



Specifications

LED Module M1H-H Series



Features

- Lumileds Luxeon TX LED;
- IP68 rated modules;
- 5VA rated for fire resistance;
- Lumen flux: up to 6100lm per module;
- Low maintenance cost with lifetime >60,000hrs (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:  

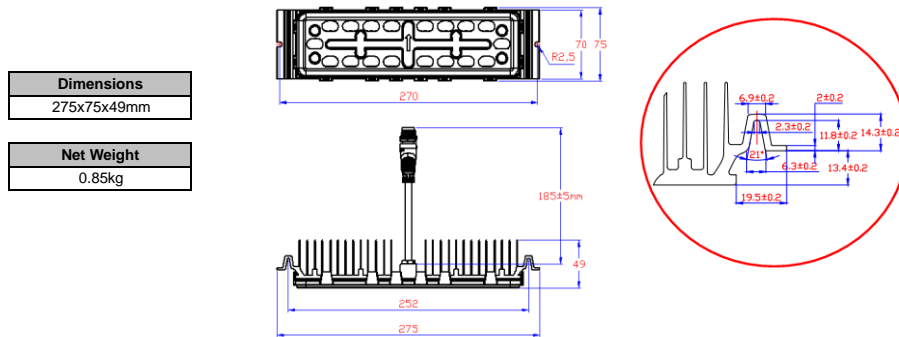
Applications

- Street Lighting
- Tunnel Lighting

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Mechanical Drawings



Tolerance: ±2.0mm, unless otherwise specified.

Performance

Series	Lighting Source	Drive Current	T _c [7]	Nominal CCT	Minimum CRI [3]	Minimum Flux [1][2][3]	Typical Flux [1][2][3]	Typical Efficacy [1][2][3]	Color Consistency	
M1H-H	18 x Lumileds Luxeon TX LEDs	700mA	50°C	3000K	70	3990lm	4200lm	117lm/W	5 SDCM	
				4000K		4275lm	4500lm	125lm/W		
				5000K		4275lm	4500lm	125lm/W		
				5700K		4275lm	4500lm	125lm/W		
				3000K	80	3392lm	3570lm	99lm/W		
				4000K		3634lm	3825lm	107lm/W		
		5000K	1050mA	65°C	3000K	70	5415lm	5700lm		102lm/W
		4000K			5795lm		6100lm	109lm/W		
		5000K			5795lm		6100lm	109lm/W		
		5700K			5795lm		6100lm	109lm/W		
		3000K			80	4603lm	4845lm	87lm/W		
		4000K				4926lm	5185lm	93lm/W		
5000K	4926lm	5185lm	93lm/W							

Notes: [1] Flux and efficacy values 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) [4][5]	49.5V	51.3V	54V
Power Consumption (@ 700mA, T _c =50°C) [4]	34.65W	35.91W	37.8W

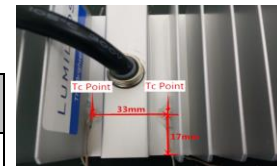
Current	L70	T _c [7]
700mA	>60,000 hrs	81.4°C
1050mA	>60,000 hrs	79.4°C

Notes: [4] 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.

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

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

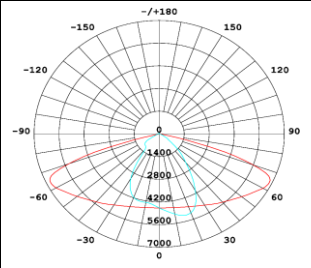
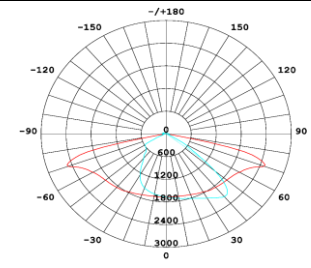
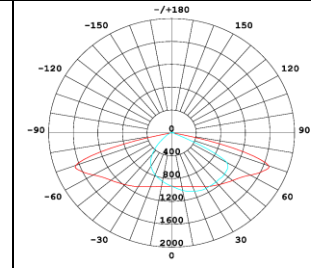


Notes: [6] Maximum actual drive current. Drive current, including current ripple, should not exceed 1200mA.

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

Beam Type

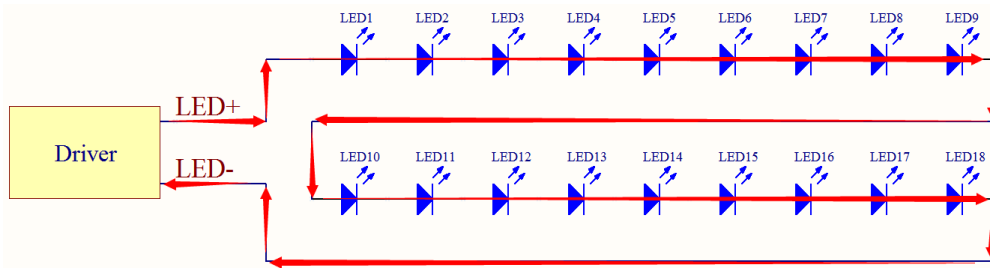
For Street Light Applications

Lens Code	M1H-H-T1S (Type I Short)	M1H-H-T2M (Type II Medium)	M1H-H-T3M (Type III Medium)
For Modules Parallel with Road	Lens Transmittance 98%	Lens Transmittance 98%	Lens Transmittance 93%
			
	M1H-H-T4M (Type IV Medium)	M1H-H-T5M (Type V Medium)	
	Lens Transmittance 93%	Lens Transmittance 98%	
For Modules Perpendicular to Road	M1H-H-T1SV (Type I Short Vertical)	M1H-H-T3MV (Type III Medium Vertical)	
	Lens Transmittance 93%	Lens Transmittance 93%	

Notes: — C0/180 — C90/270

Installation guide: the arrow on the lens (parallel with C90/270) should be perpendicular to road and directs to road center.

Circuit Diagram












Drivers Recommendation

Driver Description	Inventronics	Philips
Driver for 1 module @700mA	EUC-052S070DT ⁵	XI075C070V105CNY2 ⁵
Driver for 2 modules @700mA	EUG-096S105DT ⁴	XI100C110V143BSY1 ⁴⁵
Driver for 3 modules @700mA	EUG-150S105DT ⁴	LEDINTA0700C210DO ⁵
Driver for 4 modules @700mA	EUG-200S105DT ⁴	XI300C150V300BSR1 ⁴⁵
Driver for 5 modules @700mA	EUG-240S105DT ⁴	XI300C150V300BSR1 ⁴⁵
Driver for 1 module @1050mA	EUG-075S105DT ⁴	XI100C110V143BSY1 ⁴⁵
Driver for 2 modules @1050mA	EUG-150S105DT ⁴	XI150C105V140CNF1 ⁵
Driver for 3 modules @1050mA	EUG-200S105DT ⁴	XI300C150V300BSR1 ⁴⁵
Driver for 4 modules @1050mA	EUD-320S150DT ⁴	XI300C150V300BSR1 ⁴⁵
Driver for 5 modules @1050mA	EUD-320S150DT ⁴	XI300C150V300BSR1 ⁴⁵

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.
5. For outdoor lighting application, this driver should work with a line-earth 10KV SPD.

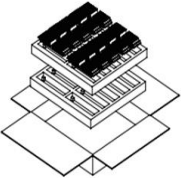
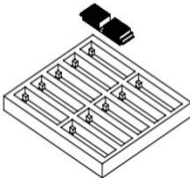
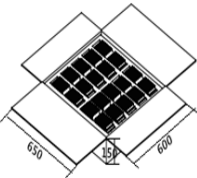
Waterproof Connectors Recommendation

Picture	Model	Description	Length
	C2A-01M500	IP68 female connector for 1 module	Single female terminal 49.5mm + flying leads 550±50mm
	C2A-S2M500	IP68 female connector for 2 modules in series	Dual female terminal 78.1mm + flying leads 550±50mm
	C2A-S3M500	IP68 female connector for 3 modules in series	Triple female terminal 113.1mm + flying leads 550±50mm
	C2A-S4M500	IP68 female connector for 4 modules in series	Quad female terminal 148.1mm + flying leads 550±50mm
	C2A-01F500	IP68 male connector	Single male terminal 55.7mm + flying leads 550±50mm
	C2A-1FS1M	IP68 male and female connector for extension	Single female terminal 49.5mm + cable 200±20mm + single male terminal 55.7mm
	C2A-S2M200F	IP68 male and female connector for 2 modules in series	Dual female terminal 78.1mm + cable 200±20mm + single male terminal 55.7mm
	C2A-S3M200F	IP68 male and female connector for 3 modules in series	Triple female terminal 113.1mm + cable 200±20mm + single male terminal 55.7mm
	C2A-S4M200F	IP68 male and female connector for 4 modules in series	Dual female terminal 148.1mm + cable 200±20mm + single male terminal 55.7mm

Notes: The connectors are allowed to be used in combination for 5-module connection and extending purpose.

Cable Specifications	Withstanding DC Voltage	Withstanding Current	Certification	Working Temperature
2x18 AWG	420Vdc	10A	UL	-40~+80°C

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 T1SV = Type I Short Vertical T3MV = Type III Medium Vertical	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