Lelmac

CHALLENGE & HIGH QUALITY

Illumination for Vision

Index

Leimac CHALLENGE & HIGH QUALITY

Line illumination with natural air cooling that achieves the highest level of intensity in the industry!

IDBC-LSR Series

【specification】
Standard Size：100 ～ 3000mm
Wavelength：R / B / W /IR(860)

Feature:
・Achieved 1.2 million lux with natural air cooling method!
・Two types are available: high brightness and high uniformity.
・Ideal for clean room usages thanks to natural air cooling.
・Flexible lighting effects can be achieved using the optional condenser lens/coaxial half-mirror box.

Application:
・Film inspection, LCD inspection, battery inspection

LIGHTING STRUCTURE
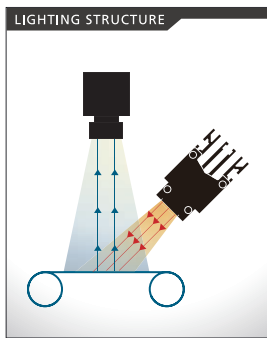
High-performance multi-position ring illumination covering long to short-range irradiation

IMAR-D,IMAR-CT Series

【specification】
Standard Size：φ 55mm ～φ 250mm
Wavelength：R / B / W /IR(850,940)

Feature:
・Thanks to the special optical design, it can be placed in various positions to provide high-angle to low-angle irradiation.
・ Equipped with the latest high-brightness, high-uniform CHIP LED to reduce halation on the inspection object.
・The half-split type is ideal for lateral visual inspection of cylindrical parts and string-like objects.

Application:
・Film inspection, LCD inspection, battery inspection

LIGHTING STRUCTURE
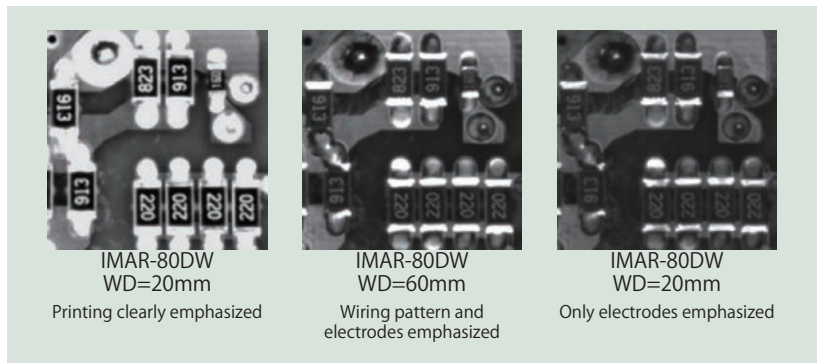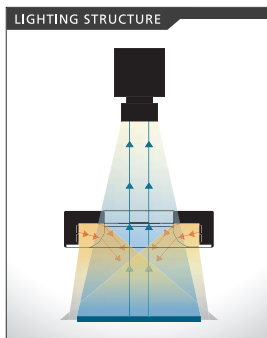
IMAR-80DW
WD=20mm
Printing clearly emphasized

IMAR-80DW
WD=60mm
Wiring pattern and electrodes emphasized

IMAR-80DW
WD=20mm
Only electrodes emphasized

Ideal for large objects and long-distance irradiation! B'C line lighting
IDBA-LEH Series

【specification】
Standard Size：75mm~1800mm
Wavelength：R / B / W /G/IR(850)

Feature:
・The lineup includes a narrow-angle type ideal for long-distance irradiation, and a wide-angle type ideal for uniform irradiation.
・Using high power LEDs, it can irradiate at distances of over 1M.
・Product lineup includes 1-row and 2-row types to suit the irradiation range.
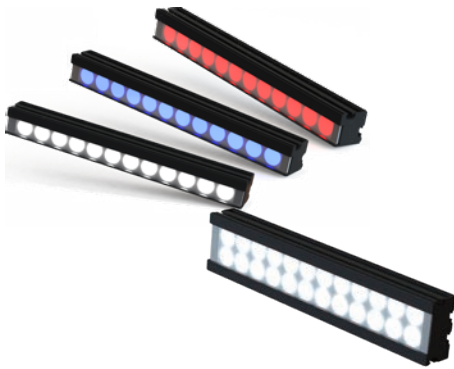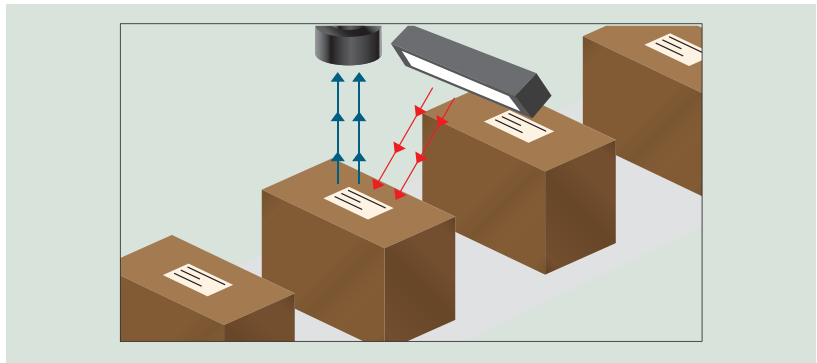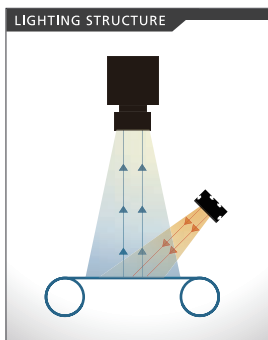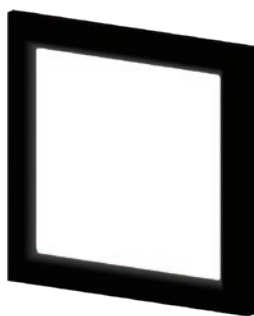・Lineup includes long sizes of 1m or longer.

Application:
・Robot picking, cardboard OCR

LIGHTING STRUCTURE

Lightweight and space-saving dome illumination with high brightness and highly uniformiy.
IFHA Series

【specification】
Standard Size：□25mm~400 × 300mm
Wavelength：R / B / W /G/IR(850)

Feature:
・Leimac's special optical design provides clear Dome lighting that achieves high uniformity and high output. Highly uniform irradiation makes it ideal for OCR and visual inspection of glossy objects.
・To protect the light emitting surface, a cover acrylic coated with a hard coat equivalent to 4H can be installed.

Application:
・Metal parts inspection, OCR of shiny parts and packages

LIGHTING STRUCTURE
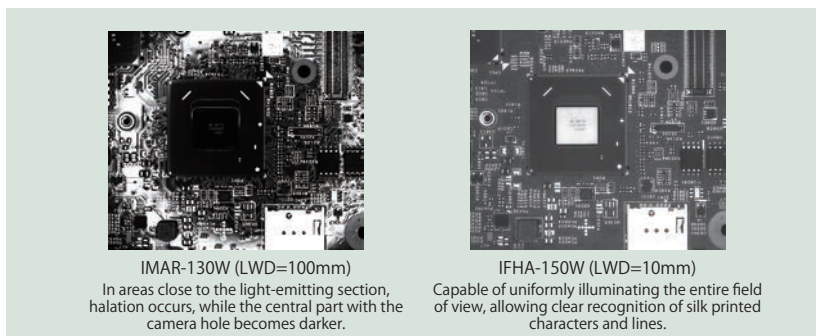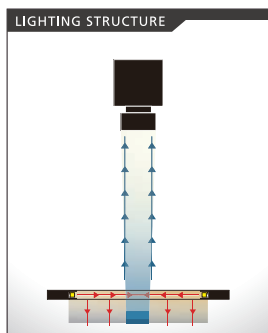
IMAR-130W (LWD=100mm)
In areas close to the light-emitting section, halation occurs, while the central part with the camera hole becomes darker.

IFHA-150W (LWD=10mm)
Capable of uniformly illuminating the entire field of view, allowing clear recognition of silk printed characters and lines.

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Flat illumination equipped with high brightness CHIP LED
IHMA Series
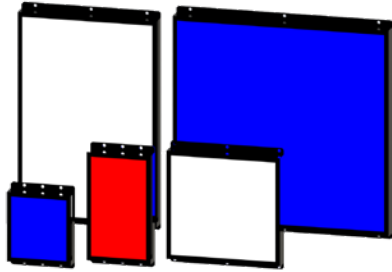
【specification】
Standard Size：
☐ Min25 × 30 ～ Max214 × 226mm (Square)
☐ Min30 × 66 ～ Max214 × 142mm (Rectangle)
Wavelength：R / B / W

Feature:
・Equipped with the latest chip LED, the entire light emitting surface is highly luminous. Achieves high uniformity.
・Two models are available: a narrow-angle light distribution model ideal for edge enhancement. And a diffused light model for transmission inspection.
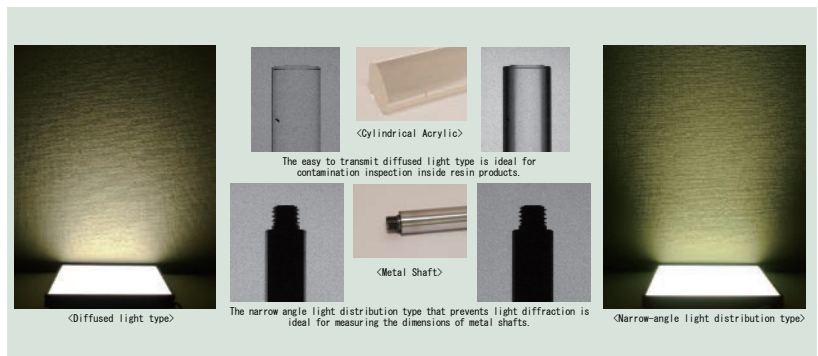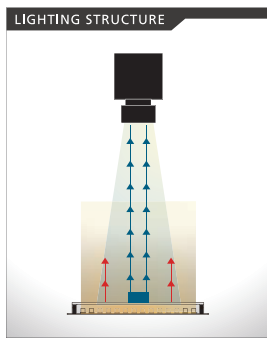
Application:
・Dimension measurement, foreign object inspection

LIGHTING STRUCTURE

<Cylindrical Acrylic>

The easy to transmit diffused light type is ideal for contamination inspection inside resin products.

<Metal Shaft>

<Diffused light type>

The narrow angle light distribution type that prevents light diffraction is ideal for measuring the dimensions of metal shafts.

<Narrow-angle light distribution type>

Holed flat illumination equipped with highly uniform LED. Capable of irradiating narrow to wide fields of view.
IFPA-D,IHMA-D Series
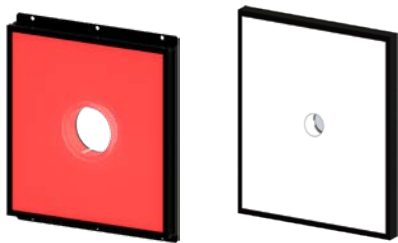
【specification】
Standard Size：
☐ 100mm ～ φ 200mm(IHMA-D)
☐ 100mm ～ φ 500mm(IFPA-D)
Wavelength：R / B / W

Feature:
・Equipped with highly uniform chip LEDs uniformly illuminating the entire object, arrowing halation reduction.
・The lineup includes two types: a thin high-output type (IHMA-D) and a wide type IFPA-D."

Application:
・Robot picking、OCR

LIGHTING STRUCTURE

Pseudo-Coaxial-illumination with narrow angle distribution with high illuminance, high uniformity, and compact housing.

IFVA Series

【specification】
Standard Size：□ 20mm~Max □ 200mm
Wavelength：R / B / W /G/IR(850)

Feature:
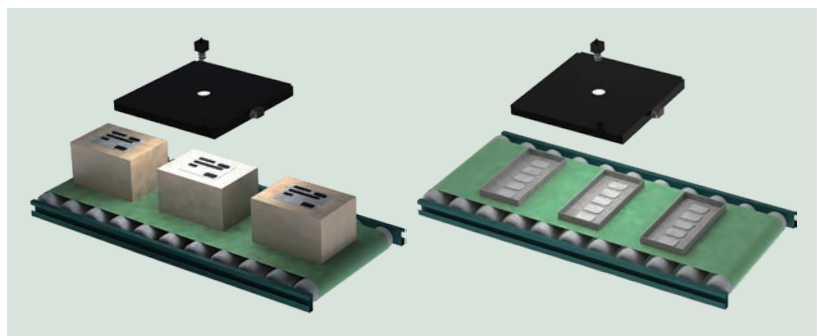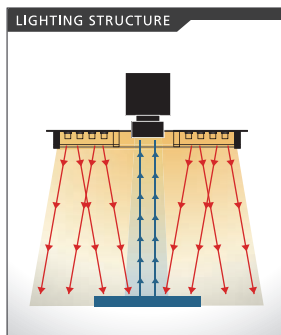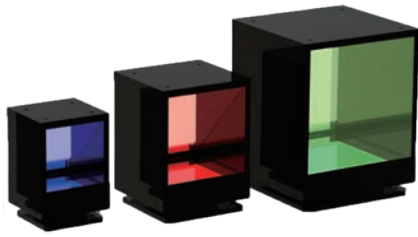High illumination, high uniformity, compact housing. The 20mm size is ideal for visual inspection at high magnification thanks to its special optical system.

Application:
・Metal parts inspection, board inspection, alignment

LIGHTING STRUCTURE
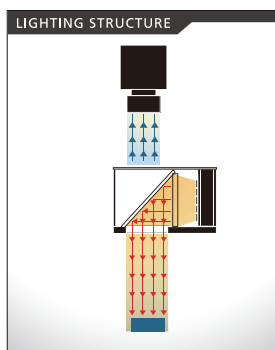
Imaging example

Achieves industry-leading ultra-high brightness. High-performance spot lighting.

IHVT Series

【specification】
Wavelength：R / B / W /G/IR/UV

Feature:
The unique housing design improves heat dissipation and achieves the industry's highest level of illumination. Rich color lineup

Application:
・Alignment of electronic components, Liquid crystal and semiconductor

LIGHTING STRUCTURE

Lighting used：IHVE-21AW

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Ideal for long-distance irradiation! LED collimated light spot lighting
IBF Series

【specification】
Standard Size：φ 20, 30,40,60mm, □ 100mm
Wavelength：UV (405)/ B/G/AMB/R/IR
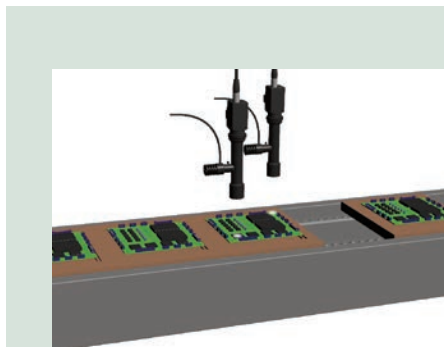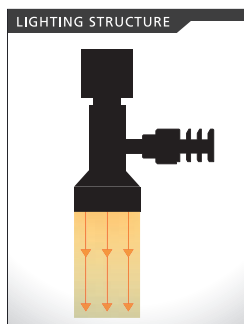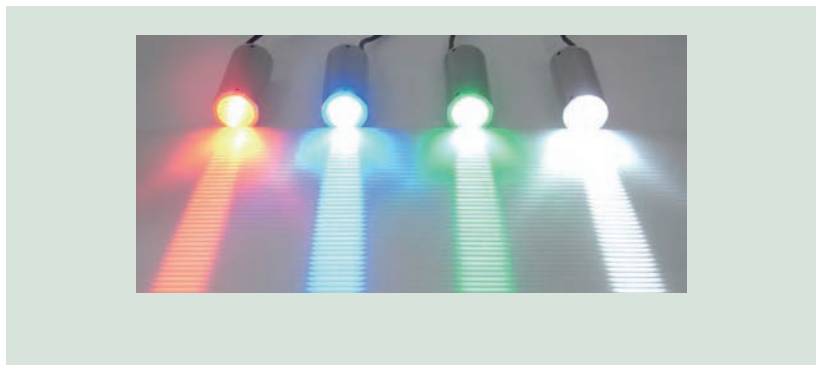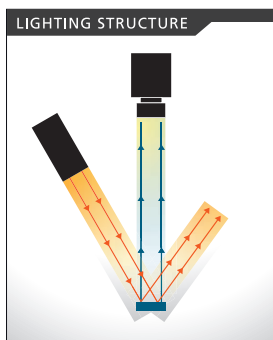
Feature:
・**The highly parallel light rays make it perfect for enhancing subtle silhouettes.**
・**It is possible to capture silhouettes of cylinders, metals, and fine workpieces without light wrapping around them.**

Application:
Fine scratches inspection and edges Emphasis

LIGHTING STRUCTURE

Build-in type GigEVision compatible illumination controller easy to program due to GenICam standard compliance.
IDMU Series

【specification】
・**Easy configuration via GenICam parameters.**
・**Precise camera and light synchronization.**
・**No IP setting needed.**
・**Flexible hardware configuration.**
Expandable to 40 channels

User Applications

Gig E
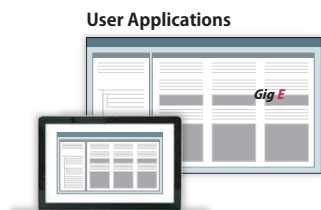
By using SDKs provided by image processing library manufacturers, devices that support   Vision, USB3 Vision, and other standards can be controlled independently of the manufacturer.

In addition, it becomes possible to control the devices without worrying about the communication interface.

Gen API

SDK

USB3 Vision
GenTL

GigE Vision
GenTL

USB

LAN

LAN

USB3 Vision Compatible Cameras

XML

Gig E **Vision Compatible Cameras**

XML

Gig E **Vision Compatible Illumination Controllers**

XML
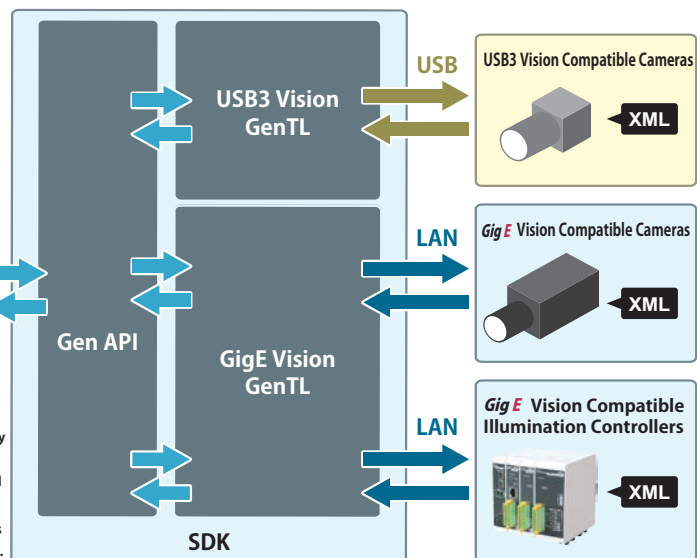
A lineup of IP67 compatible lighting effective for food inspection, etc.!
Water Proof Series

【specification】
Standard Size：φ 90,140mm (Ring)
Min100mm~Max 800mm(Bar)
Wavelength：B/W/R/

Feature:
・Being IP67 compliant, it can also be used for visual inspection during cleaning processes, etc.
・A lineup of ring illumination in two sizes with an outer diameter of Φ 90mm/140mm and bar illumination at the maximum of 800mm readily available. Despite its compact dimension, the bar illumination achieves a wide-angle arrangement owing to a special optical design. Suitable for a wide imaging range requirements as well.

Application:
・Food、Machine tools Inspection
・OCR for Food Package
・Observation of bubbles in liquid

LIGHTING STRUCTURE

LIGHTING STRUCTURE
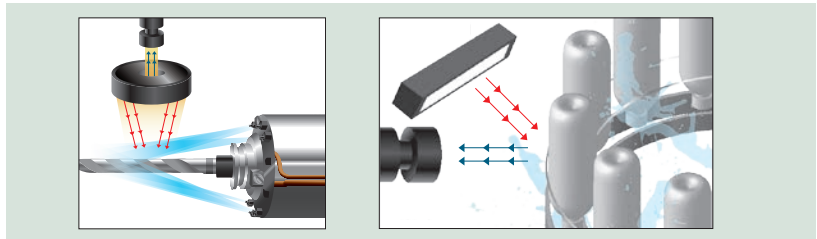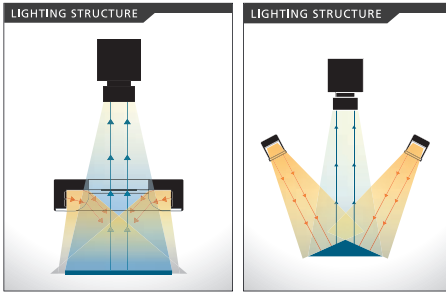
# Multi-wavelength illumination with RGB or 7 color wavelengths implemented
Multi-color Series

【specification】
Standard Size：Min100mm~Max 3,000mm
Wavelength：
UV (405)/ B/G/AMB/R/FIR(740)/NIR(850)

Feature:
Multi-spectral illumination equipped with high brightness, high uniformity LEDs. Ideal for multispectral imaging due to wavelength switching imaging. imaging.

Application:
・Material sort, recycling, color inspection

LIGHTING STRUCTURE

LIGHTING STRUCTURE
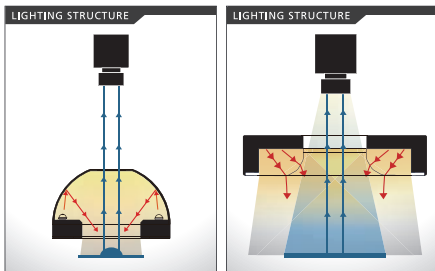
Relation between lighting color and object color

〈Object Color〉	〈Red light irradiation (R)〉	〈Green light irradiation (G)〉	〈Blue light irradiation (B)〉	〈Relation between reflection and absorption of light〉
cyan	absorption	reflection	reflection	White（R+G+B）－ **Red（R）** = **Cyan（G+B）**
magenta	reflection	absorption	reflection	White（R+G+B）－ **Green（G）** = **Magenta（R+B）**
yellow	reflection	reflection	absorption	White（R+G+B）－ **Blue（B）** = **Yellow（R+G）**

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High-power ultraviolet lighting equipped with high-intensity LEDs. Ideal for fluorescence observation applications
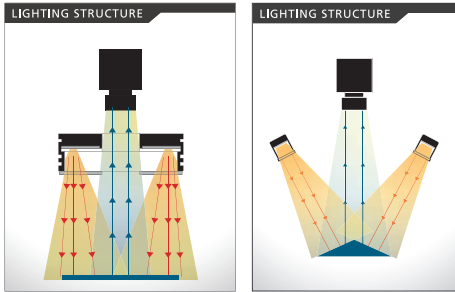# UV Series

【specification】
Ring
Standard Size：
φ 65,100mm (Ring)
Min75mm~Max 600mm(Bar)
Wavelength：UV365,375,385,395,405,

Feature:
Equipped with the latest ultraviolet LED. Achieves high output. Two models: long-distance irradiation (L type) and uniform irradiation (S type). UV compatible diffuser plate/transparent to protect inside of illumination readily available.
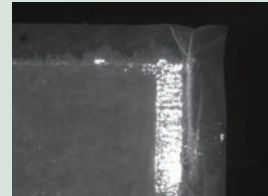
Application:
・Fluorescence observation
・Fine scratch inspection
・Dust inspection

LIGHTING STRUCTURE

LIGHTING STRUCTURE

Sample：Adhesion of glues

White

IDHRA-100L-UV-365

# Achieves industry-leading ultra-high brightness. Lineup of optimal wavelengths for each application!
IR Series

【specification】
Lineup：Ring/Bar/Transparent/Spot type, so on
Wavelength ：IR850,940,1100,1200,1300,1450

Feature:
・High brightness with low power consumption by unique optical lens design, arrowing reduced output attenuation due to lighting heat generation.
・In the SWIR range lineup(1100nm ~), uniformated specifications and high brightness specifications available in accordance with the telecentric lens magnification.

Application:
・Silicon Conwafer pattern inspection
・alignment

LIGHTING STRUCTURE
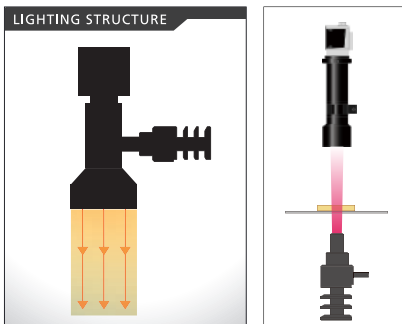
Dark brown bottles
(left:vegetable oil, right:water)
Body:borosilicate glass
Cap:PP

White

Infrared(850nm)

Infrared(1450nm)

Segmented Ring Illumination Series

Divided lighting compatible with various shapes and sizes. Perfect for Computational Imaging.

【specification】
Wavelength：R / B / W
Type：Low angle, Holozontal oriented Ring,
Mult-position ring

Feature:
A lineup of 8CH LA ring, horizontally opposing ring and 16ch dome illumination. Possible to capture images necessary for image synthesis according to the shape of the object.

Application:
・Metal parts inspection, medical parts inspection

RobotLight Series

Ideal for mounting on robot arms! Lighting/camera control is possible with Just One Cable.

【specification】
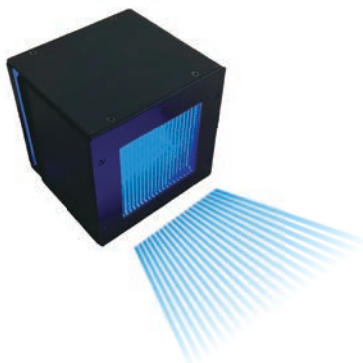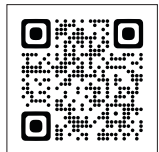Wavelength：R / B / W
Type：2 models: 1CH and 8CH

Feature:
・ Illumination and camera can be controlled with just one cable. Contributes to wiring savings.
・With the 8CH specification, it is possible to capture images with different segments, ideal for image composition without a controller.

Application:
・Metal parts inspection, robot picking

3D Phase-Shift Illuminator Series

Realizing high-speed 3D inspection with LED stripe projection light source!

【specification】
Wavelength：B

Feature:
・Achieves faster 3D measurement than DLP with switching response.
・Compared to lasers, etc., the LED light source is highly safe, reducing work risks.

Leimac CHALLENGE & HIGH QUALITY

Company Profile

Company Name	**Leimac Ltd.**
Date of Establishment	**May 1993**
CEO	**Jun Tanaka**
Capital	**20,000,000yen**
Employees	**about 150**

Moriyama City, Shiga

Head Office (Moriyama City, Shiga)

Head Office
Osaka Office
Tokyo Office
Kumamoto Office
Nagoya Testing Room
Sendai Office

Tokyo Office   Osaka Office   Sendai Office   Kumamoto Office   Nagoya Testing Room

Business Activities

▶ **Lighting Equipment**

Development, manufacturing and sales of LED Illuminations and Controllers.

▶ **FA System**

Labor-saving machinery, transport machinery, the development of the control device, etc.

▶ **Healthcare**

Development and manufacturing of medical equipment.

Why Choose Leimac?

Vast Selection of Over 50K models *No.1 in the industry*

Customization Capability *No.1 in the industry*

Partners

smart vision lights

MVTec | **TECHNOLOGY PARTNER**

HALCON a product of MVTec   **MERLIC** a product of MVTec

Illumination for Vision

Leimac
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