Coaxial Light  OPT-CO series

Show the uneven surface information, reduce the surface reflection
Mainly used for the inspection of surface scratch, flaw, damage and so on

Special heat transferring design for a long service life time cycle and the stability

High density LED chips array, a big upgrading on the illumination brightness

High image resolution and uniform illumination

Application Area
- The inspection of the scratches on the highly reflective surface
- Inspection of the breakage on the chip parts and silicon wafer
- The mark point position
- The identification of label on the packages
- The identification of laser marking characteristics and 2D code

Selection Guide

Structure display and working way

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Power (W)</th>
<th>Voltage (V)</th>
<th>Color</th>
<th>Code</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-CO50</td>
<td>19.2W 24V</td>
<td>24V/28W</td>
<td>24W</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>OPT-CO60</td>
<td>24V/4W</td>
<td>24V/28W</td>
<td>24W</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>OPT-CO70</td>
<td>24V/3W</td>
<td>24V/28W</td>
<td>24W</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>OPT-CO80</td>
<td>24V/2.5W</td>
<td>24V/28W</td>
<td>24W</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>OPT-CO90</td>
<td>24V/2W</td>
<td>24V/28W</td>
<td>24W</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>OPT-CO100</td>
<td>24V/1.5W</td>
<td>24V/28W</td>
<td>24W</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>OPT-CO110</td>
<td>24V/1W</td>
<td>24V/28W</td>
<td>24W</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>OPT-CO120</td>
<td>24V/0.5W</td>
<td>24V/28W</td>
<td>24W</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>OPT-CO130</td>
<td>24V/0W</td>
<td>24V/28W</td>
<td>24W</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>OPT-CO140</td>
<td>24V/3.5W</td>
<td>24V/28W</td>
<td>24W</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>OPT-CO150</td>
<td>24V/3W</td>
<td>24V/28W</td>
<td>24W</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Dimensional drawings (mm)

- Model:
- OPT-CO50:
- OPT-CO60:
- OPT-CO70:
- OPT-CO80:
- OPT-CO90:
- OPT-CO100:
- OPT-CO110:
- OPT-CO120:
- OPT-CO130:
- OPT-CO140:
- OPT-CO150:

Application example:
- Inspection of TDD glass line
- Metal defect inspection
- 2D code identification
- Metal surface pin inspection
Coaxial Line Light  **OPT-LSC series**

The coaxial line light
Especially for the inspection of printing with highly reflective surface

- High intensity LEDs with high brightness, assuring the high-speed inspection
- Ideally suitable for the consistent inspection line
- Spectroscopy design, preventing the light loss

**Application Area**
- Suitable for the line scan camera
- Inspection of the breakage on glasses, and the inertial impurity
- Inspection of high-speed printing quality

**Selection Guide**

**Model Table**

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Power</th>
<th>Emitting Surface (LC/mm)</th>
<th>Length Line (LC/mm)</th>
<th>Color</th>
<th>Size</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-LSC122-W</td>
<td>24V/7.2W</td>
<td>42</td>
<td>62</td>
<td>G</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LSC142-W</td>
<td>24V/12W</td>
<td>102</td>
<td>142</td>
<td>G</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LSC202-W</td>
<td>24V/24W</td>
<td>162</td>
<td>262</td>
<td>G</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>OPT-LSC262-W</td>
<td>24V/36W</td>
<td>222</td>
<td>362</td>
<td>G</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LSC322-W</td>
<td>24V/48W</td>
<td>282</td>
<td>482</td>
<td>G</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LSC122-R</td>
<td>24V/7.2W</td>
<td>43</td>
<td>63</td>
<td>R</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LSC222-R</td>
<td>24V/14W</td>
<td>82</td>
<td>142</td>
<td>R</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>OPT-LSC322-R</td>
<td>24V/28W</td>
<td>182</td>
<td>282</td>
<td>R</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Dimensional drawings(mm)**

**Application example**

- PCB print circuit inspection
- Card surface inspection
- Mobile ITO circuit inspection
- Disk surface scratch inspection
Low Angle Square Light  OPT-RIH series

High uniform illumination onto the field of view from four directions

It is good for square objects or different shape object inspection

Illuminate surface evenly without shadow

It achieved the four side shadowless result, it is good for different object inspection as different WD with different image result.

It is more uniform than bar light combined

Application Area
- Surface scratch, dent and some other defects inspection
- Print letters, marks, bar code, finger print and image recognition

Selection Guide
- OPT-RIH48
- Outside length
- Low Angle Square Light
- OPT

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Power</th>
<th>Current Power</th>
<th>Color</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-RIH32</td>
<td>24V 0.6W</td>
<td>24V 0.3W</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OPT-RIH48</td>
<td>24V 1.4W</td>
<td>24V 0.7W</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>OPT-RIH70</td>
<td>24V 2.1W</td>
<td>24V 1.0W</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>OPT-RIH118</td>
<td>24V 4.3W</td>
<td>24V 2.1W</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>OPT-RIH150</td>
<td>24V 6.5W</td>
<td>24V 3.1W</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>OPT-RIH200</td>
<td>24V 10.2W</td>
<td>24V 5.1W</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Dimensional drawings(mm)

Application example
- Metal clip surface solder inspection
- Electronic surface letter print defects inspection
- Mobile inside glue inspection
- Parts surface golden circle location
IR Light  OPT-IR series

The 850nm, 940nm wavelength is available, and the shape and illumination angle can be customized.

**Spectrum drawing of 850nm and 940nm**

850nm/940nm as standard one

IR for below lights, drawing is the same with standard one

**IR CCD response light drawing**

*Above data is just for reference, not for quality assurance

**Application Area**

- Medical (the recognition of the vascular net, the marking of the eye ball)
- Package (transparent plastic material )
- Cloth and textile
- Electronic and the semiconductor
- LCD, OLED

**Dimensional drawings [mm]**

**Application example**

- Touch panel inspection
- Mobile pixel line inspection
- Board font letter recognition
- Water cut gap inspection
**Ultraviolet Light**  
**OPT-UV series**

The 385mm wavelength is available, and the shape and illumination angle can be customized. Used the world's famous UV LED, assuring the stability of the UV light.

Used the world-class UV LED, higher stability.

---

**Application Area**
- Money inspection
- The fluorescent objects inspection
- The fluorescent character, bar-code and the 2D code identification
- Glass scratches inspection
- Classification inspection in the photochemical effects
- Defects inspection

**Spectrum drawing**

*Above data is just for reference, not for quality insurance.

**Application example**
- Color recognition of pigment test bar
- FSO gold point circuit inspection
- USB printed glue inspection
- UV glue inspection
Using high quality high power UV LED with high intensity and few decrease

Under environment temperature, the UV works 1200 hours with complete load, intensity is just reduced 2.8%

High power UV light intensity is 3 times higher than standard one

Using heat transfer gap to improve the heat transfer and enlarge LED life time

High power UV light intensity is 3 times higher than standard one

Application
- ITO print circuit inspection
- Surface tiny scratch and defect inspection
- Electrinic product print glue
- Fluorescence material inspection

Application example
- Foreign fiber inspection in the cotton
- Fluorescent printing location
- ITO print circuit inspection

Structure display and working way

Model Table

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
<th>Output Power</th>
<th>Color</th>
<th>Hz</th>
<th>Input Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI42230</td>
<td>24V/7.2W</td>
<td>UV</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI32230</td>
<td>24V/5.4W</td>
<td>UV</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI22230</td>
<td>24V/3.6W</td>
<td>UV</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI12230</td>
<td>24V/1.8W</td>
<td>UV</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI02230</td>
<td>24V/0.9W</td>
<td>UV</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI22230</td>
<td>24V/7.2W</td>
<td>UV</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI12230</td>
<td>24V/5.4W</td>
<td>UV</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI02230</td>
<td>24V/3.6W</td>
<td>UV</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI90230</td>
<td>24V/1.8W</td>
<td>UV</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI80230</td>
<td>24V/0.9W</td>
<td>UV</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

Dimensional drawings(mm)

- UVG decrease drawing
- Intensity comparison with standard light

Emitting Surface

- Length 800mm
- Diameter Ø34, Ø50, Ø90

Application
- Surface tiny scratch and defect inspection
- Electrinic product print glue
- Fluorescence material inspection

Structure display and working way

Note:
The structure picture is only for your reference

Application:
- ITO print circuit inspection
- Surface tiny scratch and defect inspection
- Electrinic product print glue
- Fluorescence material inspection

Model Table

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
<th>Output Power</th>
<th>Color</th>
<th>Hz</th>
<th>Input Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI42230</td>
<td>24V/7.2W</td>
<td>UV</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI32230</td>
<td>24V/5.4W</td>
<td>UV</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI22230</td>
<td>24V/3.6W</td>
<td>UV</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI12230</td>
<td>24V/1.8W</td>
<td>UV</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-LI02230</td>
<td>24V/0.9W</td>
<td>UV</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI22230</td>
<td>24V/7.2W</td>
<td>UV</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI12230</td>
<td>24V/5.4W</td>
<td>UV</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI02230</td>
<td>24V/3.6W</td>
<td>UV</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI90230</td>
<td>24V/1.8W</td>
<td>UV</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Linear</td>
<td>OPT-UVG-RI80230</td>
<td>24V/0.9W</td>
<td>UV</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>
AOI Light  OPT-RIA series

Multi-color illumination from different angles, 3D information can be highlighted. Widely applied in the defects inspection of multi-shape objects.

Diffuser equipped to guide the illumination, prevent the light loss.

RIM combination of different angles.

Multi-color illumination from different angles, highlights the 3D information.

Application Area:
- Specially applied in the inspection of the circuit board solder tin.
- Defects inspection for the rotates shapes.
- Inspection for the multi-level objects.

Selection Guide:
- OPT-RIA series
- Model: OPT-RIA200
- Output Power: 24V/27.1W
- Color: RGB
- Size: Ø148mm

Note: Selection of models based on the dimensional drawings (mm).

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Power</th>
<th>Color</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-RIA200</td>
<td>24V/27.1W</td>
<td>RGB</td>
<td>1</td>
</tr>
<tr>
<td>OPT-RIA211</td>
<td>24V/32.4W</td>
<td>RGB</td>
<td>2</td>
</tr>
<tr>
<td>OPT-RIA250</td>
<td>24V/52.1W</td>
<td>RGB</td>
<td>4</td>
</tr>
</tbody>
</table>

Dimensional drawings (mm):

- OPT-RIA200-RGB
- OPT-RIA211-RGB
- OPT-RIA250-RGB
- OPT-CO70-RIA211-RGB

Application Example:
- Patch panel solder inspection
- The multi-level objects inspection
- Weld joints, bridges and other testing.

Structure display and working way.
Vault Light  OPT-LIU series

With the function of dome light and bar light. The top can be open hole or gap for the area scan or line scan application.

It can get pretty even illumination

![Graph showing uniformity drawing]

High intensity light

![Graph showing intensity drawing]

Use CCD camera to grab the picture and analyze the grey value, above drawing is the average grey value.

* Above data is just for reference.

Selection Guide

OPT-LIU205

- Tobacco box surface inspection
- Electronic part housing defects and dirty points inspection
- Line scan AOI inspection
- Big FOV surface defects inspection

Application example

- Medical image inspection
- SD card inspection
- PCB board inspection
- Keyboard inspection

Structure display and working way

Note: The structure pictures is only for your reference.

Selection Guide

Aluminum housing
Reflective surface
Fan system
High power SMD LED

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage Range</th>
<th>Current Range</th>
<th>Color</th>
<th>Twisting surface</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-LIU205</td>
<td>24V/150W</td>
<td>285/175/35W</td>
<td>100</td>
<td>150/160/170</td>
<td>1</td>
</tr>
<tr>
<td>OPT-LIU423</td>
<td>24V/450/35W</td>
<td>285/175/35W</td>
<td>600</td>
<td>150/160/170</td>
<td>4</td>
</tr>
<tr>
<td>OPT-LIU600</td>
<td>24V/650/35W</td>
<td>285/175/35W</td>
<td>1000</td>
<td>150/160/170</td>
<td>6</td>
</tr>
<tr>
<td>OPT-LIU822</td>
<td>24V/950/35W</td>
<td>285/175/35W</td>
<td>1400</td>
<td>150/160/170</td>
<td>8</td>
</tr>
<tr>
<td>OPT-LIU960</td>
<td>24V/1150/35W</td>
<td>285/175/35W</td>
<td>1600</td>
<td>150/160/170</td>
<td>9</td>
</tr>
</tbody>
</table>

Dimensional drawings (mm)

![Dimensional drawings images]

Note: The test sample is LIU900-W, and take the picture every 60mm.
Waterproof light

Used in much dust and water environment, waterproof ability reaches Ip67

OPT standard items can be produced as waterproof products

Waterproof ability is Ip67

After several times test, OPT waterproof light is very stable, it is not just used for dusty and water environment, but also used for outside or water condition. It is very compact design, few gap to make sure the whole structure is sealed very good. It is also added heat transfer system so that it also has good heat transfer under sealed condition to prolong the life time.

When the light is put into the water tank, the distance between the the surface of the water and the bottom of the light should be at least 1m, the distance between the the surface of the water and the top of the light should be at least 0.15m.

Test period: 2h

Waterproof ability is Ip67

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Output Power</th>
<th>Output Power</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-FL12692-IP</td>
<td>24V/2.5W</td>
<td>24V/2.5W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPT-FL15850-IP</td>
<td>24V/3.0W</td>
<td>24V/3.5W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPT-FL3800-IP</td>
<td>24V/4.0W</td>
<td>24V/4.5W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPT-R10830-IP</td>
<td>24V/5.0W</td>
<td>24V/5.5W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Application example

Waterproof light structure

Trust the structure pictures is only for your reference

Note: The structure pictures is only for your reference

Dimensions of the pictures: 1080mm x 1440mm

Model Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensional drawings(mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT-FL12692-IP</td>
<td></td>
</tr>
<tr>
<td>OPT-FL15850-IP</td>
<td></td>
</tr>
<tr>
<td>OPT-FL3800-IP</td>
<td></td>
</tr>
<tr>
<td>OPT-R10830-IP</td>
<td></td>
</tr>
</tbody>
</table>

Waterproof light

New
VA Light  OPT-VA series

SMT Industry-dedicated light, with high precision, high speed and compact design

- High accuracy, high speed alignment, rich field of view
- Compact design easy for the image acquisition
- High brightness can be a subsidiary for the ring light

Application Area

- For the alignment in the full automatic printing inspection

Model Table

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>VA-S</th>
<th>VA-T</th>
<th>VA-D</th>
<th>VA-U</th>
<th>Resulting Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera mounting</td>
<td>USB/IEEE1394/Simulation</td>
<td>Optional</td>
<td>coaxial light+ring light, optional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illumination</td>
<td>coaxial light or ring light, optional</td>
<td>coaxial light or ring light, optional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field of view</td>
<td>Available from 4x3 to 12x9</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>MAGF</td>
<td>Available from 0.5x to 2x</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Transmission distance</td>
<td>4.5m(with trunking, could reach 72m)</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>PLC</td>
<td>Image dimension, brightness, exposure time</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>2.9W</td>
<td>2.0W</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

Application example:

- Mark Location 1
- Mark Location 2
- Metal part configure location
- Metal part configure location

Application:

- Semiconductor industry
- Electronic Industry
- Laser processing industry
- Automotive industry
- Package industry
- Medical industry
- Hardware processing industry
- Cosmetic industry
- Surface inspection

OPT-VA series SMT Industry-dedicated light, with high precision, high speed and compact design

VA Light