

## GooLED

### GooLED-NIC-4868 Pin Fin Heat Sink $\Phi$ 48mm for Nichia

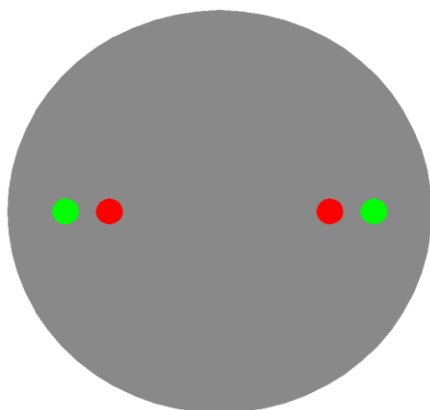
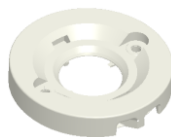
#### Features VS Benefits

- \* The GooLED-NIC-4868 Nichia Pin Fin LED Heat Sinks are specifically designed for luminaires using the Nichia 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 600 to 1,800 lumen.
- \* Thermal resistance range Rth 4.35°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Nichia COB series.
- \* Diameter 48.0mm - standard height 68.0mm, 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 Nichia 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.



#### Nichia LED Modules directly Mounting Options

##### Nichia COB LED modules name:

NFCWL036B;  
NFCLL036B;  
NFCWL060B;  
NFCLL060B;

##### With the Zhaga Book 3 Holders:

Ideal Holder:50-2100NC;  
TE LED Holder:2213382-2;

Direct mounting with machine screws M3x6.5mm, Green indicator marks.

##### With the LEDiL products:

Lena series: CN14xxx; C13xxx; C12xxx;  
Ronda series: FN15xxx-xx;

##### Nichia COB LED modules name:

NVCWL024Z;  
NVCLL024Z;  
NVNWS007Z;  
NJCWS024Z;

##### With the Zhaga Book 11 Holders:

BJB holder:47.319.6180.50;  
TE LED Holder:2213118-1;

Direct mounting with machine screws M3x8mm, Red indicator marks.

##### With the LEDiL products:

Lena series: CN14xxx; C13xxx; C12xxx;  
Ronda series: FN15xxx-xx;

Mounting Options and Drawings & Dimensions

Example:GooLED-NIC-4868-B-1,2

Example:GooLED-NIC-48 **1** - **2** - **3**

**1** Height (mm)

**2** Anodising Color

B-Black

C-Clear

Z-Custom

**3** Mounting Options - see graphics for details Combinations available

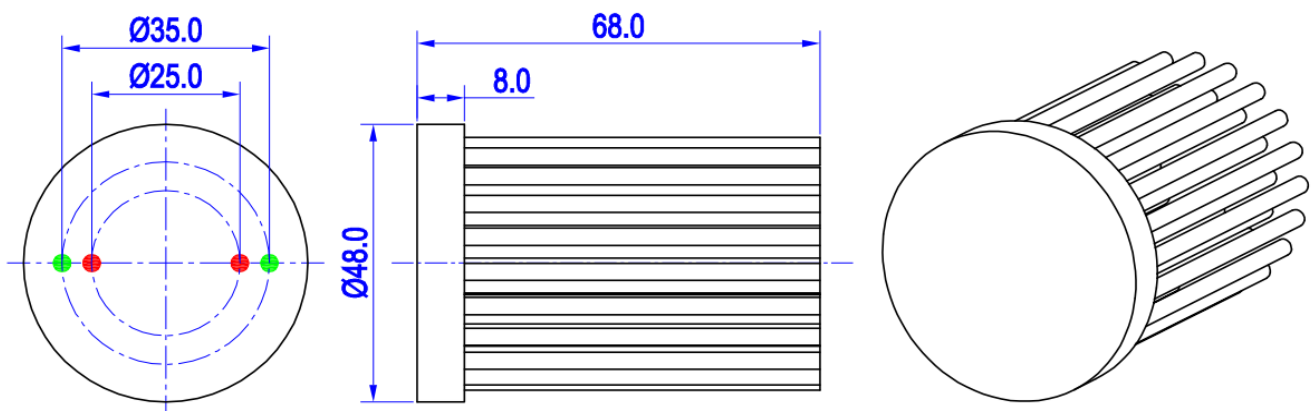
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means option 1 and 2 combined

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
			Lena series	Ronda series			
N	/	None	None	None	None	None	None
1	NVCWL024Z; NVCLL024Z; NVNWS007Z; NJCWS024Z;	BJB Holder 47.319.6180.50	CN14xxx; C13xxx; C12xxx;	FN15xxx-xx	M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
		TE Holder 2213118-1					
2	NFCWL036B; NFCLL036B; NFCWL060B; NFCLL060B;	Ideal Holder 50-2100NC			M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
		TE Holder 2213382-2					



**GooLED**

**GooLED-NIC-4868 Pin Fin Heat Sink Φ48mm for Nichia**

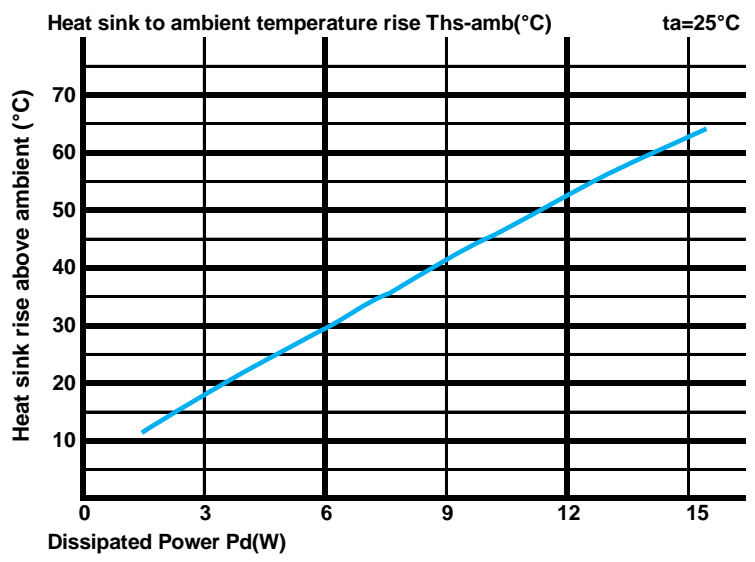
**The product data table**

	<b>Model No.</b>	GooLED-NIC-4868
	<b>Heatsink Size</b>	Φ48xH68mm
	<b>Heatsink Material</b>	AL1070
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	93.0
	<b>Dissipated power (Ths-amb,50°C)</b>	11.5 (W)
	<b>Cooling surface area (mm²)</b>	31383
	<b>Thermal Resistance (Rhs-amb)</b>	4.35 (°C/W)

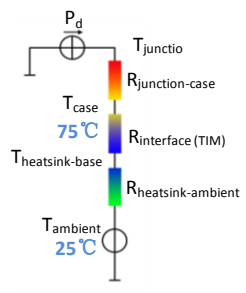
**The thermal data table**

\* 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 Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-NIC-4868	
3.0		6.00	18.0
6.0		4.83	29.0
9.0		4.56	41.0
12.0		4.33	52.0
15.0		4.13	62.0



\*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:  $\theta = (Ths - Ta) / Pd$   
 $\theta$  - Thermal Resistance [°C/W] ; Ths - Heatsink temperature ; Ta - 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:  
 $T_{junction} = (R_{junction-case} + R_{case-ambient}) \cdot Pd + T_{ambient}$