MechaTroni

Ice LED 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 250mA)
- High lifetime design > 60khrs (L 10 life time @40°C)
- Dust protection fan cover
- Warranty 5 years



Order Information







PHILIPS LUMILEDS





Хісато

77, Zhaqa

1 Ultra

Example : IceLED Ultra

IceLED 1

Lee LED 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 available from MechaTronix



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Product Details

Model n°	lee LED Ultra
Dimension (mm) ^{*1}	ø99 x h75
Fan Voltage (Vdc) ^{*2}	12
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Fan Speed (RPM)	3000
Fan Voltage (Vdc) ^{*2}	12
Fan Speed (RPM)	3000
Noise @ 1m (dBA)	<39
Fan Voltage (Vdc) ^{*2}	12
Fan Speed (RPM)	3000
Noise @ 1m (dBA)	<39
Weight (gr)	400.39
Fan Voltage (Vdc) ^{*2}	12
Fan Speed (RPM)	3000
Noise @ 1m (dBA)	<39
Weight (gr)	400.39
Thermal Resistance (°C/W) ^{*3}	0.25
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

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

^{*2} The fan requires a constant voltage power source of 12Vdc, 350mA, 3W

- *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: $Pd = Pe x (1-\eta L)$ Pd - Dissipated power Pe - Electrical power $\eta L = Light$ 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

Zhaga



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









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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







Thermal Data

Pd = Pe x (1-ηL)		LED Light efficiency, ηL (%)			Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)	
		17%	20%	25%	IceLED Ultra	IceLED Ultra	
Dissipated Power Pd(W)	50	Electrical	60.2	62.5	66.6	0.25	12.5
	75	Power Pe(W)	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-amb} (°C)



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