

xLED

xLED-NIC-7030 Pin Fin Heat Sink Φ 70mm for Nichia

Features VS Benefits

- * The xLED-NIC-7030 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 900 to 2,200 lumen.
- * Thermal resistance range R_{th} 3.85°C/W.
- * Modular design with mounting holes foreseen for direct mounting of Nichia COB series.
- * Diameter 70.0mm - standard height 30.0mm, 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;

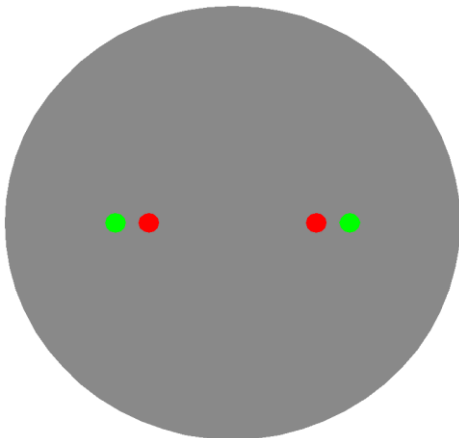
With the Zhaga Book 11 Holders:

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;



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Mounting Options and Drawings & Dimensions

Example: xLED-NIC-7030-B-1,2

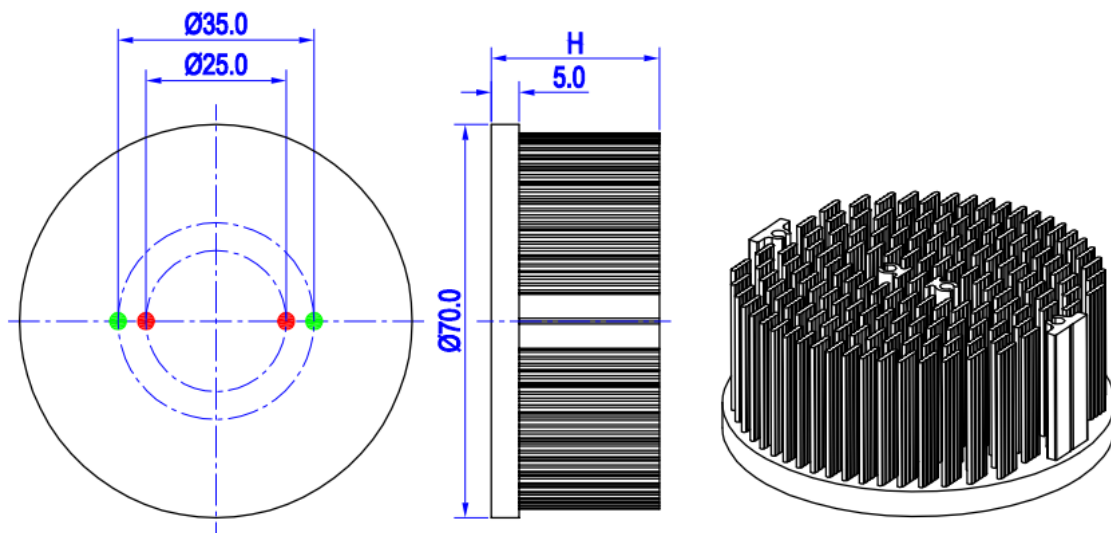
Example: xLED-NIC-70 **1** - **2** - **3**

- 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
			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 22131 18-1					
2	NFCWL036B; NFCLL036B; NFCWL060B; NFCLL060B;	Ideal Holder 50-2100NC					
		TE Holder 2213382-2					



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The product data table

	Model No.	xLED-NIC-7030
	Heatsink Size	$\Phi 70 \times H 30\text{mm}$
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	106.0
	Dissipated power (T _{hs-amb} , 50°C)	13.0 (W)
	Cooling surface area (mm ²)	54786
	Thermal Resistance (R _{hs-amb})	3.85 (°C/W)

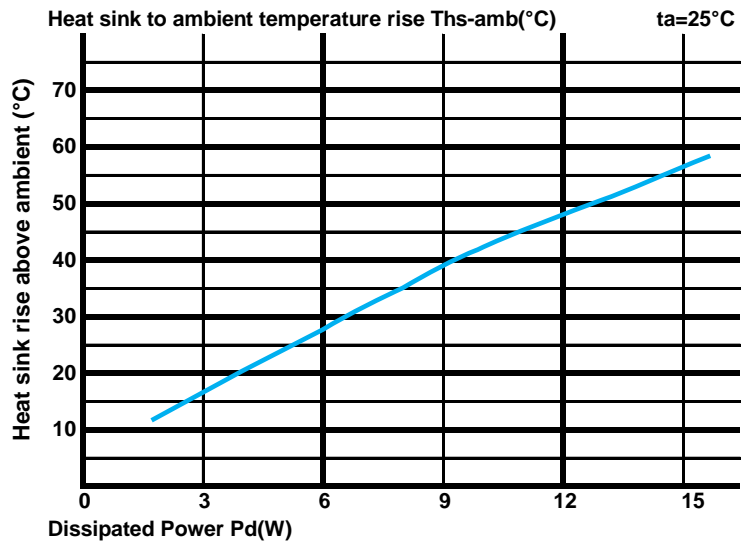
The thermal data table

* 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: $P_d = P_e \times (1 - \eta_L)$.

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

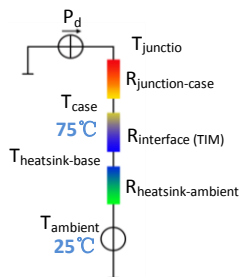
Dissipated Power Pd(W)	Pd = Pe x (1- η_L)	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
		xLED-NIC-7030	
3.0		5.33	16.0
6.0		4.50	27.0
9.0		4.33	39.0
12.0		3.92	47.0
15.0		3.73	56.0



*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: $\theta = (T_{hs} - T_a) / P_d$

θ - 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:

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