IceLED Ultra Modular Active LED Cooler

Features & Benefits

- Ultra high cooling performance
- For high bays, flood lights and industrial lighting designs from 5,000 to 20,000 lumen
- Modularuty - Standard foreseen from mounting holes for most of the LED modules available on the market
- Fan rated voltage 12Vdc (3W - 230mA)
- High lifetime design > 60khrs (L 10 life time @40°C)
- Dust protection fan cover
- Warranty 5 years

Order Information

Example : IceLED Ultra

IceLED	1

1	Ultra

IceLED Ultra is designed in this way that you can mount LED modules from various manufacturers on the same LED cooler

Simple mounting with M3 self tapping screws

Recommened screw force 6lb/in

Screws are avaliable from MechaTronix

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Ice LED Ultra Modular Active LED Cooler

Product Details

Model n°	 Ice LED Ultra
Dimension (mm)*1	ø99 x h75
Fan Voltage (Vdc)*2	12
Fan Speed (RPM)	3000
Noise @ 1m (dBA)	<39
Weight (gr)	400.39
Thermal Resistance (°C/W)*3	0.25
Power Pd (W)*4	200
Heat Sink Material	AL6063-T5

*1 3D files are avaliable in ParaSolid, STP and IGS on request

*2 The fan requires a constant voltage power source of 12Vdc, 230mA, 2.76W

*3 The thermal resistance Rth is determined with a calibrated heat source of 30mm x 30mm central placed on the heat sink, Tamb 40° and an open environment. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The thermal resistance of a LED cooler is not a fix value and will vary with the applied dissipated power Pd

*4 Dissipated power Pd. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The maximal dissipated power needs to be verified in function of required case temperature Tc or junction temperature Tj and related to the estimated ambient temperature where the light fixture will be placed
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: $Pd = Pe \times (1-\eta L)$
Pd - Dissipated power
Pe - Electrical power
ηL = Light effciency of the LED module

Notes:

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

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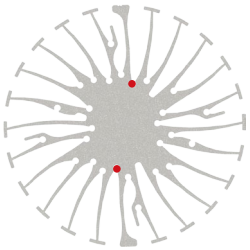
Mounting Options

Zhaga LED engines

IceLED modular active LED coolers are standard foreseen for mounting of all Zhaga compliant LED modules and LED holders (Zhaga book 3)

Besides the known Zhaga book 3 LED modules (Edison Edilex SLM, Osram PrevaLED Core Z2, Philips Fortimo LED SLM, Vossloh Schwabe Lugashop...) most popular COB LED modules like the Sharp Mega Zenigata, Philips Lumileds Luxeon COB,... can be mounted on the same platform by using Zhaga book 3 compatible LED holders form BJB or Tyco Electronics Connectivity



Right side illustration can be used to easily determine the required mounting holes
A flipchart with transparent overlays is available online and as hardcopy
MechaTronix advises the use of self tapping mounting screws M3 x 6mm
Mounting torque 6lb/in - Compliant high end screws avaliable on request

Our ECO partners

The LED modules and COB's form below brands are thermally validated with the MechaTronix LED coolers
All thermal measurement data is published on www.led-heatsink.com and can be consulted under the menu "Brand Products"
A completed overview of coolers per LED brand can also be found under the "Download" section

Extra standard mounting options

The IceLED Ultra modular active LED cooler is standard foreseen from a sophisticated hole pattern design which allows direct mounting by self tapping screws of below LED modules and COB's
- Bridgelux RS array LED engines
- Citizen CITILED COB's CLL030/CLL032/CLL040/CLL042/CLL050/CLL052
- Prolight Opto high lumen COB's 100W & 200W
- Vossloh Schwabe Lugashop 5,500lm
- Xicato XSM and XPM LED modules

Didn't you find the mounting pattern for your favorite LED module on this cooler? Let us know and we might place it on our next ModuLED and IceLED platform

Ultimate LED cooling

With a thermal resistance as low as 0.25°C/W and a cooling capacity of 200 Watts, the IceLED Ultra is an ideal cooling platform for high bay and industrial LED lighting designs
A few good examples are the combinations with the Citizen CITILEDS CLL052 COB to achieve a 10,000 lumen design, and the high power Prolight Opto COB up to 18,000 lumen for high bay designs

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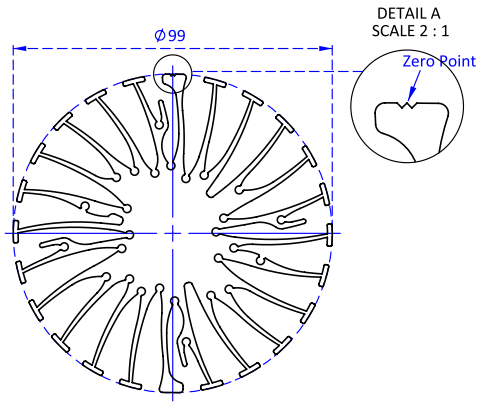
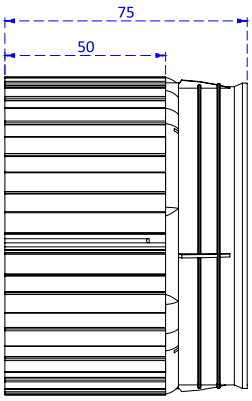
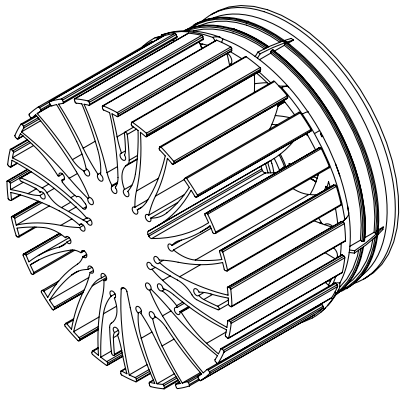
Drawings & Dimensions





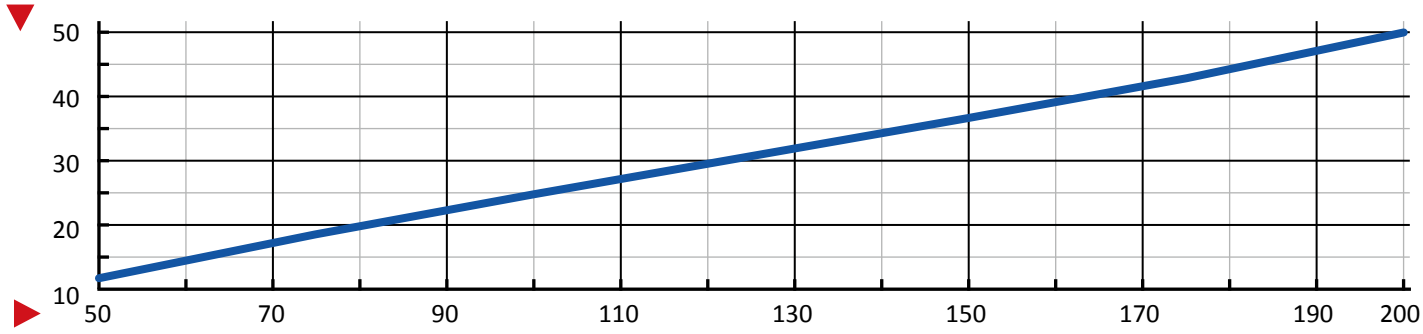
Example: IceLED Ultra



Thermal Data

Pd = Pe x (1-ηL)			LED Light efficiency, ηL (%)			Heat sink to ambient thermal resistance $R_{hs\text{-}amb}$ (°C/W)	Heat sink to ambient temperature rise $T_{hs\text{-}amb}$ (°C)
			17%	20%	25%	IceLED Ultra	IceLED Ultra
Dissipated Power Pd(W)	50	Electrical Power Pe(W)	60.2	62.5	66.6	0.25	12.5
	75		90.3	93.7	100.0	0.25	18.8
	100		120.4	125.0	133.3	0.25	25.0
	150		180.7	187.5	200.0	0.25	37.5
	175		210.8	218.7	233.3	0.25	43.8
	200		240.9	250.0	266.6	0.25	50.0

Heat sink to ambient temperature rise $T_{hs\text{-}amb}$ (°C) — IceLED Ultra



Dissipated Power Pd(W)

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