


Specifications

LED Module M1H Series



Features

- Lumileds Luxeon TX LED;
- IP68 rated modules;
- 5VA rated 3M barrier for fire resistance;
- Lumen flux: up to 6100 lm per module;
- Low maintenance cost with lifetime >54,000hrs (L70);
- Multiple lighting distribution options available;
- Optical lens transmittance up to 98%;
- Multiple modules can easily be connected in series via connector offering;
- 10 years warranty;
- Approvals:  

Applications

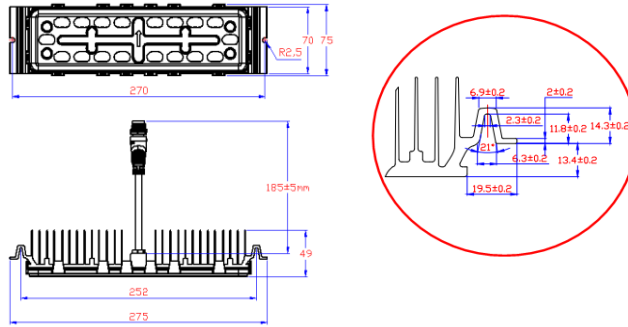
- Street Lighting
- Tunnel Lighting
- Flood Lighting
- High/Low bay Lighting

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Mechanical Drawings

Dimensions:
275x75x49mm
Net Weight
0.85kg



Tolerance: ±2.0mm, unless otherwise specified.

Performance

Model	Lighting Source	Drive Current	T _c [7]	CCT	CRI [3]	Minimum Flux [1][2][3]	Typical Flux [1][2][3]	Typical Efficacy [1][2][3]	Color Consistency
M1H	18 x Lumileds Luxeon TX LEDs	700mA	50°C	3000K	70	3990 lm	4200 lm	120 lm/W	5 SDCM
				4000K		4275 lm	4500 lm	129 lm/W	
				5000K		4275 lm	4500 lm	129 lm/W	
				5700K	4275 lm	4500 lm	129 lm/W		
				3000K	80	3392 lm	3570 lm	102 lm/W	
				4000K		3634 lm	3825 lm	109 lm/W	
		5000K	3634 lm	3825 lm		109 lm/W			
		1050mA	65°C	3000K	70	5415 lm	5700 lm	104 lm/W	
				4000K		5795 lm	6100 lm	111 lm/W	
				5000K		5795 lm	6100 lm	111 lm/W	
				5700K	5795 lm	6100 lm	111 lm/W		
				3000K	80	4603 lm	4845 lm	88 lm/W	
4000K	4926 lm			5185 lm		94 lm/W			
5000K	4926 lm	5185 lm	94 lm/W						

Notes: [1] Flux and efficacy values stated above are based on steady-state measurements done in 25°C ambient temperature where there is a tolerance of ±3°C on T_c.

[2] Flux and efficacy data above are based on lens transmittance 98%.

[3] Lumileds LED maintains a tolerance of ±6.5% on luminous flux and ±2 on CRI.

Item	Minimum	Typical	Maximum
Forward Voltage (@ 700mA, T _c =50°C) [5][6]	49.5V	51.3V	54V
Power Consumption (@ 700mA, T _c =50°C) [5]	34.65W	35.91W	37.8W

Notes: [5] Voltage and power values are based on calculated LED values. Use for reference only since application temperature

and LED driver current have influence on forward voltage and on power consumption.

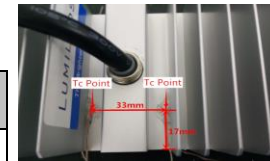
[6] Lumileds LED maintains a tolerance of ±0.06V on forward voltage measurements.

Current	L70	T _c [7]
700mA	>54,000 hrs	81.4°C
1050mA	>54,000 hrs	79.4°C

Maximum Current [6]	Maximum LED Solder Point Temperature (T _s)	Thermal Resistance (T _c to T _s) [7]	Storage Temperature	Relative Humidity	IP Rating
1100mA	85°C	0.1°C/W	-40~+50°C	10%~90%	IP68

Notes: [6] Maximum actual drive current. Drive current, including current ripple, should not exceed 1200mA.

[7] Location of T_c points: at base of module, 17 mm from the edge and 33 mm apart (16.5 mm on either side of module centerline). Please see picture above.



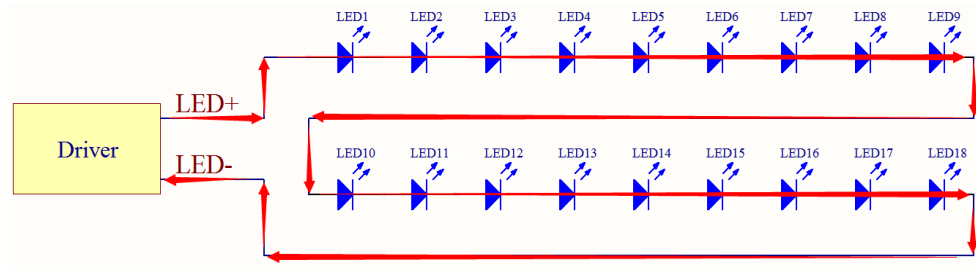
Beam Type

Lens Code	M1H-H-T1S (Type I Short)		M1H-H-T2M (Type II Medium)		M1H-H-T3M (Type III Medium)	
	Lens Transmittance	98%	Lens Transmittance	98%	Lens Transmittance	93%
For street light applications						
	M1H-H-T4M (Type IV Medium)		M1H-H-T5M (Type V Medium)			
	Lens Transmittance	93%	Lens Transmittance	98%		

Lens Code	M1H-H-12D		M1H-H-25D		M1H-H-40D	
	NEMA Type	2Hx2V	NEMA Type	3Hx3V	NEMA Type	5Hx5V
For Flood light/ high bay light application	Beam Angle (FWHM)	12°	Beam Angle (FWHM)	25°	Beam Angle (FWHM)	40°
	Lens Transmittance	93%	Lens Transmittance	93%	Lens Transmittance	93%
	M1H-H-60D		M1H-H-90D		M1H-H-34D	
	NEMA Type	6Hx6V	NEMA Type	7Hx7V	NEMA Type	7Hx5V
	Beam Angle (FWHM)	60°	Beam Angle (FWHM)	10°	Beam Angle (FWHM)	110°x40°
	Lens Transmittance	93%	Lens Transmittance	93%	Lens Transmittance	98%

Note:
— C0/180
— C30/210
— C60/240
— C90/270

Circuit Diagram












Drivers Recommendation

Driver Description	Inventronics	Philips
Driver for 1 module @700mA	EUC-052S070DT	XI075C070V105CNY2
Driver for 2 modules @700mA	EUC-096S070DT	LEDINTA0700C210DO
Driver for 3 modules @700mA	EUC-150S070DTA	LEDINTA0700C210DO
Driver for 4 modules @700mA	EUC-200S070DT	XI300C150V300BSR1 ⁴
Driver for 1 module @1050mA	EUC-075S105DT	XI075C105V070CNY2
Driver for 2 modules @1050mA	EUC-150S105DTA	XI150C105V140CNF1
Driver for 3 modules @1050mA	EUD-200S105DT-00A0	XI300C150V300BSR1 ⁴
Driver for 4 modules @1050mA	EUC-320S105DT	XI300C150V300BSR1 ⁴

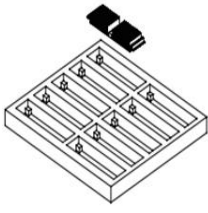
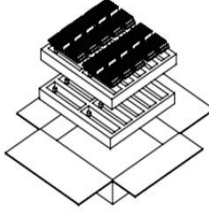
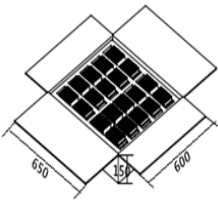
Notes:

1. Alternative board + driver configurations can be evaluated upon request.
2. Please refer to the driver datasheet for detailed specifications.
3. All drivers feature 0-10V dimming.
4. Driver output current can be adjusted.

Waterproof Connectors Recommendation

Picture	Model	Description	Terminal Length	Cable Gauge	Withstanding DC Voltage	Withstanding Current
	C2A-01M500	IP68 female connector for 1 module	49.5mm	2x18 AWG; Length: flying 550±50mm leads	420V	10A
	C2A-S2M500	IP68 female connector for 2 modules in series	78.1 mm			
	C2A-S3M500	IP68 female connector for 3 modules in series	113.1mm			
	C2A-S4M500	IP68 female connector for 4 modules in series	148.1mm			
	C2A-01F500	IP68 male connector	55.7mm	2x18 AWG; Length: 200±20mm		
	C2A-1FS1M	IP68 male and female connector for extension	Male 55.7mm, Female 49.5mm			
	C2A-S2M200F	IP68 male and female connector for 2 modules in series	Male 55.7mm, Female 78.1mm			
	C2A-S3M200F	IP68 male and female connector for 3 modules in series	Male 55.7mm, Female 113.1mm			
	C2A-S4M200F	IP68 male and female connector for 4 modules in series	Male 55.7mm, Female 148.1mm			

Packaging

		
10 pcs/tray	2 trays/ carton	20 pcs/carton

Notes:

1. Carton dimensions: 650x600x150mm
2. Gross weight: 19.8kg (Empty package: 2.8kg)

Module Part Number

Example:

M1H **H** **T1S** **LTX** **730**
 1 2 3 4 5

1. Module Series	2. Voltage	3. Beam Type	4. LED Type	5. CRI/CCT
M1H - High Power LED's	H = 49.5-54V	T1S = Type I Short T2M = Type II Medium T3M = Type III Medium T4M = Type IV Medium T5M = Type V Medium 12D = 12DEG 25D = 25DEG 40D = 40DEG 60D = 60DEG 90D = 100+/-10DEG 34D = 110*40DEG	LTX = Lumileds Luxeon TX	730 = 70CRI/3000CCT 740 = 70CRI/4000CCT 750 = 70CRI/5000CCT 757 = 70CRI/5700CCT 830 = 80CRI/3000CCT 840 = 80CRI/4000CCT 850 = 80CRI/5000CCT