LINEARlight FLEX® Colormix

Flexible Colormixing LED Module – Indoor and Outdoor

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
- Modules can be field cut every 5 LEDs to achieve a customized fit
- 120° Beam angle
- LEDs are closely spaced to minimize hot spots in shallow installations
- Dimmable by pulse width modulation, a method that maintains consistent lumen output and color
- Two versions are available:
  - Advanced: higher lumens
  - Protect: encapsulated IP67 rated for outdoor use

The LINEARlight FLEX Colormix family is available in two varieties: Advanced and Protect to offer flexibility in luminaire design.

The Advanced version is available in 13.1 ft with a total lumen output of 1883 (Red - 645, Green - 1025, Blue - 213). The encapsulated Protect version is 13.1 ft with a total lumen output of 1700 (Red - 625, Green - 525, Blue - 467). This version is IP67 rated ensuring protection against dust, moisture, and condensation for outdoor operation.

These modules can be cut every 5 LEDs at designated cut points for a custom fit for each installation. The major benefit to these modules is the ability to supply uninterrupted power from a single feed point through the entire reel.

The LINEARlight FLEX Colormix family is optimally paired for operation on OPTOTRONIC® 24VDC power supplies and control, and such systems are covered by a 5-year system warranty.

The LINEARlight FLEX Colormix Advanced and Protect products are part of a UL2108 listed system allowing for direct install into applications. For more information on the components of this listed system please refer to the application note LED311.

Product Offering

Ordering Abbreviation	Family	Wattage
LF05CA2-RGB3	Advanced	72
L72LFE/24V/RGB3/LF05/CAP	Protect	72

Application Information

Applications

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

Specifications and Certifications

The LINEARlight FLEX is UL8750 recognized for the US and Canada Class 2 Unit (UL File # E320662)

The LINEARlight FLEX is UL2108 listed for US and Canada Class 2 Unit (UL File # E247649)

Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	

Ordering Information

Item Number	Ordering Abbreviation	European Part Number	Family	Module Length	No. of LEDs	Power (W)	Voltage (V_{DC})	Current (Amps)	Wavelength	Initial Lumens	Watts/ft.
72618	LF05CA2-RGB3	LF05CA2-RGB3	Advanced	13.1 ft.	200	72	24	3		1883	5.5
	Red Channel					28.8		1.2	625nm	645	2.2
	Green Channel					22.0		0.9	525nm	1025	1.7
	Blue Channel					19.2		0.8	465nm	213	1.5
71398	L72LFE/24V/RGB3/LF05/CAP	LF05CA-RGB3-P	Protect	13.1 ft	200	72	24	3		1740	5.5
	Red Channel					26.7		1.1	625nm	447	2.0
	Green Channel					37.9		1.6	525nm	1170	2.9
	Blue Channel					7.5		0.3	467nm	90	0.6

Note: 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

Advanced LF	05	C	A	2	-	RGB3
Product Family LINEARlight FLEX	Number of LEDs in Smallest Electrical Unit	Type Colormix	Style Advanced	Generation		Colormix Red, Green, Blue

Power Supply Information

	Max. feet	# of parallel branches required	Max. feet per branch	Max. SEU's per branch
OT 50W (51598)	9.1	1	9.1	28
OT 75W (51514)	13.1	1	13.1	40
OT 96W (51520, 51522, 51626)	17.5	2	13.1;4.4	40;13
OT 240W (51627)*	14.4 (x3)	2 (x3)	13.1;1.3 (x3)	40;4

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

Minimum and Maximum Ratings

Parameter	Values
Operating Temperature at Tc point	-30 to +75°C (-22 to +167°F)
Storage Temperature Range	-40 to +85°C (-40 to +185°F)
Voltage Range	23 – 25V_{DC}
Reverse Voltage	25V_{DC}

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 Abbreviation	Description	Length (inches)	Min. Case Qty.	Order Qty.
Track Accessories					
72356	LAC-T/STS/7FT	6.9' aluminium track	83	40	1
72357	LAC-M/STS/CLIP	Optional mounting bracket for track	1.1	280	35
72360	LAC-T/STS-COV/C/7FT	6.9' clear cover for track	83	40	1
72358	LAC-T/STS-COV/D/7FT	6.9' diffused cover for track	83	40	1
72359	LAC-S/STS/ENDCAP	End cap used only with 72358	0.8	160	20
72361	LAC-T/STS-COV/SP/7FT	6.9' diffused cover specifically	83	40	1
Colormix Indoor – 72618					
72670	LF-4PIN Flex SC	Input connector	20	250	10
72671	LF-CONN Flex SC	Board to board connector piece	0.35	250	10
72947*	LF-WIRE-30 FLEX SC	30mm connector wire	1.1	10,000	100
72948*	LF-WIRE-150 FLEX SC	150mm connector wire	5.9	5000	50
Colormix Protect – 71398					
72362	LAC-C/IP67/ENDCAP	IP67 end cap	-	100	10
72363	LF-CLIP-FIXTURE	Optional flexible mounting bracket	-	500	50
72365**	LAC-C/IP67/IC/4P/20IN	Input connector	20	50	5
72366	LAC-C/IP67/BB/4P/7IN	Board to board connector	7	50	5

*Use with 72671

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**Each LINEARlight FLEX Protect product comes with one pre-wired input connector.

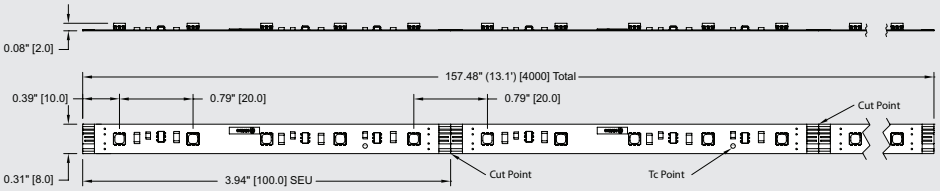
Note: For more information on installation see installation instructions with product.

Assembly Diagram

1. Advanced Version

Size of entire module (L x W x H)

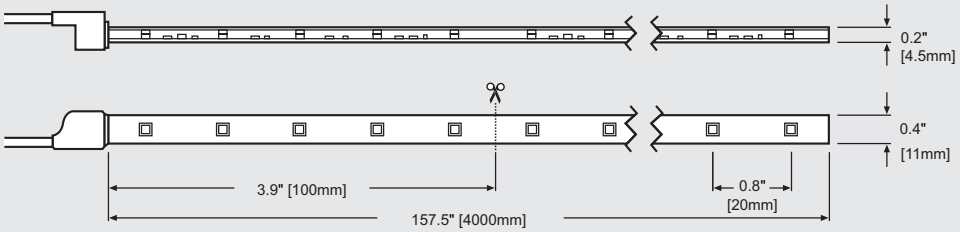
157" x 0.31" x 0.12"



2. Protect Version

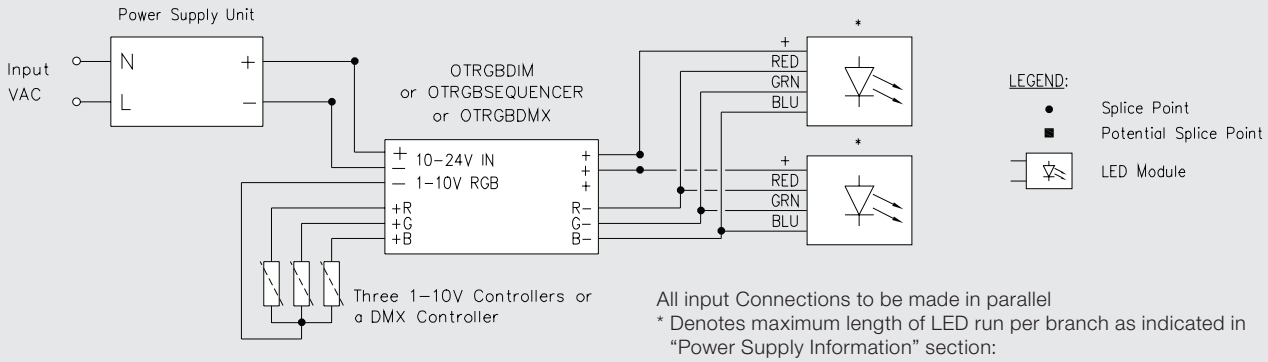
Size of entire module (L x W x H)

157" x 0.4" x 0.2"



Module cut points at the SEU is denoted by scissor marks printed on the side of the product

Wiring Diagram



All input Connections to be made in parallel

* Denotes maximum length of LED run per branch as indicated in "Power Supply Information" section:

- Architectural version – Maximum 13.1 ft (1 full reel) per power branch
- ECO version – Maximum 19.7 ft (1 full reel) per power branch

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. (For more information, reference document # LED093 ESD Protection for LED Systems.)
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® Colormix module 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 40ºC which should be sufficient to enable a service life of 50,000 hours.
2. In general, the LINEARlight FLEX 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.

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.

Warranty

OSRAM LED products are covered by our LED Module, OPTOTRONIC® Power Supply or Control Warranty.
The LINEARlight FLEX Colormix modules are covered under warranty as long as the temperature at the Tc point does not exceed 40°C; exceeding this temperature will void all warranties.
For additional information or to download the warranty registration form, refer to the latest version of the warranty available in the Literature section of www.osram-americas.com/LED

Module Warranty: 3 years
System Warranty: 5 years

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