

## Description

Retrofit COB LED module, developed for replacing halogen light sources such as MR16 and ES50. The outer diameter of the module is 50mm. Or to be used with LED luminaires, specifically designed for this kind of retrofit LED module.

The LED module consists of high quality materials and contains 5 main components: a heatsink, a frontring, a reflector, a protective glass and a COB LED.

The frontring contains the protective glass and is screwed on the heatsink.

The LED module contains also a wire spring that can be used to keep the module in place in any lampring of the original halogen luminaire. Available in various colour temperatures.

The module has to be combined with an appropriate constant current LED driver (350mA or 500mA). Only for indoor use, IP20 protection glass.

## Materials

- Diecasted aluminum frontring, finished in matt grey powder paint
- Diecasted aluminum heatsink, finished in black electrocoating
- Protective shield: borosilicate glass, 2.5mm
- Led holder: polycarbonate
- Helicoidal spring: stainless steel
- Reflector: aluminum, finished with high gloss layer for optimum optical efficiency

## Technical characteristics

- Dimensions:
  - ø50 mm, 48mm in height
- Reflectors:
  - Spot, Medium and Flood beam for monochrome LED
  - Medium and Flood beam for warm dim LED
- COB high-power LED
- Colour temperature: 2700K, 3000K and 4000K. Also available with warm dim technology (1800K – 3000K)
- For connection to an electronic constant current LED driver: choose from driver matrix
- CRI 90+
- 3SDCM
- LED module output: 739lm (for 3000 K, medium reflector, @500mA)
- Luminaire efficiency: 90%
- Power consumption: 9.2W
- Luminaire efficacy: 80 lm/W
- UGR 21
- Glow wire rating 960°C
- Class 3
- Only for indoor use (IP20)
- Lifetime: L80B20 @50.000 hours
- Warranty period: 5 years on LED and driver

## Installation

- Use the retrofit LED module to refurbish older halogen luminaires (MR16 or ES50) with latest technology for higher light output and improved energy efficiency
- Use the retrofit LED module with LED luminaires that are specifically designed for this kind of retrofit LED module.
- The retrofit LED module needs to be connected to a suitable constant current LED driver via 2 leads (red and black, 300mm each) and via two splicing connectors suitable for stranded and solid wires from 0.2mm<sup>2</sup> to 4mm<sup>2</sup> (24-12 AWG) (included in product)
- Use the wire spring (included in the product) to secure the LED module in the lampring of the original luminaire



## Accessories

- None

## Standards and directives:

- 2006/95/EC - Low Voltage Directive
- 2004/108/EC - EMC Directive
- 2011/65/EU - RoHS Directive
- 2009/125/EC - ECODesign Directive
- 245/2009/EC + 347/2010/EU - ECODesign Directive
- 1194/2012/EU - ECODesign Regulation
- EN 60598-1:2008 +A11:2009 - Luminaires. General requirements and tests
- EN 62471:2008 - Photobiological safety of LED lamps and lamp systems
- EN 62493: 2010 - Assessment of lighting equipment related to human exposure to electromagnetic fields
- EN 55015:2006 +A1:2007 +A2:2009 - Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
- EN 61000-3-2:2006 +A1,A2:2009 - Limits for harmonic current emissions (equipment input current  $\leq 16$  A per phase)
- EN 61000-3-3:2013 - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq 16$  A per phase and not subject to conditional connection
- EN 61547:2009 - EMC Immunity Requirements
- EN 50581:2012 - Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances