

IceLED Xtra | Zhaga Standard Modular Active Star LED Cooler ø99mm

Mounting Instruction

The IceLED Xtra modular active LED cooler is 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.

Below you find an overview of LED modules and COB's which standard fit on the IceLED Xtra LED cooler.

The IceLED Xtra is probably the most complete standard LED cooler with regards to mounting possibilities of Zhaga and the latest generation of COB LED modules.

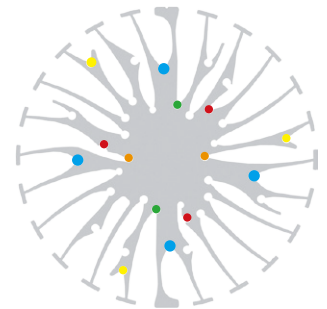
For more details about the required mounting holes and thermal results for your specific LED brand and model, please refer to the brand LED cooler mounting instruction and the overview. For further mechanical modifications please contact MechaTronix.



The Zhaga Consortium is developing specifications that enable the interchangeability of LED light sources made by multiple different manufactures. The Zhaga specifications, known as Books, describe the interfaces between LED luminaires and LED light engines. Zhaga's members include hundreds of companies from throughout the global lighting industry. The cooperation is governed by a consortium agreement that defines rules regarding confidentiality, intellectual property and decision making.

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.



Zhaga Book 2 socketable LED engines

Zhaga Interface Specification Book 2 defines the interfaces of a socketable, circular LED light engine (LLE) with an integrated LED driver (electronic control gear).

The LLE has a round drum shape with maximum dimensions of 70.2 mm diameter and 45 mm height. It has a circular light-emitting surface with a typical diameter of 59 mm, and a PHJ65d type base. Zhaga Book 2 LED modules are mounted by 3 M3 screws evenly located on diameter of 79.5mm on the LED cooler.

Book 2 is similar to Book 8, except that the LLEs described in Book 2 have smaller dimensions.

Book 2 LLEs are intended primarily (but not exclusively) for use in LED luminaires for downlighting applications.

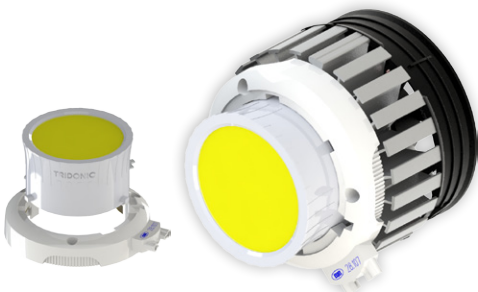
Zhaga Book 2 compliant LED engines *1

- Megaman Teco
- Philips Fortimo TDLM
- Tridonic Talexx Stark DLE twist

*1 This is a non-binding overview of available Zhaga Book 2 LED modules at press

Mounting

- Direct mounting of the LED holder PHJ65d with 3 M3 self tapping screws
- Mounting of the LED engine by twist and lock operation
- Yellow indicator marks





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Zhaga Book 3 Spot Light Modules

Zhaga Interface Specification Book 3 defines the interfaces of a type-D LED light engine (non-socketable LED module with separate electronic control gear). The LED light engine LLE has a round disc shape with a maximum height of 7.2 mm and a typical diameter of 50 mm. It is suitable for spot-lighting and other applications that benefit from a small, circular source. Book 3 specifies a circular light-emitting surface (LES) that can have a range of diameters, namely 9 mm, 13.5 mm, 19 mm and 23 mm.



Zhaga book 3 compliant LED Spot Light modules *1

- Edison Edilex SLM
- Osram PrevaLED CORE
- Philips Fortimo SLM
- Seoul Semiconductor ACrich3
- Sharp INTERMO
- Tridonic Talexx Stark SLE
- Vexica Lumaera
- Vossloh Schwabe Luga Shop

*1 This is a non-binding overview of available Zhaga book 3 LED modules at press

Zhaga Book 3 mounting through the use of LED holders and connectors

With the use of Zhaga Book 3 mechanical compatible LED holders, a wide variety of LED COB's can be mounted in the same way on these LED coolers.

Zhaga Book 3 compatible LED holders can be found from BJB, TE Connectivity (Tyco), Molex and Ideal Industries.

LED COB's for which Zhaga book 3 LED holders are available

- Bridgelux V15, V18, ES rectangular LED array
- Citizen CitiLED CLL032, CLU034, CLL042, CLU044
- Cree XLamp CXA18xx, CXA25xx, CXA30xx
- Edison Opto HM16, HM30, HM40
- Lextar Nimbus 2000, 3000
- LG Innotek LEMWM18 (10W, 13W, 17W, 24W), LEMWM28 (40W)
- Lustrous Lustron LL613F, LL620F, LL630F, LL630D, LL660D
- Nichia J216, J360, L110, L121, L204
- Osram Soleriq P13, S13, S19, E30
- Lumileds Luxeon 1203, 1204, 1205, 1208, 1211 and 1216 Luxeon K12 and K16
- Prolight Opto PABA, PACC, PACD, PACF, PACG
- Samsung LC026, LC040
- Seoul Semiconductor ZC12, ZC18, ZC25, ZC40, ZC60
- Sharp Mega Zenigata and Tiger Zenigata
- Tridonic Talexx Stark SLE Gen3 Mini LES 17

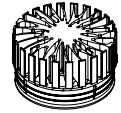
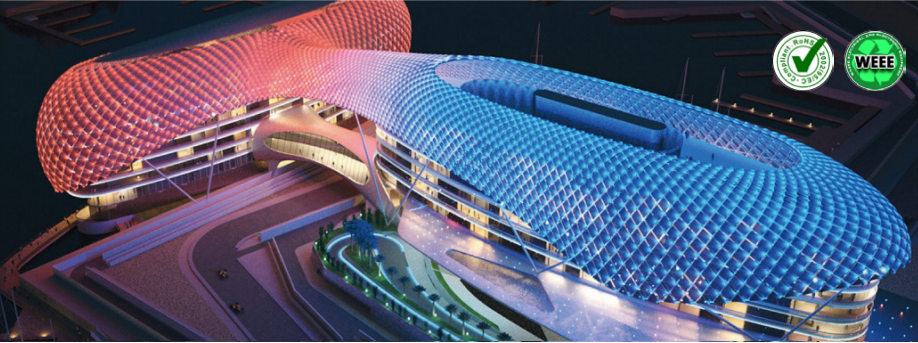
Mounting

- Direct mounting with 2 M3 self tapping screws
Green indicator marks

Reflector ring Mounting

- This optional ring can be mounted on top of the Edison Opto EdiLex spot light module and provides in this way an easy plug-and-play attachment of various reflectors.
- Mounting with 3 self tapping screws M3 x 10mm
Red indicator marks





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Mounting Instruction

Zhaga Book 5 socketable LED engines

Zhaga Interface Specification Book 5 defines the interfaces of LED light engines (LEEs) comprising a socketable, circular LED module with a separate LED driver (electronic control gear). The circular LED modules in Book 5 have maximum dimensions of 70 mm diameter and 21 mm height. Zhaga Book 5 LED modules are mounted by 4 M4 screws on diameter of 58.42mm on the LED cooler (NOT evenly located). Book 5 allows optical accessories with defined widths of up to 180 mm and heights up to 180 mm.

Book 5 LED modules have typical light-emitting surface (LES) diameters ranging from 13.5 mm to 26 mm. Book 5 LLEs are primarily intended for use in down-lighting or spot-lighting luminaires.

Zhaga Book 5 compliant LED engines *1

- GE Infusion LED M-series Spot Light Modules
- GE Infusion LED DLM-series Down Light Modules
- GE Infusion LED NPM-series Narrow Punch Modules

*1 This is a non-binding overview of available Zhaga Book 5 LED modules at press.

Mounting

- Direct mounting of the LED collar with 4 M4 self tapping screws
- Mounting of the LED engine by twist and lock operation
- Blue indicator marks



Zhaga Book 6 socketable LED engines

Zhaga Interface Specification Book 6 defines the interfaces of a socketable, circular LED light engine (LLE) with an integrated LED driver (electronic control gear).

The LLE has nominal dimensions of 90 mm diameter and 42 mm height, and has a GH76p base. Zhaga Book 6 LED modules are mounted by 3 M3 screws evenly located on diameter of 79.5mm on the LED cooler.

The socketable Book 6 LLE fits into a holder, which has a diameter that does not exceed the diameter of the LLE itself. This enables compact luminaire designs.

Book 6 LLEs are applicable for downlights, pendant luminaires, and wall-mounted and recessed luminaires.

Zhaga Book 6 compliant LED engines *1

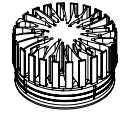
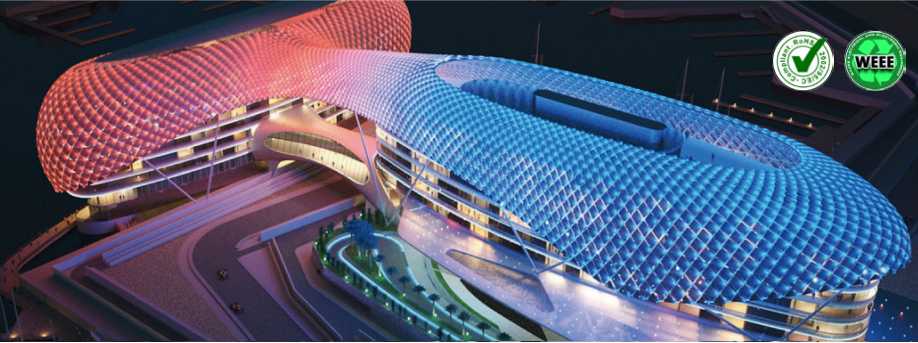
- Toshiba E-Core LED Light Engine LED LEV11 and LEV16

*1 This is a non-binding overview of available Zhaga Book 6 LED modules at press.

Mounting

- Direct mounting of the LED holder GH76p with 3 M3 self tapping screws
- Mounting of the LED engine by twist and lock operation
- Yellow indicator marks





ø99 x H55 (mm)
Rth 0.46 °C/W
Power Pd 109 W

[MORE PRODUCT DETAILS](#)

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Mounting Instruction

Zhaga Book 11 Spot Light Modules

Zhaga Interface Specification Book 11 defines the interfaces of LED light engines (LLEs) comprising a circular, non-socketable LED module with a separate LED driver (electronic control gear). The LED modules in Book 11 have an overall diameter of 35 mm and a height of 3.5 mm. Zhaga Book 11 LED modules are mounted by 2 M3 screws evenly located on diameter of 25mm on the LED cooler. There are three LLE categories in Book 11, which are defined by the maximum diameter of the circular light-emitting surface (LES): 6.3 mm, 9.0 mm, 13.5 mm. Book 11 LLEs are suitable for spot-lighting and other applications that benefit from a small, circular source.



LED COB's for which Zhaga book 11 LED holders are available

- Bridgelux V10 / V13
- Citizen CitiLED CLL022, CLU024
- Cree XLamp CXA13xx, CXA15xx
- Edison Opto HM05, HM09
- Lextar Nimbus 1500
- Osram Soleriq P6, P9, P13, S13
- Prolight Opto PACB, PACE
- Seoul Semiconductor ZC6
- Sharp Mini Zenigata
- Tridonic Talxxx Stark SLE Gen3 Mini LES 10

Mounting

- Direct mounting with 2 M3 self tapping screws
Orange indicator marks