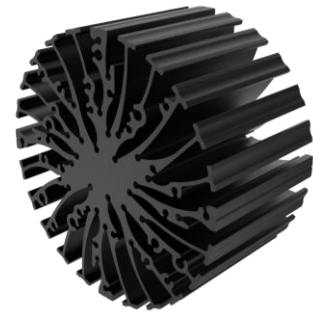


**EtraLED**

**EtraLED-LUN-9650 Luminus Modular Passive Star Heat Sink  $\Phi$ 96mm**

**Features VS Benefits**

- \* The EtraLED-LUN-9650 Luminus Passive Star LED Heat Sinks are specifically designed for luminaires using the Luminus LED engines.
- \* Mechanical compatibility with direct mounting of the LED engines to the LED cooler and thermal performance matching the lumen packages.
- \* For spotlight and downlight designs from 2000 to 5,100 lumen.
- \* Thermal resistance range  $R_{th}$  1.45°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Luminus COB series.
- \* Diameter 96mm - standard height 50mm, Other heights on request.
- \* Forged from highly conductive aluminum.



**Zhaga LED engine and radiator assembly is a unified future international standardization**

- \* Below you find an overview of Luminus COB's and LED modules which standard fit on the srar LED heat sinks.
- \* In this way mechanical after work and related costs can be avoided, and lighting designers can standardize their designs on a limited number of srar LED heat sinks.



**Luminus LED Modules directly Mounting Options**

**Luminus COB series.**

- CXM-6-AC;
- CIM/CLM/CXM-9 -AC;

With the Zhaga Book 11 holders for the green indicator marks.  
 TE Connectivity Holder: 2213678-5;  
 BJB Holder:47.319.6060.50;  
 Without the holders for the pink indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

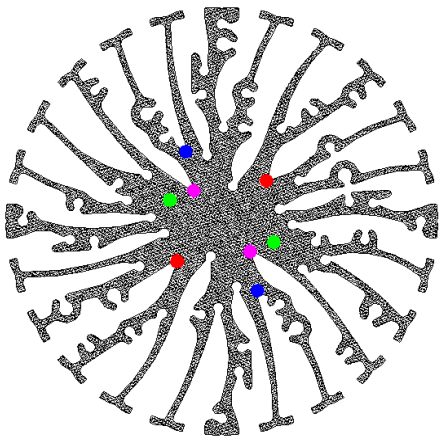
With the LEDiL products:  
 Lena series: CN14xxx; C12xxx;  
 Lenina series: CN14xxx; C12xxx;

**Luminus COB series.**

- CXM-11-AC;
- CIM/CLM/CXM-14;

With the Zhaga Book 3 holders for the blue indicator marks.  
 TE Connectivity Holder: 2213254-1;  
 BJB Holder:47.319.2021.50;  
 Without the holders for the red indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:  
 Lena series: CN12xxx;  
 Lenina series: CN12xxx; C12xxx;



## EtraLED

### EtraLED-LUN-9650 Luminus Modular Passive Star Heat Sink $\Phi$ 96mm

#### Mounting Options and Drawings & Dimensions

Example: EtraLED-LUN-9650-B-1,2

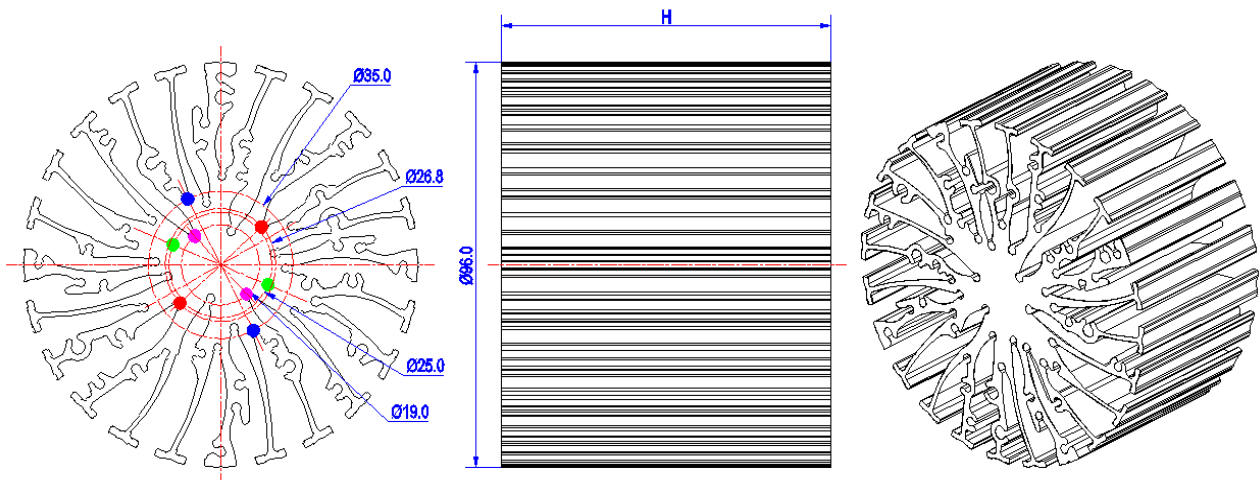
Example: EtraLED-LUN-96 **1** - **2** - **3**

- 1** Height (mm)
- 2** Anodising Color
  - B-Black
  - C-Clear
  - Z-Custom
- 3** Mounting Options - see graphics for details Combinations available
  - Ex.order code - 12
  - means option 1 and 2 combined

#### Notes:

- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MingfaTech.
- MingfaTech reserves the right to change products or specifications without prior notice.

MOUNTING OPTION	Module type	Holder NO.	LEDiL products		THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
			Lenina Series	Lena series			
1		/			M3	6.5mm	19.0mm/ 2-@180°
2	CXM-6-AC; CIM/ CLM/CXM-9 -AC;	BJB Holder 47.319.6060.50 TE Holder 2213678-5	CN14xxx; C12xxx;	CN14xxx; C12xxx;	M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
3		/			M3	6.5mm	26.8mm/ 2-@180°
4	CXM-11; CIM/CLM/CXM-14	BJB Holder 47.319.2021.50 TE Holder 2213254-1	CN12xxx; C12xxx;	CN12xxx;	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)



**EtraLED**

**EtraLED-LUN-9650 Luminus Modular Passive Star Heat Sink Φ96mm**

**The product data table**

	<b>Model No.</b>	EtraLED-LUN-9650
	<b>Heatsink Size</b>	Φ96xH50mm
	<b>Heatsink Material</b>	AL6063-T5
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	458.0
	<b>Dissipated power (T<sub>hs-amb</sub>,50°C)</b>	34.5 (W)
	<b>Cooling surface area (mm<sup>2</sup>)</b>	114836
	<b>Thermal Resistance (R<sub>hs-amb</sub>)</b>	1.45 (°C/W)

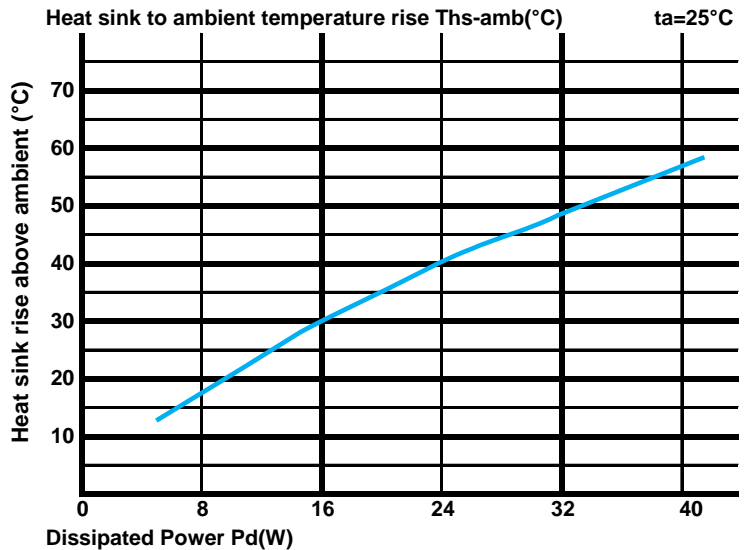
**The thermal data table**

\* Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module.

\*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

Pd - Dissipated power ; Pe - Electrical power ; ηL = Light efficiency of the LED module;

Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance R <sub>hs-amb</sub> (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		EtraLED-LUN-9650	
8.0		2.25	18.0
16.0		1.88	30.0
24.0		1.67	40.0
32.0		1.50	48.0
40.0		1.40	56.0



\*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

MingFa recommends the use of a high thermal conductive interface between the LED module and the LED cooler.

Either thermal grease, A thermal pad or a phase change thermal pad thickness 0.1-0.15mm is recommended.



\*Thermal resistance is a heat property and a measurement of a temperature difference by which an object or material resists a heat flow.

Geometric shapes are different, the thermal resistance is different. Formula:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [°C/W];  $T_{hs}$  - Heatsink temperature ;  $T_a$  - Ambient temperature ;

\*The thermal resistance between the junction section of the light-emitting diode and the aluminum substrate side of the package outer shell is  $R_{junction-case}$ , the thermal resistance of the TIM outside the package is  $R_{interface (TIM)}$  [°C/W], the thermal resistance with the heat sink is  $R_{heatsink-ambient}$  [°C/W], and the ambient temperature is  $T_{ambient}$  [°C].

\*Thermal resistances outside the package  $R_{interface (TIM)}$  and  $R_{heatsink-ambient}$  can be integrated into the thermal resistance  $R_{case-ambient}$  at this point. Thus, the following formula is also used:

$$T_{junction} = (R_{junction-case} + R_{case-ambient}) \cdot P_d + T_{ambient}$$