

HF²Linear Colormix

Hi-Flux Colormix LED Module



The HF²Linear Colormix, Hi-Flux 2nd generation LED module contains six sets of three hi-flux red, green and blue LEDs making dynamic color changing effects possible. With luminous flux comparable to that of many fluorescent fixtures, HF²Linear Colormix may be specified for accent lighting applications, cove, decorative and theatrical/entertainment illumination.

Each board contains connectors on each end that allow for easy installation using the HF²Linear Colormix connector systems.

HF²Linear modules are optimally paired with SYLVANIA OPTOTRONIC[®] 24Vdc power supplies. OPTOTRONIC RGB 3 CH DIM, RGB Sequencer and OT RGB DMX controllers to yield an infinite choice of colors including white.

Key Features & Benefits

- Hi-Flux LED module on metal core circuit board
- RGB LEDs provide color mixing capability
- Operation with OPTOTRONIC 24Vdc power supplies
- Dimmable
- Service life up to 50,000 hours when temperature at the Tc point is maintained at 40°C
- Total power consumption = 23.6W
- Board to board and power feed connector systems are available for ease of installation
- Size of entire module (L x W x H) 24 in. x 1.37 in. x 1.02 in.
- Each module can be properly mounted using screw holes or mounting bracket
- 14° x 22° beam angle

Product Offering

Ordering Description	Wattage (W)	Color
HF2LinearRGB/LD18ARGB	23	RGB

Application Information

Applications

- Cove lighting
- Theatrical lighting
- Wall washing

Specifications and Certifications



The SYLVANIA HF²Linear Colormix is UL2108 Listed for US and Canada Class 2 Unit (UL file # E5247649)

RoHS Compliant



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	No. of LEDs**	Power (W)	Voltage (Vdc)	Current (Amps)	Color (wavelength)	Luminous Intensity*
70352	HF2LinearRGB/LD18ARGB						
	Red Channel	6	8.5	24	.15	616nm	925cd
	Green Channel	6	11.5	24	.48	531nm	1950cd
	Blue Channel	6	3.6	24	.35	468nm	205cd

* All data is related to the 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.

** Module consists of six groups of red, green and blue LEDs.

Ordering Guide

HF2Linear RGB Colormix

Module Name

Power Supply Information

LED Item Number	Ordering Description	Maximum Number of Modules/Power Supply
51598	OT50/120/24LP	2
51514	OT75/120-277/24E	3 (2 +1)
51511	OT96/120-277/24	3 (2 +1)
51510	OT96/120-277/24D	3 (2 +1)
51515	OT240/120-240/24/CH3	3 (2 +1)

Note: A maximum of 2 modules can be installed consecutively from any power feed. Operation with more than 2 modules in one string will reduce photometric performance and exceed the current carrying capacity which leads to damage.

Minimum and Maximum Ratings

Parameter	Symbol	Values
Operating Temperature at Tc point	T_{op}	-30 to +75°C (-22 to +162°F)
Storage Temperature Range	T_{stg}	-30 to +80°C (-22 to +176°F)
Voltage Range	V_{max}	23 – 25Vdc
Reverse Voltage	V_{r}	25Vdc

Notes:

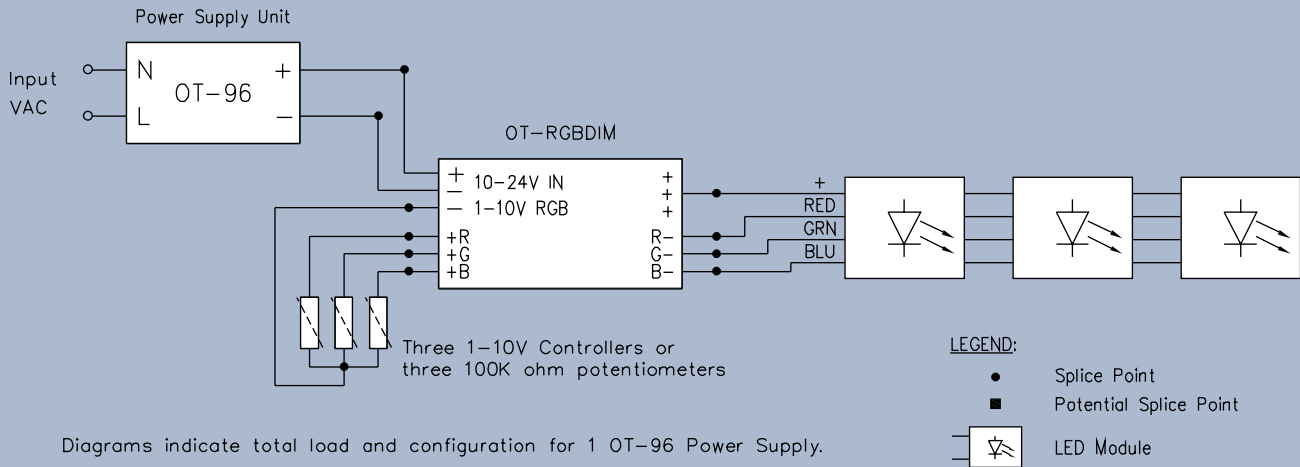
1. Exceeding maximum ratings may damage the LED module and pose potential safety hazards.
2. Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.
3. Incorrect wiring may damage the LED module.
4. Not intended for use with constant current power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

Accessories

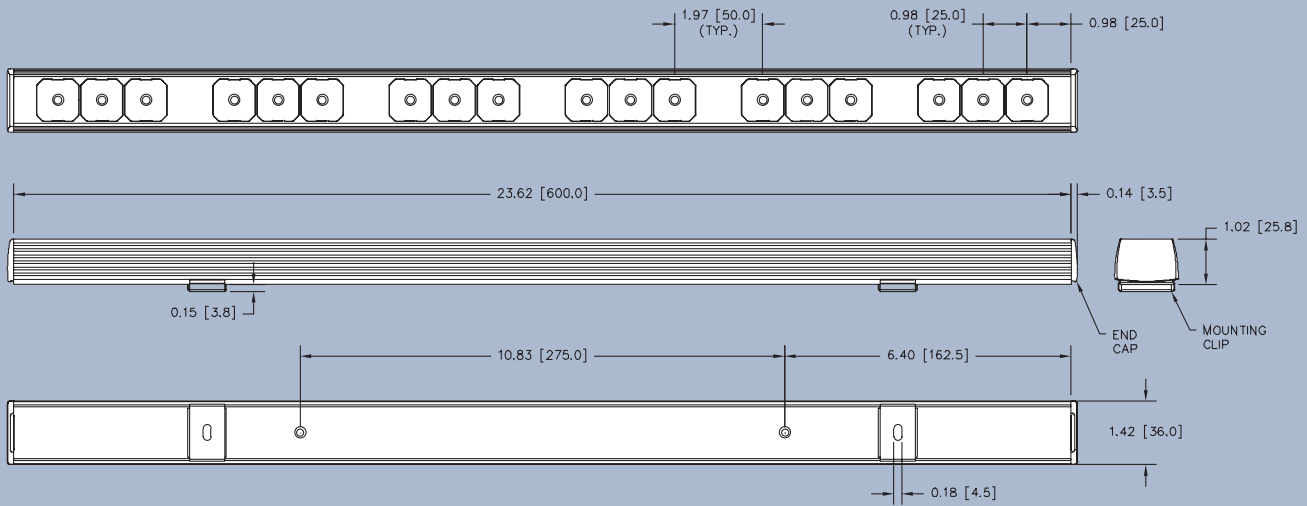


Item Number	Ordering Description
70322	HF2Linear RGB/LM-4CONN 100
70321	HF2Linear RGB/LD-4PIN FEED
70228	HF2LinearClip/LD-MB

Wiring Diagram



Assembly Diagram



Safety Information

1. The LED module and all of its components must not be subjected to mechanical stress.
2. Assembly must not damage or destroy the conducting paths on the circuit board.
3. The LED module incorporates no protection against short circuits, overload or overheating. Therefore, it is absolutely necessary to operate the modules with an electrically stabilized power supply offering protection against the aforementioned safety risks. SYLVANIA OPTOTRONIC power supplies are specifically designed with protection features for safe operation. Use of third party power supplies is not recommended.
4. Installation of the LED Modules and SYLVANIA LED power supplies should adhere to all applicable electrical and safety standards. Installation should be performed only by qualified personnel.
5. Observe correct electrical polarity; incorrect polarity may destroy the module.
6. All LED Modules, up to the maximum number allowable for the power supply, should be installed in a parallel electrical connection (red to red and black to black).
7. Pay attention to standard ESD precautions when handling and installing the module.
8. Install according to the heat sinking parameters outlined in the Application Notes section.
9. Modules may be hot to the touch, use caution.
10. A maximum of 2 modules can be installed consecutively from any power feed. Operation with more than 2 modules in one string will reduce photometric performance and exceed the current carrying capacity which leads to damage.
11. The HF²Linear Colormix can typically survive transient current levels of up to 1 Amp. As general design precaution, if the maximum output current of the power supply is more than 1 Amp, fast-blow fuses should be incorporated into the wiring plan.

Assembly Information

1. The module should be installed on flat surfaces to facilitate intimate contact between the circuit board and the substrate material. The module should not be installed on curved surfaces.
2. Mount the module using the predrilled mounting holes.
3. Heat sink compounds may be used to facilitate heat transfer from the module to the heat sink material.
4. Ensure the power supply has adequate power to operate the load. See the requirements under the section titled Power Supply Ordering Information.
5. Make electrical connection from the power supply to the LED modules using the HF²Linear Colormix Connector System.
6. A maximum of two HF²Linear Colormix LED modules can be operated from a single power feed. Operation of greater than four LED modules in series will exceed the current capacity of the connector system.

Application Information (continued)

Application Notes

1. Installation of the HF²Linear 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 T_c point. Temperature of 40°C should be sufficient to enable a service life of up to 50,000 hours.
2. There is no exact installation prescription for obtaining an appropriate T_c point temperature, due to variations in fixture designs. In general, the HF²Linear 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. Concerning fixture design, it is important to understand that once heat is transferred to a "heat sink", that heat must still be allowed to escape the "system". A heat sink transferring the thermal energy to the inside of the enclosed cavity may ultimately be of little use.
4. The fixture manufacturer's strategy should be to design a prototype fixture and test that fixture in an appropriate environment while monitoring the temperature at the T_c point, which should be allowed enough time to reach thermal equilibrium. T_c point temperature can be measured with a standard thermocouple in direct contact with the circuit board at the T_c point or with ML4C Series non-reversible OMEGALABELS (www.omega.com) or equivalent.

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