C which should be sufficient to enable a service life of 50,000 hours.
2. In general, the LINEARlight FLEX Top Colormix module should be adhered to a flat, metal surface which has enough surface area to transfer the heat from the LED to the surrounding air. The metal surface can be part of the mass of the fixture itself.
3. The module should be attached securely to the intended substrate. To aid in installation, the module incorporates an adhesive backing, but screws or rivets are recommended to ensure a permanent fix. Do not over-tighten. Heavy vibration should be avoided.
4. The minimum bending radius is 2cm. The module may be bent over a smaller radius but only in regions of the circuit board containing no electronic components. Such bends should be made only once and fixed in position to avoid cyclic fatigue.
5. Guidelines for proper UL2108 installation:
 - Definition of a UL2108 Listed Low Voltage Lighting System as it pertains to this module includes:
 1. A UL Listed, Class 2 power supply.
 2. An appropriate number of SYLVANIA LINEARlight FLEX Top Colormix modules based on the recommended maximum number of modules listed.
 3. Sylvania Connector Systems.
 4. Heat sinks if applicable.
 - Power supply must be mounted, wired, and grounded in accordance with all applicable NEC and ANSI standards.
 - All modular connections on the secondary side of the power supply must be made using SYLVANIA connectors. If additional wires and/or splice connectors are necessary, wires are to be UL Listed, minimum 22 AWG, and connectors must be UL Listed, chosen of appropriate size for number of wires to be connected.

WARNING: The low voltage secondary circuit shall not be grounded.

This information shall not supersede the requirement to follow all other safety, assembly and any other instructions listed in this document.

Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.

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