

HF²Linear

Hi-Flux 2nd Generation LED Module



The HF²Linear, Hi-Flux 2nd Generation LED module contains 6 hi-flux LEDs providing 350 lumens per foot. HF²Linear may be specified for specialty applications such as shelf lighting, refrigerator/freezer and display cases.

Each board contains connectors on each end that allow for easy installation when used with the HF²Linear connector systems.

The HF²Linear is optimally paired with OPTOTRONIC® 24Vdc power supplies.

Key Features & Benefits

- Hi-Flux LED Module on metal core circuit board
- Each board contains screw holes for proper mounting
- RoHS compliant
- Operation with OPTOTRONIC 24Vdc power supplies.
- Size of entire module (L x W x H) 12.1in. x 1.4in. x 1.0in.
- Dimmable
- Service life up to 50,000 hours when temperature at the Tc point is maintained at 40°C
- Board to Board and power feed connector systems are available for ease of installation.

Product Offering

Ordering Description	Wattage (W)	Color
HF ² Linear/6/L30/W3F-727	12W	2700K White
HF ² Linear/6/L30/W3F-854	12W	5400K White

Application Information

Applications

Shelf lighting
Undercabinet lighting
Refrigeration and freezer case lighting
Cove lighting
Display lighting
Street lighting

Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	No. of LEDs	Power* (W)	Voltage (Vdc)	Current (mA)	Beam Angle	Color Temp.**	Initial Lumens (lm)
70284	HF ² Linear/6/L30/W3F-727 12.1 in.	6	12	24	500	30	2700K	270
70214	HF ² Linear/6/L30/W3F-854 12.1 in.	6	12	24	500	30	5400K	270

*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.

** CRI>70 for the 2700k and 3300k. All other white color temperatures have a CRI>80.

Ordering Guide

HF2Linear/6/L30	/	W3F	–	7-8	27
Product Name		Color Code		CRI	Color Temperature
				7 > 70	27 = 2700K
				8 > 80	54 = 5400K

Power Supply Ordering Information

LED Description	OPTOTRONIC® 20W (51512)			OPTOTRONIC 75W (51513, 51514)			OPTOTRONIC 96W (51511)			OPTOTRONIC 240W (51515)		
	Max. No. of Modules	Load Length (ft)	Wattage (w)	Max. No. of Modules	Load Length (ft)	Wattage (w)	Max. No. of Modules	Load Length (ft)	Wattage (w)	Max. No. of Modules	Load Length (ft)	Wattage (w)
All HF ² Linear Modules	1	1	12	6	6	72	8	8	96	3 x 6	6	3 x 72

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:

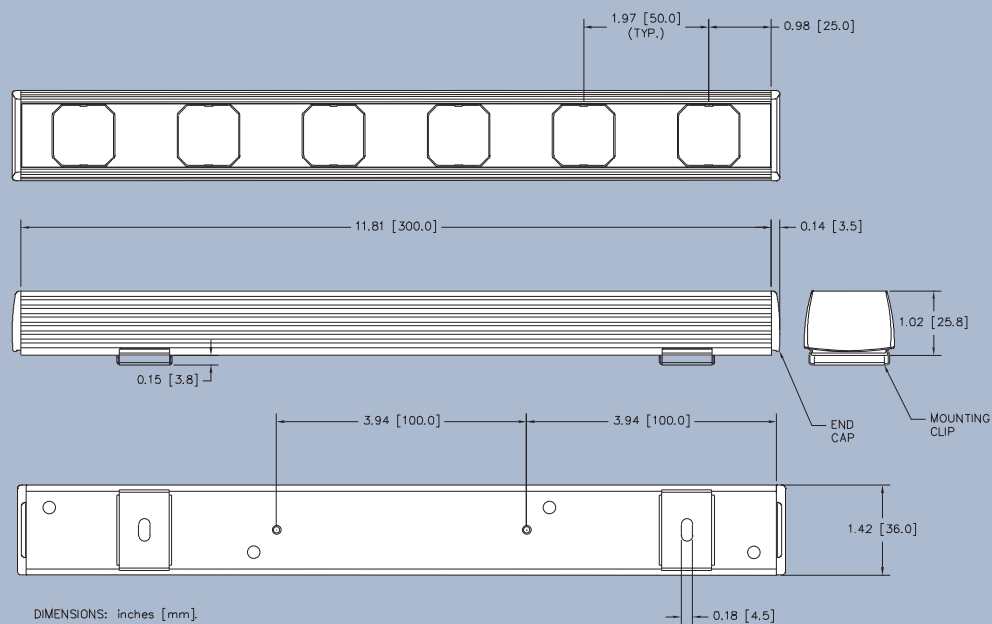
1. Exceeding maximum ratings may damage the LED module and pose potential safety hazards.
2. Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.
3. Incorrect wiring may damage the LED module.
4. Not intended for use with constant current power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

Accessories

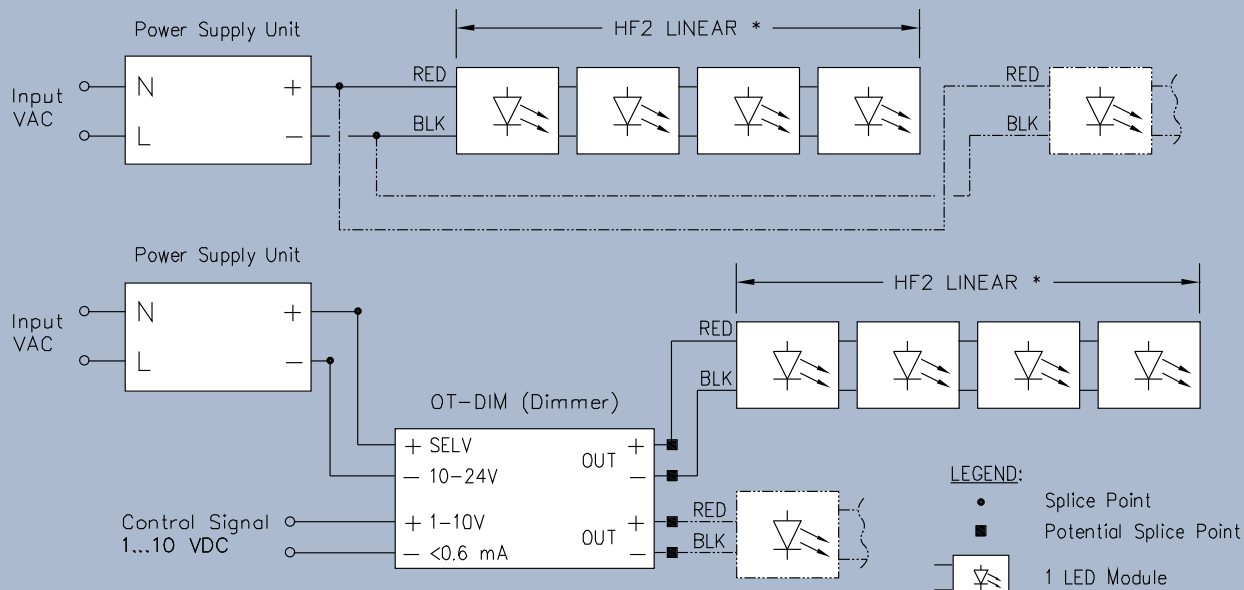


Item Number	Ordering Abbreviation	Length (in)	Description
70251	HF2Stick-Linear/Conn-2Pin-Input	20	Power Feed Connector
70252	HF2Stick-Linear/Conn-4in	4	Board to Board Connector
70253	HF2Stick-Linear/Conn-2in	2	Board to Board Connector
70228	HF2LinearClip/LD-MB	—	Installation Clip

Assembly Diagram



Wiring Diagram



* Reference the "Maximum Product Load" circuit requirement charts for the maximum power supply load. Maximum of 4 LED modules can be operated from a single feed.

Application Information (continued)

Application Notes

1. The HF²Linear has inherent thermal management that will provide a service life of 20,000 hours when operated at an ambient temperature of 70°F (21°C). Service life (i.e. lumen depreciation) is primarily a function of LED temperature which is to be monitored at the designated "Tc point". (A Tc point temperature of 40°C should be sufficient to enable a service life of 50,000 hours.)
2. There is no exact installation prescription for obtaining an appropriate Tc point temperature, due to variations in fixture designs. In general, the HF²Linear 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 Tc point, which should be allowed enough time to reach thermal equilibrium. Tc point temperature can be measured with a standard thermocouple in direct contact with the circuit board at the Tc point or with ML4C Series non-reversible OMEGALABELS® (www.omega.com) or equivalent.

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. OSRAM 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 OSRAM 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.

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 – Linear Connector System.
6. A maximum of four HF²Linear 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.

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