

# Coaxial Lighting

COX Series

Innovative LED lighting  
for machine vision



Coaxial lighting: ideal for  
highly reflective or transparent objects

- High light efficiency
- LED controller inside
- Easy-to-use
- Cost saving

A semi-transparent mirror projects the diffuse light parallel to the optical axis directly into the imaging path of the camera. The integrated LED controller (-s) with four operation modes is easy-to-use, allowing a fast setup in your inspection solution.

# Coaxial Lighting - COX Series

## Light emission parallel to the optical axis

When it comes to illuminating highly reflective or shiny objects with low height extension, coaxial lighting is the ideal choice. The diffuse light of a flat LED area light source, mounted to the side of the object, is projected vertically onto the object via a semi-transparent mirror, creating an illumination parallel to the optical axis of the camera. The camera looks directly onto the object from above through the same semi-transparent mirror. The illumination appears as if directly shining from the direction of the camera lens.

Shadows cast by objects are also reduced quite considerably by axial illumination. Coaxial illumination is often used in automatic positioning and placement tasks, print image inspection on reflective surfaces and inspection of glossy or transparent packaging labels.

All illuminations of the COX series are designed for use in the automation industry: the LEDs are installed in a stable, black anodized aluminum housing, the radiation is emitted through a 10mm thick protective acrylic glass screen and the electrical connection is made via an M8 connector, which is widely used in the automation industry.

MBJ offers white 5000K (CRI80), red, infrared, green, blue, and yellow LED colors in the standard program, with the white, red, and infrared LED being available from stock.



The COX series is mounted using the M4 threaded holes on the left and right sides of the housing. The upper opening is covered by a protective glass with anti-reflective coating. For all our lighting 2D and 3D files are available for download on our website.

### Specification

<b>Material</b>	Anodized aluminum housing	<b>Certifications</b>	CE, RoHS
<b>Connector</b>	M8 socket, male, 4 pin	<b>Degree of Protection</b>	IP54
<b>Supply voltage</b>	24 V DC +/- 5%	<b>Humidity</b>	30% to 70%
<b>Op. Temperature</b>	10° Celsius to 30° Celsius	<b>Accessories</b>	Mountings, Filterholder, Filters

Standard Model	Luminous area	Dimension	LED color <sup>1</sup>	Steady power	Price from <sup>2</sup>
COX-1010	100x100 mm	150x150x150 mm	WT, RD, IR, GN, BE, YE	11.0 W	580 €
COX-2020	200x200 mm	250x250x250 mm	WT, RD, IR, GN, BE, YE	22.0 W	950 €

1) WT=white, RD= red, IR= infrared, GN=green, BE=blue, YE=yellow. Other LED colors on request

2) Price for a white LED, plus VAT and transportation costs

### Operation Modes

### Mode description

<b>(-s) internal controller</b> with 4 operation modes	24V steady light, dimmable steady light, triggered light and triggered flash light with up to 100% more intensity
<b>(-x) no controller</b>	External LED control is required

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