

MechaTronix in LED

ModuLED Mega-HBG Star LED Cooler ϕ 134mm for MEAN WELL HBG Driver



Features & Benefits

- The ModuLED Mega HBG modular passive LED coolers are specifically designed for Low Bay, Mid Bay and High Bay luminaries with the MEAN WELL HBG series LED driver mounted on the LED cooler.
- Cooling performance 4,000 to 10,000 lumen.
- Thermal resistance range R_{th} 0.67 - 0.88°C/W.
- Modular design with mounting holes foreseen for direct mounting of various brands LED modules and COB's and MEAN WELL HBG-60, HBG-100 LED drivers.
- Diameter 134mm - Standard height 50 / 100mm. Other heights on request.
- Extruded from highly conductive aluminum.



Order Information



Example : ModuLED Mega 134100-B-HBG

ModuLED Mega 134 **1** - **2** -HBG

- 1** Height (mm)
- 2** Anodising Color
B - Black
C - Clear

ModuLED Mega HBG is designed in this way that you can mount LED modules from various manufacturers on the same LED cooler

Simple mounting with self tapping screws
Recommended screw force 6lb/in
Screws are available from MechaTronix

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Product Details

Model n°	ModuLED Mega 13450-HBG	ModuLED Mega 134100-HBG
Dimension (mm) ^{*1}	ø134 x h50	ø134 x h100
Volume (mm ³)	283564	567200
Cooling Surface (mm ²)	165446	319435
Weight (gr)	766	1531
Thermal Resistance (°C/W) ^{*2}	0.88	0.67
Power Pd (W) ^{*3}	57	75
Heat Sink Material	AL6063-T5	AL6063-T5

^{*1} 3D files are available in ParaSolid, STP and IGS on request

^{*2} 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

^{*3} 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

η_L = Light efficiency 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

The ModuLED Mega HBG modular passive LED coolers are standard foreseen from a variety of mounting holes which allow direct mounting of LED engines, COB's and secondary optics on the LED heat sink.

In this way mechanical afterwork and related costs can be avoided, and lighting designers can standardize their designs on a limited number of LED coolers.

For a detailed overview please see ModuLED Mega datasheet under standard products or the brand specific datasheet per LED brand.

Below you find an overview of MEAN WELL HBG series LED drivers which standard fit on the ModuLED Mega HBG LED cooler.

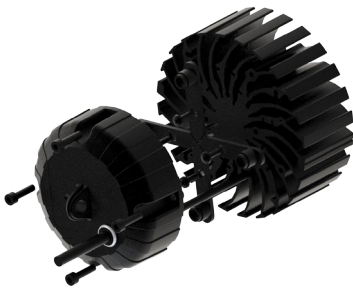
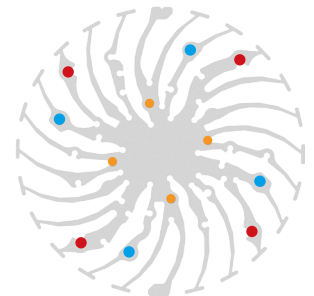
MEAN WELL HBG series LED Drivers



Established in 1982, MEAN WELL is a leading standard switching power supply manufacturers in the world. MEAN WELL currently operates under five financially independent but cooperating companies in Taiwan, China, USA and Europe. Product lines include AC/DC switching power supplies, DC/DC converters, DC/AC inverters and battery chargers. MEAN WELL have over 5,000 standard models widely used in automation, communication, LED lighting, medical, moving sign, and office automation fields.

Mounting indicator marks overview

MechaTronix 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 pads or phase change thermal pads can be pre-applied from MechaTronix.



MEAN WELL HBG-60 series LED driver

Model Names

- HBG-60-1050
- HBG-60-1400
- HBG-60-2100

Driver mounting

- Direct mounting with 4 spacers + (4x) M5 screws
keep minimal 10mm gap between the LED cooler
Red indicator marks
- With Connector set for HBG-60 + (4x) M5 x 20mm screws
Red indicator marks

Model Names

- Connector set for HBG-60

Connector set mounting

- Direct mounting on the LED cooler with 4 screws M5 x 12mm
Orange indicator marks



MEAN WELL HBG-100 series LED driver

Model Names

- HBG-100-24
- HBG-100-36
- HBG-100-48
- HBG-100-60

Driver mounting

- Direct mounting with 4 spacers + (4x) M5 screws
keep minimal 10mm gap between the LED cooler
Blue indicator marks
- With Connector set for HBG-100 + (4x) M5 x 20mm screws
Blue indicator marks

Model Names

- Connector set for HBG-100

Connector set mounting

- Direct mounting on the LED cooler with 4 screws M5 x 12mm
Orange indicator marks

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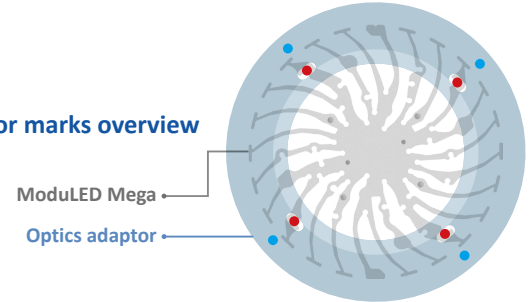
Mounting Options

MechaTronix High Bay LED accessories



With regards to reflectors we have equipped our high bay the most common high bay reflector standard, the 143mm pitch. For the lenses the standard mounting pattern is foreseen for all 100mm lenses with or without rubber gasket. Although we don't produce our own lenses and reflectors, we keep a limited number of models from stock available for your urgent needs. Below you can find an overview of these models as well as the mounting patterns which go along.

Mounting indicator marks overview



Adaptor plate for connection of reflector & lens

With the ModuLED Mega optics adaptor you get an unprecedented flexibility in choices of optics. Equipping your high bays with a wide variety of reflectors in metal or plastic, adding lenses for a controlled light image,... it all becomes plug-and-play.

Model Names

- ModuLED Mega optics adaptor

Mounting

- Direct mounting on the LED cooler with 4 MTX screws M5 x 6mm
- Red indicator marks

CoolBay® Lens

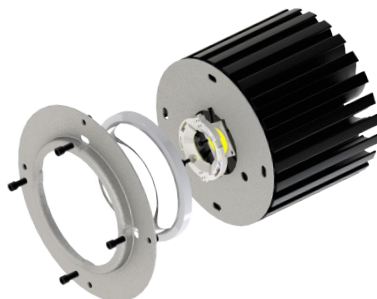
A wide variety of diameter 100mm lenses made out of glass with beam angles 60 degrees, 90 degrees or 120 degrees - Comes together with a high quality rubber gasket. Plastic varieties in clear and milk colored are also available on request.

Model names

- CoolBay® Lens 60
- CoolBay® Lens 90
- CoolBay® Lens 120

Mounting

- With optics adaptor + (4x) MTX screws M5 x 6mm
- Red indicator marks



Dust Protection Plate

When you are using lenses on the ModuLED high bay coolers, the open structure of the cooling fins might lead to dust accumulation in the lens. To avoid this MechaTronix has developed a range of dust protection plates (DPP) which go along with various COB sizes and LED holders. This option is of course not needed when you equip your high bay with a reflector only.

Example DPP-Mega-2828-01 :

28mm x 28mm COB, Cable hole position for HBG-60 LED driver

DPP-Mega- **1** - **2**

1 COB dimension (mm)

2 MW HBG driver cable hole position
01 - for MW HBG-60
02 - for MW HBG-100

Model Names

- DPP-Mega-2828-01
- DPP-Mega-2828-02
- DPP-Mega-3838-01
- DPP-Mega-3838-02
- DPP-Mega-ZHAGA3-01
- DPP-Mega-ZHAGA3-02

Mounting

- Direct mounting on the LED cooler with 4 MTX screws M5 x 6mm
- Red indicator marks

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Mounting Options



CoolBay® Reflector

A limited range of high-end off-the-shelf available high bay reflectors in high transfective coated aluminium or polycarbonate. All our reflectors follow the most common mounting standard with a pitch of 143mm and can be fixed with the ModuLED Mega optics adaptor towards the LED cooler. All our reflectors are transported in a special adapted packaging for damage prevention.

Model names

- CoolBay® Reflector 45
- CoolBay® Reflector 45 PC
- CoolBay® Reflector 90
- CoolBay® Reflector 120

Mounting

- Direct mounting on optics adaptor with 4 screws M5 x 6mm
Blue indicator marks

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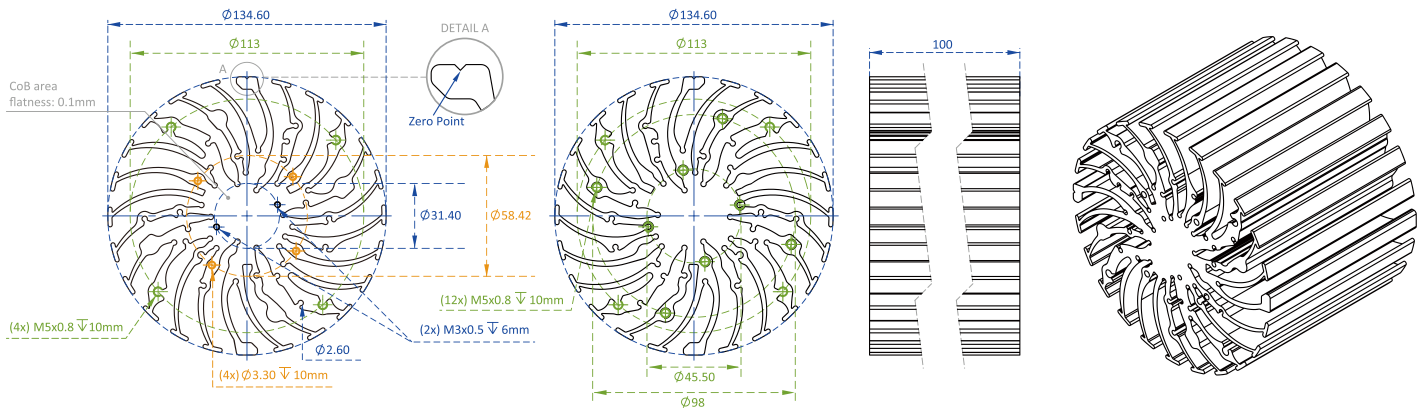


Drawings & Dimensions

Example: ModuLED Mega 134100-HBG

Bottom - LED & optics side

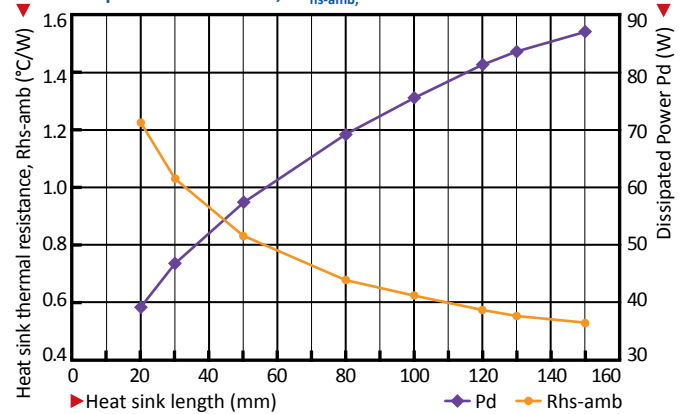
Top - Driver side



Thermal Data

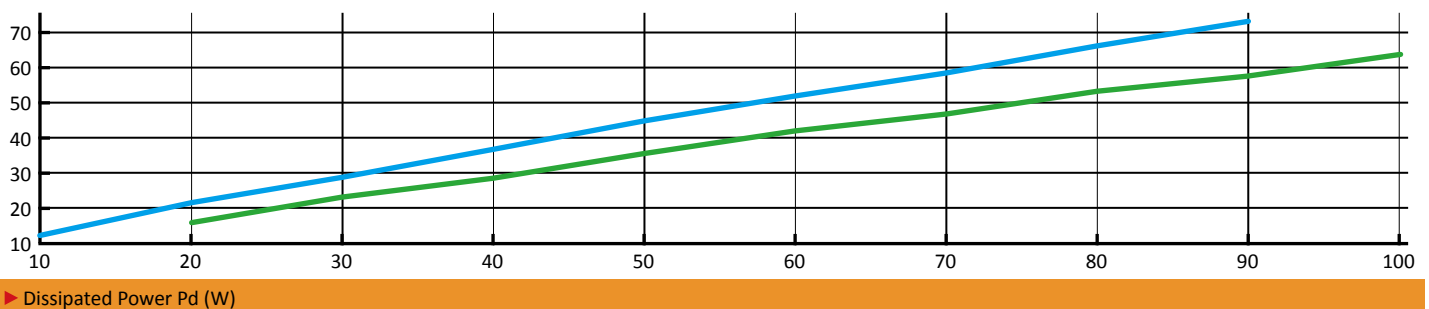
$P_d = P_e \times (1-\eta_L)$	Heat sink to ambient thermal resistance R_{hs-amb} ($^{\circ}\text{C}/\text{W}$)		Heat sink to ambient temperature rise T_{hs-amb} ($^{\circ}\text{C}$)	
	ModuLED Mega 13450-HBG	ModuLED Mega 134100-HBG	ModuLED Mega 13450-HBG	ModuLED Mega 134100-HBG
10	1.20	-	12	-
20	1.05	0.80	21	16
30	0.97	0.77	29	23
40	0.93	0.73	37	29
50	0.90	0.70	45	35
60	0.87	0.68	52	41
70	0.84	0.67	59	47
80	0.83	0.66	66	53
90	0.81	0.64	73	58
100	-	0.63	-	63

ModuLED Mega HBG performance data at a heat sink to ambient temperature difference, ΔT_{hs-amb} , of 50°C



Heat sink to ambient temperature rise T_{hs-amb} ($^{\circ}\text{C}$)

ModuLED Mega 13450-HBG ModuLED Mega 134100-HBG



Dissipated Power P_d (W)