



for

LED



GooLED

### GooLED-LUME-8650 Pin Fin Heat Sink $\Phi$ 86.5mm for Lumens

#### Features VS Benefits

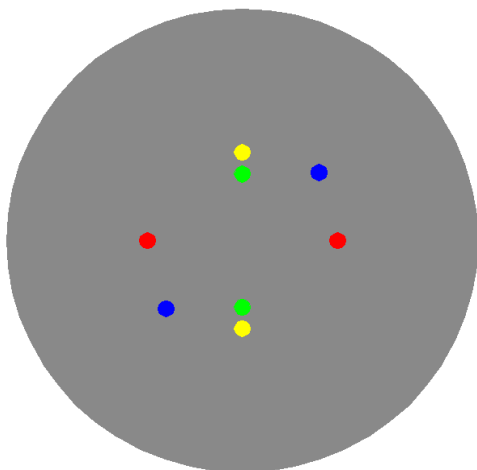
- \* The GooLED-LUME-8650 Lumens Pin Fin LED Heat Sinks are specifically designed for luminaires using the Lumens LED engines.
- \* Mechanical compatibility with direct mounting of the LED engines to the LED cooler and thermal performance matching the lumen packages.
- \* For spotlight and downlight designs from 1,600 to 4,400 lumen.
- \* Thermal resistance range  $R_{th}$  1.85°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Lumens Ergon COB series, and AC-ALL series LED engines.
- \* Diameter 86.5mm - standard height 50.0mm 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 Lumens COB's and LED modules which standard fit on the Pin Fin 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 LED Pin Fin LED Heat Sink.

# LUMENS



#### Lumens LED Modules directly Mounting Options

##### Lumens Ergon COB\_HO, COB\_HO+, COB\_HE Series :

ERC1812xxxxHO;                      ERC1812xxxxHE;  
 ERC1820xxxxHO;                      ERC1820xxxxHE;

With the Zhaga Book 3 holders for the red indicator marks.  
 (Ideal Holder:50-2101CR);    (BJB holder:47.319.2131.50);  
 Without the holders for the green indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

##### Lumens Ergon COB\_HO, COB\_HO+, COB\_HE Series :

ERC2520xxxxHO;                      ERC2530xxxxHE;  
 ERC2530xxxxHO;                      ERC2540xxxxHE;  
 ERC2540xxxxHO;                      ERC2530xxxxHO+  
 ERC2520xxxxHO+

With the Zhaga Book 3 holders for the red indicator marks.  
 (Ideal Holder:50-2102CR);    (BJB Holder:47.319.2141.50);  
 Without the holders for the yellow indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

##### Lumens Ergon COB\_HO, COB\_HO+, COB\_HE Series :

ERC3050xxxxHO;                      ERC3050xxxxHE;  
 ERC3070xxxxHO;                      ERC3070xxxxHE;

With the Zhaga Book 3 holders for the green indicator marks.  
 (Ideal Holder:50-2234C);    (BJB holder:47.319.2151.50);  
 Without the holders for the blue indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

##### Lumens AC-ALL Series :

EDC/57C/20W/xxx/120V/B;                      EDC/57C/20W/xxx/230V/A;  
 EDC/57C/30W/xxx/120V/B;                      EDC/57C/30W/xxx/230V/A;  
 EDC/57C/40W/xxx/120V/B;                      EDC/57C/40W/xxx/230V/A;

With the Zhaga Book 3 holders for the red indicator marks.  
 Direct mounting with machine screws M3x6.5mm.  
 Please refer to the [www.lumensleds.com](http://www.lumensleds.com) data provided on the manual.



*GooLED*

**GooLED-LUME-8650 Pin Fin Heat Sink  $\Phi$ 86.5mm for Lumens**

### Mounting Options and Drawings & Dimensions

Example:GooLED-LUME-8650-B-1,2

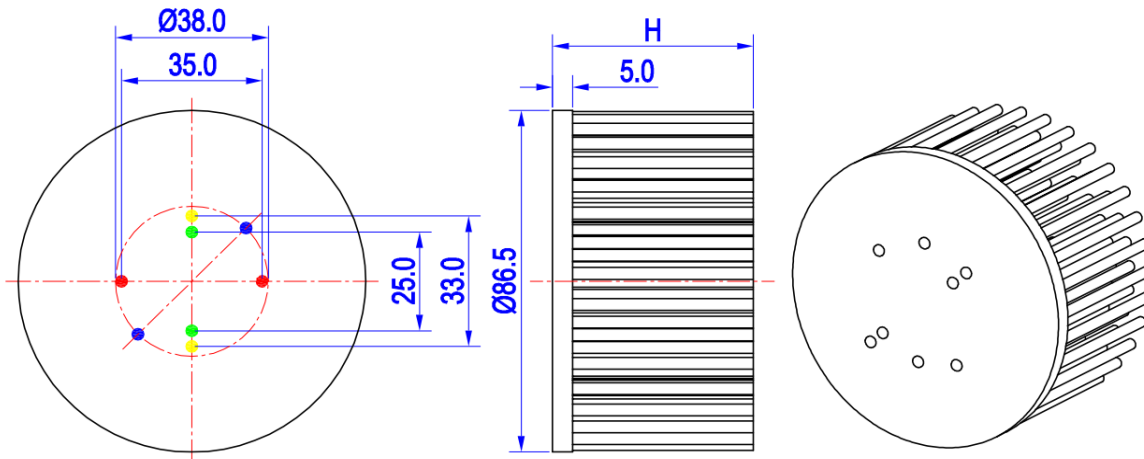
Example:GooLED-LUME-86 **1** - **2** - **3**

- 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.	THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
1	Ergon COB (17.85x17.85)	/	M3	6.5mm	25.0mm/ 2-@180°
2	Ergon COB (23.85x23.85)	/	M3	6.5mm	33.0mm/ 2-@180°
3	AC-ALL Series	Lumens	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
	Ergon COB (17.85x17.85)	BJB Holder 47.319.2131.50			
		Ideal Holder 50-2101CR			
	Ergon COB (23.85x23.85)	BJB Holder 47.319.2141.50			
		Ideal Holder 50-2102CR			
	Ergon COB (27.35x27.35)	BJB Holder 47.319.2151.50			
Ideal Holder 50-2234CR					
4	/	M3	6.5mm	38.0mm/ 2-@180°	



## GooLED

### GooLED-LUME-8650 Pin Fin Heat Sink $\Phi 86.5\text{mm}$ for Lumens

#### The product data table

	Model No.	GooLED-LUME-8650
	Heatsink Size	$\Phi 86.5 \times H50\text{mm}$
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	210.0
	Dissipated power ( $T_{hs-amb}, 50^\circ\text{C}$ )	27.0 (W)
	Cooling surface area ( $\text{mm}^2$ )	77577
	Thermal Resistance ( $R_{hs-amb}$ )	1.85 ( $^\circ\text{C}/\text{W}$ )

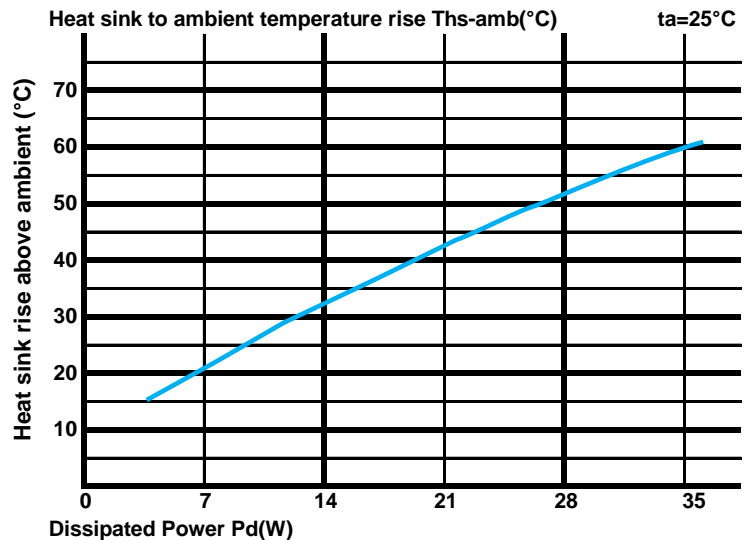
#### The thermal data table

\* Please be aware the dissipated power  $P_d$  is not the same as the electrical power  $P_e$  of a LED module.

\* To calculate the dissipated power please use the following formula:  $P_d = P_e \times (1 - \eta_L)$ .

$P_d$  - Dissipated power ;  $P_e$  - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

Dissipated Power $P_d$ (W)	$P_d = P_e \times (1 - \eta_L)$	Heat sink to ambient thermal resistance $R_{hs-amb}$ ( $^\circ\text{C}/\text{W}$ )	Heat sink to ambient temperature rise $T_{hs-amb}$ ( $^\circ\text{C}$ )
		GooLED-LUME-8650	
7.0		2.86	20.0
14.0		2.21	31.0
21.0		2.00	42.0
28.0		1.82	51.0
35.0		1.69	59.0



\*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 [ $^\circ\text{C}/\text{W}$ ];  $T_{hs}$  - 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  $R_{interface (TIM)}$  [ $^\circ\text{C}/\text{W}$ ], the thermal resistance with the heat sink is  $R_{heatsink-ambient}$  [ $^\circ\text{C}/\text{W}$ ], and the ambient temperature is  $T_{ambient}$  [ $^\circ\text{C}$ ].

\*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:

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