

# Zhaga Book 26

## Linear socketable LED modules for non-SELV applications

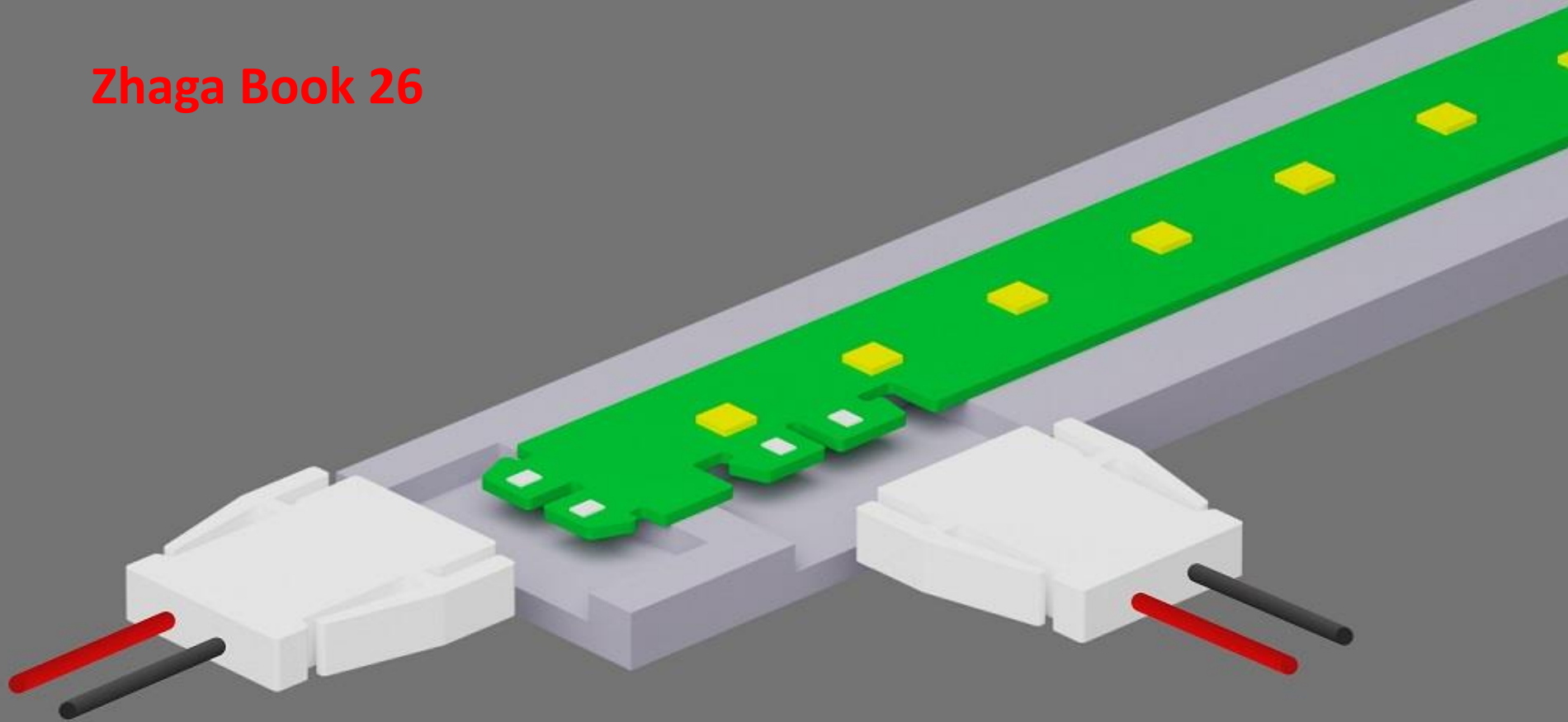


December 2024

Zhaga Consortium



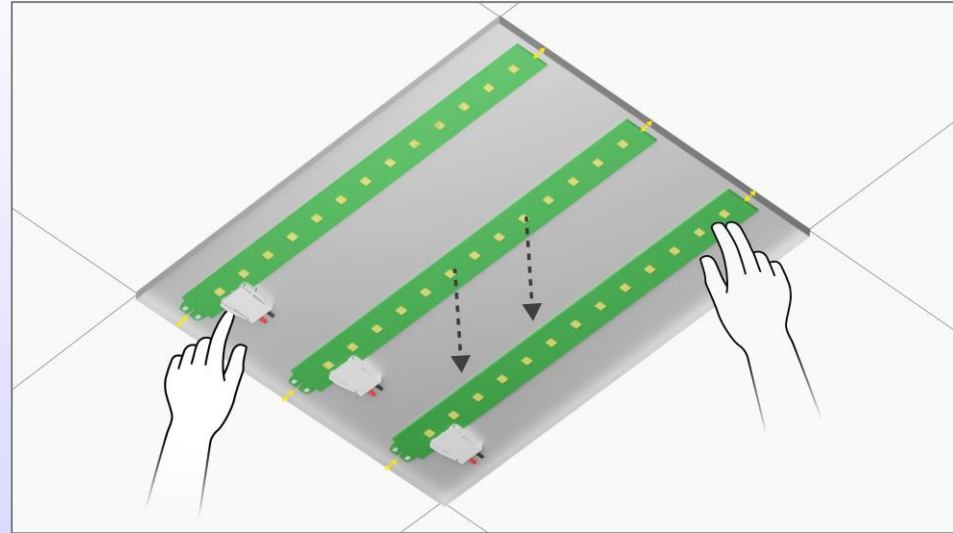
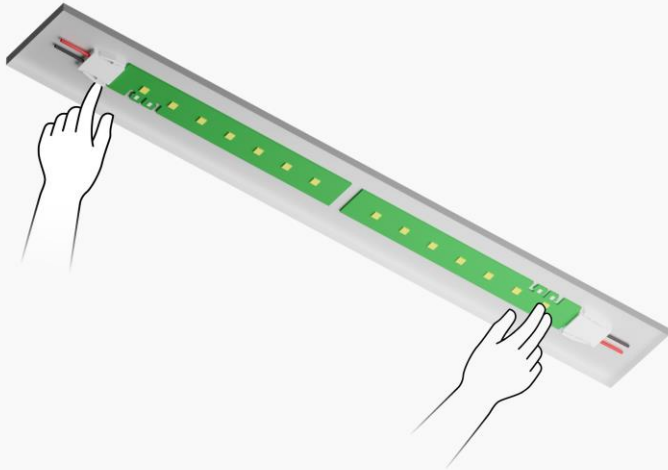
# Zhaga Book 26



# What Zhaga Book 26 is about

- Fully interoperable LED modules with standardized interfaces that define the operating conditions and options for electrical connection and mechanical fixation.
- Different LED module lengths (up to 5 ft) with recommended lumen packages, thereby allowing choices in portfolio and flexibility in design-in.
- Provision of specified LED board areas serving for mechanically secure mounting of long LED module(s) in luminaires, for example with clamps.
- Provision of two alternative contact areas:
  - One at the long side of the LED module, enabling seamless lighting applications or troffers.
  - One at the short side of the LED module, enabling extremely slim linear luminaires for trunking systems.
- LED modules may be installed by electricians, facility managers or other qualified persons.

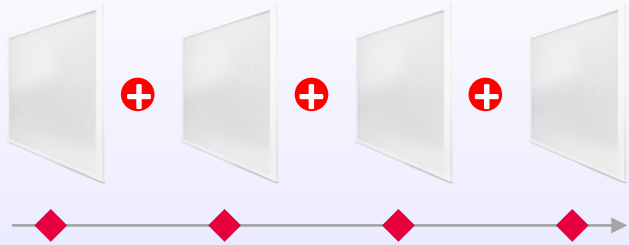
# Zhaga Book 26 - application



# Why using Zhaga Book 26 LED modules

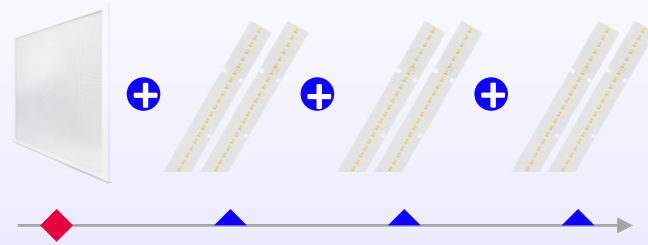
- The standardized system secures a future-proof and reliable way to replace linear modules and to preserve the luminaire value.
- The standardized interfaces enable a plug-and-play and cost-effective solution for luminaire assembly, maintenance and upgrade of luminaires by OEM and maintenance personnel.
- The defined electro-mechanical interface allows for full flexibility regarding the selection of connector- and LED module products.
- The Zhaga Book 26 is an essential contribution to the mission of Zhaga, taking a leading role in the transformation of the lighting industry towards increased sustainability and service-based business models.

# Replaceable LED Modules extend luminaire lifetime



## Current LED Luminaire

- Sealed-for-life
- High environmental impact



## Sustainable LED Luminaire

- Serviceable
- Multi-vendor spare parts based on standardized interfaces
- Low environmental impact due to reduced waste

# Zhaga Book 26 leaves design freedom

- Luminaire – module: electro-mechanical interface
  - Provision of the electrical connection to the module can be freely designed according to the specified contact areas on the PCB
  - Book supports plurality of connector designs while maintaining interoperability
- Luminaire – module: mechanical fixation
  - Means for module fixation can be freely designed according to specified mounting areas on the module
- Luminaire – module: operation
  - Operational conditions for modules can be freely chosen, related to luminaire properties

# Zhaga Book 26 enables field interoperability

- Electro-mechanical interface
  - Poka-yoke connection between module and connector/luminaire
  - Module contact areas (contact pads positions and size)
- Mechanical interface
  - Module dimensions (length, width, height)
  - Specific areas to fix the module in the luminaire
- Electrical interface
  - Specified boundaries for operating currents and voltages of modules guarantee full interoperability
- Thermal interface
  - Test luminaires and test modules are specified to check thermal characteristics of modules and luminaires, thereby guaranteeing interoperability
- Photometrical interface
  - To allow for design freedom, flux values are only recommended, referred to a rated operating current
  - LED modules must provide luminous flux as declared



# Zhaga Book 26 certification logo



- Placement on certified luminaires, connectors and LED modules indicates:
  - Luminaire is approved for Book 26 LED modules
  - Luminaire is serviceable
  - LED module can be used in Book 26 luminaires
  - LED module is plug & play
- Users can identify suitable LED modules and luminaires by the Zhaga Book 26 certification logo
- The certification logo indicates that the certified product is interoperable and thereby enables luminaire serviceability and supports circular economy

# Zhaga certification of luminaires and modules

- Certification gives confidence in interoperability
  - Certification is carried out by an independent test center
  - Certified products are listed in the Zhaga public database
  - Certification logos are trademarked to prevent misuse
  - Certification ensures that luminaires can host also next-generation Book 26 modules
- Certification gives business advantages
  - Interoperable certified components are available from multiple suppliers
  - Certification logos provide an established brand for product marketing



# Zhaga Book 26 – Linear socketable LED-modules

**Open standard**

**Future-proofing  
luminaire design**

**Supporting  
Circular Economy**

**Toolless  
Plug & Play**



**Cost-effective**

**Zhaga certified  
interoperability**