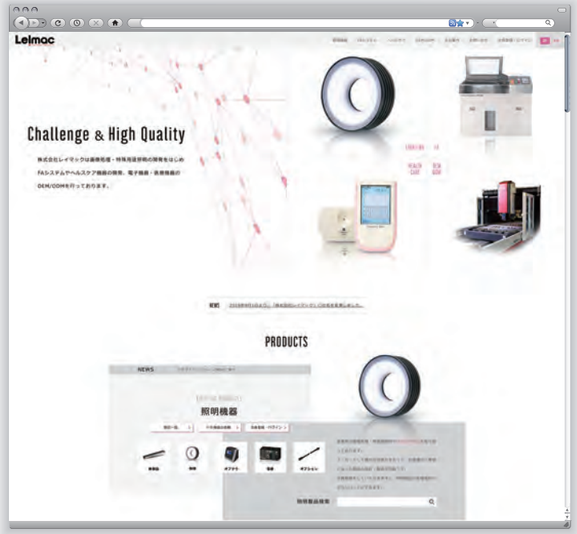
Check the WEB!!

Find out more about our substantial product lineup on our website.

New product information is continuously updated.
Check out our website for the latest infromation.
We will continue developing products and disseminating information to help our customers.



Full of new product information!

https://leimac.jp

Join us to become Leimac LED members

Upon registering for membership, you can download PDF/DXF data of diagrams, sample software, and sample source code easily.
We can provide better services for members, such as the distribution of our news letter that delivers the latest updates and product information for those who wish.
Please join us.

Easy Product Search

Searchable by category, "LED lighting", "Controllers", "Option", or by keyword.

Wide Range of Product Lines

Each category has full lineup information.
Please look out for updated new product information.

Leimac
CHALLENGE & HIGH QUALITY

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Retailer

ISO9001: 2015 certified
ISO14001: 2015 certified
※Both are registered at the head office

VEGETABLE OIL INK

2019.12.11000 (TSU)

2021 LED Lighting Catalogue

Leimac Ltd.

Leimac
CHALLENGE & HIGH QUALITY

2021
LED Lighting Catalogue

Lelmac

CHALLENGE & HIGH QUALITY

the NEXT LEVEL of VISION

European RoHS Directive

Our standard products (excluding some) listed in this catalog are manufactured as products compliant with the revised European RoHS Directive (2011/65/EU). The basic 6 items (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ethers) are manufactured as products compliant with the European RoHS Directive (2002/95/EC) as of April 2007.
Regarding the four 4 items added in the revised European RoHS Directive ((EU) 2015/863) (Phthalates 4 substances: DEHP, BBP, DBP, and DIBP), we are scheduled to achieve compliance by the end of the transition period, July 22, 2021.

*Please refer to our website for more details about the European RoHS Directive.

China RoHS Directive

We have been complying with the China RoHS Directive (Regulation of the Use of Hazardous Substances in Electrical and Electronic Products) for standard products (excluding some) listed in this catalog.
Please refer to our website for details.

In order to propose environmentally friendly and safe products to our customers, Leimac Ltd. will respond to global standards progressively.

Management Philosophy

To ensure the development of the company and the happiness of our employees, we will contribute to society by pursuing the possibility of mechatronics and providing products that satisfy our customers.

Scientifically minded

As a proposal- and development-focused company that anticipates leading trends in the fields of mechanical, electric, and electronic products and software creation, we will strive to fulfill the possibilities offered by mechatronics.

Socially minded

As a member of the community, we will work towards community development with a sense of self-awareness and responsibility.

People-minded

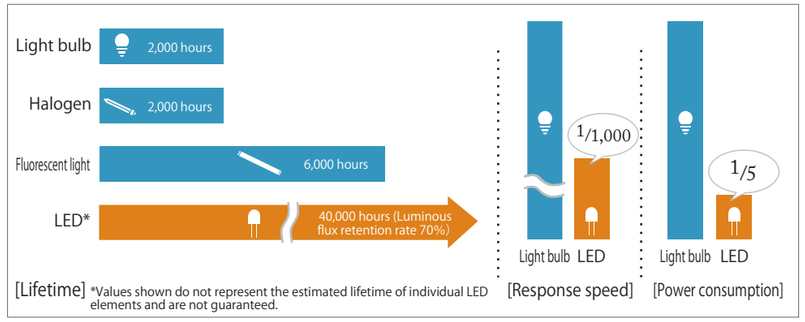
We will eliminate prejudice and discrimination, respect the human rights of the individual, and strive to create a happy workplace in which consideration for others and a sense of warmth are evident. We also place a priority on being a reliable partner in relationships with our customers and business partners.

LED Lighting & controllers for Image Processing

Why LED lighting is used as a light source for image processing:

1. The long lifetimes and low power consumption of LEDs make it possible to reduce the running cost associated with maintenance.
2. LEDs handle switching well, and have extended lifetimes when used with an external ON/OFF control.
3. LEDs have an extremely high response speed, which enables stable and flicker-free images even with external ON/OFF control and light modulation control.
4. LEDs can be used as stroboscopic light sources due to their fast response times and ability to withstand high currents.
5. LEDs provide directional light, and are therefore better able to emphasize flaws in the object compared with fluorescent lights and other diffuse light sources.
6. LEDs allow the selection of wavelength (from ultraviolet light to visible light to infrared light) according to the conditions of an object.
7. LEDs can be built to suit the size and shape of the object.
8. The development of high-intensity LEDs has enabled a significant increase in light intensity giving extremely bright lighting.

LED Characteristics Comparison of LEDs with other light sources



Due to its very nature, an LED will not cease illuminating, unlike an incandescent lamp that will no longer illuminate once the filament wears out. However, over time the LED's light transmission rate will decrease and its light flux will degrade due to the degradation of the LED chip and the resin that seals the chip.
Therefore, generally, the lifetime of an LED is defined as the time it takes for LED luminous flux to decrease to 70% of initial luminance at an ambient temperature of 25℃. This definition of the lifetime also applies to LED lightings with LED elements mounted.

How to use LED lighting efficiently To ensure adequate LED lighting performanc

1. Avoid using LED lighting at high temperatures as this reduces luminance and accelerates deterioration.

LEDs tend to decrease in luminance and undergo accelerated element deterioration due to their heat (the heat generated by the LED itself). It is said that the life of an LED element is about 40,000 hours (TYP), but when it is continuously used in a high temperature state, it deteriorates in a short time and luminance may decrease.

2. LED lighting units should be used as close to the object as possible.

As the LED element itself is small, LED lighting units can be made compact and lightweight.

Because illumination is inversely proportional to the square of the distance, light intensity can be significantly increased by using it closer. (We also design lighting solutions in accordance to the application and intended use.)

When using direct lights:

Using it in combination with a diffusion plate or a polarizing plate can eliminate reflected lighting in some cases.

3. In order to suppress luminance decrease and degradation due to heat generation,

Improve the heat dissipative ability of the LED lighting unit.

■Attach the unit to a thick bracket or metal plate with good heat dissipative properties.
■Create air vents.
■nstall a fan.
It is recommended that you install LED lighting units in a structure or environment with good heat-dissipative capabilities by taking steps to ensure adequate cooling.

Turn lighting ON/OFF in sync with image capture.

LED lighting handles switching well.
By utilizing the lighting ON/OFF function via the external signal of our output controller, it is possible to extend an LED's life by turning it on only when necessary.
(Please note that there are models that do not have an ON/OFF function.)

Use with reduced light modulation.

When light is modulated with the volume down, the current flowing through the LED is lowered and heat generation is suppressed. Setting the camera aperture as large as possible when selecting lighting will allow you to select a lighting unit with more than adequate brightness. When using lighting continuously, setting the light modulation volume to approximately 50% is recommended.
(Even if luminance decreases due to degradation, it can return to the original luminance by increasing the light modulation volume.)

Selecting lighting

Selection by wavelength

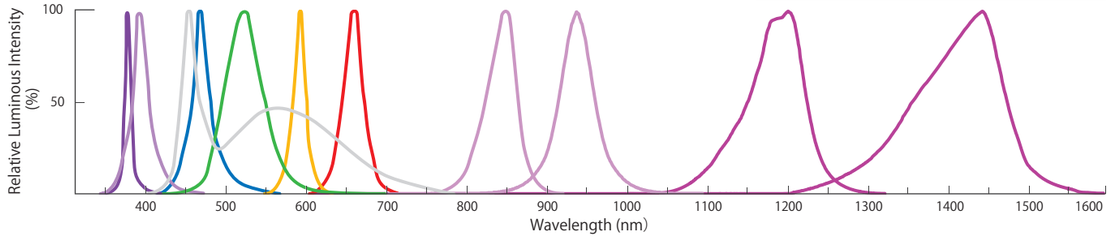
Shorter wavelengths have the larger scattering rate, and are suited to surface inspection applications.

*Scattering rate" indicates how easy it is for light to change direction upon hitting the surface of the object and its surroundings.
The higher the scattering rate, the easier it is for light to scatter on hitting a surface, so wavelengths with a higher scattering rate are ideal for surface inspections.
If, on the other hand, the scattering rate is low, it is easier for light to pass through the surface of the object which makes it ideal for transmissive applications.

*The scattering rate is inversely proportional to the 4th power of the wavelength.

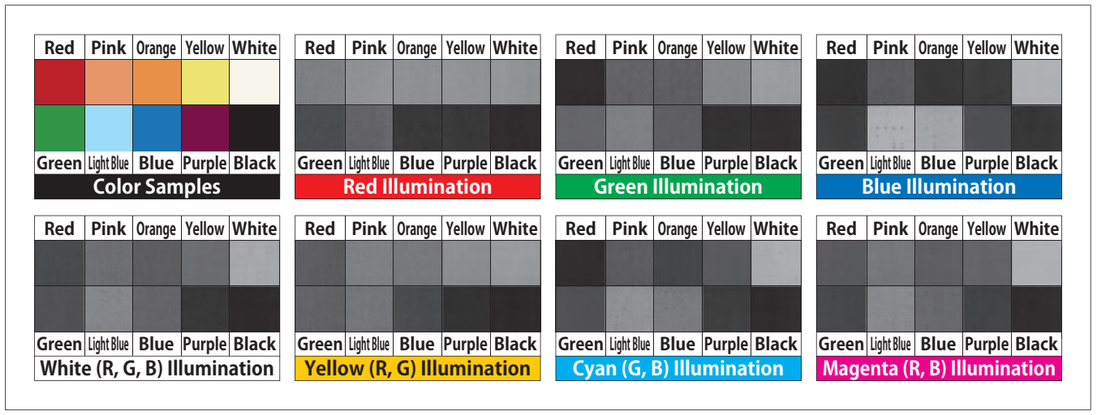
	Peak wavelength	Main inspection applications	Scattering
White	–	Color processing, etc.	–
Ultraviolet	365nm	Non-destructive inspection, etc.	Approx. 10x
	375nm	Fine scratch inspection, etc.	Approx. 9x
	405nm		Approx. 8x
Blue	470nm	Scratch inspection, etc.	Approx. 4x
Green	525nm	Visual inspection, etc.	Approx. 2.5x
Yellow	590nm	Inspection in exposure environment, etc.	Approx. 1.6x
Red	635nm	For backlighting, etc.	1
Infrared	850nm	Backlight	Approx. 0.4x
	940nm		Approx. 0.25x
	1200nm		Approx. 0.1x
	1450nm		Approx. 0.05x

Wavelength Characteristics



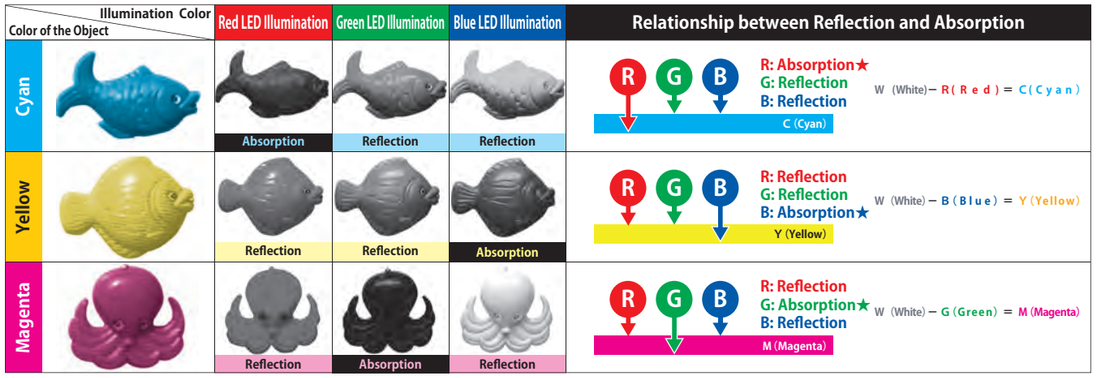
Comparison of Wavelength and Objects

Whereas ordinary lighting is designed to make things brighter, in the field of image processing, lighting plays the key role of emphasizing only the areas of an object that are of interest and capturing optimal images.
The color relationship between wavelength (lighting color) and objects, taking into account the relationships of typical complementary colors, is shown in the tables below.



* The above tables depict a representative example and may not be applicable depending on the characteristics of the object (reflection, transmission, and absorption), camera, and lens (optical system).

Reflection and Absorption of Colors



Checklist for Selecting Lighting Equipment

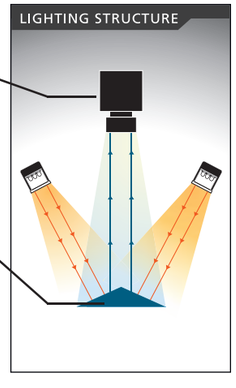
1. Inspection Details
Processing ・Binarization/Pattern Matching
・B&W/Color
Purpose ・Text inspection / Defect inspection / Visual inspection / Positioning / Dimension measuring / Dimension measurement

2. Operating Environment
Is ambient light an issue ?
Is the temperature or humidity too high ?

3. Positional Relationship of Object, Camera, and Lighting
What are the accurate distances or angles of each device? / Is the lighting installation space assured ?

4. Type of Lens / Camera
Type of Lens ・Macro Lens / Telecentric Lens
Type of Camera ・Area sensor / Line sensor
・Spectral sensitivity of CCD

5. Object Conditions
Size ・Required field of vision
Surface condition ・Glossy, mirrored / non-mirrored surface, satin finish, transparent / opaque / semi-transparent
Color ・Relation of reflection and absorption (see above)
Shape ・Flat / curved / cubic / spherical



INDEX

INDEX

Wide Range of controllers Available to Suit the Application

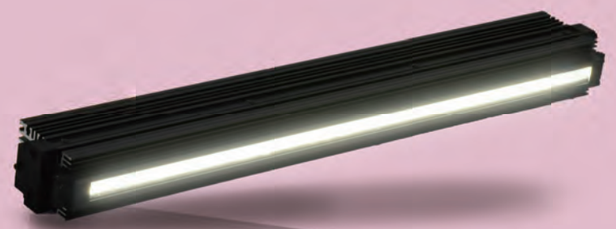
Features	Model	Standards	CH	Capacity	Output Control Method	External ON / OFF Control	External Output Control	Input Voltage	Output Voltage	Page
Compact 1000 Level Digital Controller ・PWM controller with input voltage of 24V DC optimal for integration ・Compact at approx. 1/6 the conventional size ・Controllable at 1000 levels with a high-visibility digital display	ILP-30M2	CE	2	30W	10bit Digital (1000 Levels)	○	—	DC24V	DC12V	P.83
	ILP-60M2-24			60W		○			DC24V	
Compact Controller ・Ultra-compact, lightweight, constant-current controller ・Constant-current analog controller with single channel for IHV, IIHVE, IBF, and IHVA-SP30 series ・The Compact design allows installation in small spaces ・Super lightweight model weighing only 74g ・Constant current control enables use with high-speed and line sensor cameras ・ILC series comes standard with an AC adapter	ILC-24-350	—	1	—	Analog (0～100%)	—	—	DC24V	350mA	P.84
	ILC-24-700					—			700mA	
	IRC-24-350					○	0-5V Analog		350mA	
	IRC-24-700					○			700mA	
Compact Constant Current Controller ・Constant current controller with input voltage of 24V DC optimal for integration ・The IHV series can be connected directly to the ILC-350M2-VI and the IHVE, IBF, and IHVA-SP30 series can be connected directly to the ILC-700M2-VI without a resistance box	ILC-350M2-VI	CE	2	—	Analog (0～100%)	○	0-5V Analog	DC24V	350mA	P.84
	ILC-700M2-VI								700mA	
Compact Constant Voltage Controller ・Constant voltage controller with an input voltage of 24V DC optimal for integration. ・Ideal for replacing with IWDV-10S-V	ILV-60M2-VI	CE	2	60W	Analog (0～100%)	○	0-5V Analog	DC24V	DC6～12V	P.85
Overdrive Controller ・Overdrive controller with an input voltage of 24V DC optimal for integration ・Because the output voltage can be adjustable from 6V, output control is possible from a lower light level ・Push-in wire connectors for easy connection without tools	ILS-40M2-PI	CE	2	40W	8bit Digital (256 Levels)	○	8bit	DC24V	DC6～36V	P.86
GENiCAM supporting ・Easy installation and operation with The GigE Vision Interface ・Cameras and lightings from various manufacturers can be set simultaneously by The supported application。	IPPA-7M4G	CE	4	7.8W	8bit Digital (256 Levels)	○	LAN	PoE Power Supply	DC12V	P.87
	IRPA-30M4G		4	30W (15W/CH)		○		DC12V		
PoE-capable Control Unit ・Does not require a power supply ・Uses PoE power supply system ・Requires no additional wiring due to its control unit integrating communication and power supply	IPSA-7M2-C2	CE	2	30W	10bit Digital (1000 Levels)	—	LAN	PoE Power Supply	DC12～36V	P.89
	IPSA-7M4-C2		4			—				
	IPPA-7M2-C2		2		8bit Digital (256 Levels)	○	LAN		DC12V	
	IPPA-7M4-C2		4			○				
Intelligent Controller Evaluation-only Model ・The first controller supporting IEEE 1588 in the industry ・Corresponds to various commands such as GenICam and GigE Vision ・Corresponds to The PWM, Overdrive , Constant voltage, and Constant current	IMBH-60M4G		4	60W (15W/CH)	PWM Overdrive Constant Voltage Constant Current	○	LAN	AC100～240V	6～24V (PWM) 6～36V (Overdrive)	P.90
Digital PWM Controller ・PWM controller that can control LED lightings by external control ・Available in 63 models combining input voltage, output voltage, capacities, number of channels, and external control methods ・Enables the selection of a suitable controller for your environment ・It has no lighting fluctuation Because The PWM cycle synchronizes with The external ON/OFF signal ・Input voltage of 100-240V AC (The standard power cable is for 100V AC) ・PWM frequency of approximately 125kHz	IDGB-30M2-**/**	CE PSE	2	30W	8bit Digital (256 Levels)	○	LAN 8bit	AC100～240V	DC12V	P.91
	IDGB-50M2-**/**			50W		○				
	IDGB-100M2-**/**			100W		○				
	IDGB-30M4-**/**		4	30W		○				
	IDGB-50M4-**/**			50W		○				
	IDGB-100M4-**/**			100W		○				
	IDGB-30M8-**/**		8	30W		○				
	IDGB-50M8-**/**			50W		○				
	IDGB-100M8-**/**			100W		○				
	IDGB-30M2-24-**/**		2	30W		○			DC24V	
	IDGB-50M2-24-**/**			50W		○	232C 8bit			
	IDGB-100M2-24-**/**			100W		○				
	IDGB-30M4-24-**/**		4	30W		○				
	IDGB-50M4-24-**/**			50W		○				
	IDGB-100M4-24-**/**			100W		○				
	IDGB-30M8-24-**/**		8	30W		○				
	IDGB-50M8-24-**/**			50W		○				
	IDGB-100M8-24-**/**			100W		○	485 0-5V Analog			
	IDGB-400M2-24-TP/PI	Pending Approval	2	400W		○				
	IDGB-50M2-24-**/**-T	CE	2	46W		○		DC24V		
	IDGB-150M4-24-**/**-T		4	144W		○				
	IDGB-150M8-24-**/**-T		8	144W		○				
Programable Digital PWM Controller ・PWM controller that can control output for LED lightings via LAN communication ・Available in 21 models combining input voltage, output voltage, controller capacity, and number of channels ・It has no lighting fluctuation because the PWM cycle synchronizes with the external ON/OFF signal ・Input voltage of 100-240V AC (The standard power cable is for 100V AC) ・PWM frequency of approximately 125kHz < Programming Mode > ・A single ON signal controls The number of outputs and The order ・Lighting mode: Level mode or Edge mode ・It can set and save up to 8CH x 4 patterns of lighting order, output control, and light emitting time	IDGB-30M2PG-TP	CE PSE	2	30W	8bit Digital (256 Levels)	○	LAN 8bit	AC100～240V	DC12V	P.93
	IDGB-30M4PG-TP		4	30W		○				
	IDGB-30M8PG-TP		8	30W		○				
	IDGB-50M2PG-TP		2	50W		○				
	IDGB-50M4PG-TP		4	50W		○				
	IDGB-50M8PG-TP		8	50W		○				
	IDGB-100M2PG-TP		2	100W		○				
	IDGB-100M4PG-TP		4	100W		○				
	IDGB-100M8PG-TP		8	100W		○				

List of Controller Series for LED Lighting

Features	Model	Standards	CH	Capacity	Output Control Method	External ON / OFF Control	External Output Control	Input Voltage	Output Voltage	Page
By using the programming mode function, the switching of lightings to match the inspection application and object can be facilitated and the time spent on line coordination can be reduced. A sample application to support settings is available on our website.	IDGB-30M2PG-24-TP	CE PSE	2	30W	8bit Digital (256 Levels)	○	LAN 8bit	AC100～240V	DC24V	P.93
	IDGB-30M4PG-24-TP		4	30W		○				
	IDGB-30M8PG-24-TP		8	30W		○				
	IDGB-50M2PG-24-TP		2	50W		○				
	IDGB-50M4PG-24-TP		4	50W		○				
	IDGB-50M8PG-24-TP		8	50W		○				
	IDGB-100M2PG-24-TP		2	00W		○				
	IDGB-100M4PG-24-TP		4	100W		○				
	IDGB-100M8PG-24-TP		8	100W		○				
	IDGB-50M2PG-24-TP-T	CE	2	46W		○			DC24V	
	IDGB-150M4PG-24-TP-T		4	144W		○				
	IDGB-150M8PG-24-TP-T		8	144W		○				
Digital PWM Controller ・Multifunctional controller with external trigger output function corresponding to the GenICam ・Programmable functions are also supported.	IDGC-50M2-TP	Under Development	2	50W	8bit Digital (256 Levels)	○	LAN	AC100～240V	DC12V	P.95
Analog PWM Controller ・Incorporates an external ON/OFF control terminal as standard specifications ・Controller's compact design allows installation in small spaces ・Dimmable from 0-100% with approximately 80kHz PWM control ・Semi-fixed volume H type is also available	IDPA-30M2	CE PSE	2	30W	Analog (0-100%)	○	—	AC100～240V	DC12V	P.96
	IDPA-50M6		6	50W		○				
	IDPA-100M6			100W		○				
Multi-Channel Constant Current Controller ・It is a Constant current controller that can connect directly to The IHV and IHVE series. ・As the maximum output current can be set independently for each channel in the range of 100 to 1000mA, it is possible to light the IHV series at 350mA and the IHVE, IBF, and IHVA-SP30 series at 700mA simultaneously. ・Available in a variety of external output control models (Analog 0-5V and 8-bit digital, RS-232C, RS-485, and LAN communications). ・Mountable to 35mm DIN rails and can be easily installed in and removed from various equipment and machines ・12V DC lightings also can be connected to equipped 12V DC output connectors (Restrictions apply to power consumption)	IDCA-1000M4-VI	CE PSE	4	—	8bit Digital (256 Levels)	○	0-5V Analog	AC100～240V	100～1000mA	P.97
	IDCA-1000M8-VI		8			○				
	IDCA-1000M4-PI		4			○	8bit			
	IDCA-1000M8-PI		8			○				
	IDCA-1000M4-S2		4			○	232C			
	IDCA-1000M8-S2		8			○				
	IDCA-1000M4-S4		4			○	485			
	IDCA-1000M8-S4		8			○				
	IDCA-1000M4-TP		4			○	LAN			
	IDCA-1000M8-TP		8			○				
Constant Current Controller for IDBB-LSRH ・Effective when using LED lighting with ultra-high-speed shutter cameras or high-speed clock line sensor cameras due to its Constant current controller	IMC-300M10-TP	CE PSE	10	300W (30W/CH)	10bit Digital (1000 Levels)	○	LAN	AC100～240V	—	P.98
	IMC-600M20-TP		20	600W (30W/CH)		○				
	IMC-1000M30-TP		30	1000W (30W/CH)		○				
Constant Voltage Controller ・Effective when using LED lighting with ultra-high-speed shutter cameras or high-speed clock line sensor cameras since It controls The output of lighting by varying the voltage.	IWDV-100S-24	CE PSE	1	100W	10bit Digital (1000 Levels)	○	LAN 10bit	AC100～240V	DC24V	P.99
	IWDV-240M2-24	Pending Approval	2	240W (120W/CH)		○				
	IWDV-300S-24	CE PSE	1	300W		○				
	IWDV-600M2-24		2	600W (300W/CH)		○				
	IWDV-300M1-24		1	300W		○				
	IWDV-120S-48		1	120W		○			DC48V	P.100
	IWDV-300S-48-C1		1	300W		○				
	IWDV-600S-48-C1		1	600W		○				
	IWDV-300SL-48-C1		1	300W	Analog (0-100%)	○	0-5V Analog	AC100～240V	DC48V	P.101
	IWDV-600SL-48-C1		1	600W		○				
Line Strobe Controller ・When switching lighting at high speed by line scan, lighting in the order of μs is possible.	ISC-300S-24	Pending Approval	1	300W	Control by Unit	○	LAN	Powered by control units	DC24V	P.102
Small Multi-Channel Overdrive Controller with LAN Control ・By releasing a larger current instantly, lights can be used up to 4 times brighter than when used as constant lighting ・More Compact than the conventional SAG controller ・The output control is adjustable in 256 levels from 6V to the set SAG value. ・Four connection ports that can also be controlled via Four computers	IJS-30M2-TP	CE	2	30W	8bit Digital (256 Levels)	—	LAN	AC100～240V	DC6～36V	P.103
	IJS-30M3-TP		3			—				
	IJS-30M4-TP		4			—				
	IJS-30M6-TP		6	40W		—				
	IJS-40M4-TP		4			—				
	IJS-40M8-TP		8			—				
Overdrive Controller for ISS series ・Two ISS series lightings of 1CH specification or one ISS series lighting of 2CH specifications can be connected	IJS-30M2-TP/SS	Pending Approval	2	30W	8bit Digital (256 Levels)	—	LAN	AC100～240V	DC10～36V	P.105
	ILS-40M2-PI/SS			40W		—	8bit	DC24V		P.106
Overdrive Controller ・Synchronization of the camera exposure timing and The LED light emission can be set easily for high-speed motion imaging applications. ・Light intensity: SAG overdrive up to 4 times more than constant light ・LED elements have low heat generation, which extends LED lifetimes and stabilizes light intensity ・Accepts almost all standard lighting	SAG-30M2-VI	CE	2	—	Analog (0-100%)	—	0-5V Analog	AC100～240V	DC12～36V	P.107
	SAG-30M2-PI	—			8bit Digital (256 Levels)	—	8bit			
Lighting Feedback Unit ・The intensity is automatically adjusted in response to light intensity changes to ensure Constant intensity. ・Corresponds to The entire visible light range from blue to red and standard lightings listed in The catalog ・Up to 4 units can be connected to one controller via HUB	IFBU-SET	—	1	—	By Setting	—	LAN	DC5V	—	P.108

Line Light

Line Light



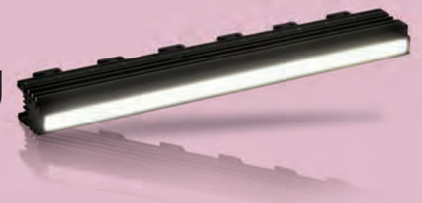
Series	IDBB-LSRF series	IDBB-LSRH series	IDBB-LSRA series	IDBB-LSRS series	IDBB-LSRC series	IDBA-RK series	IDBB-RE series
Product Image							
Illumination Type	Focused	Focused	Focused	Focused	Focused	Diffused Light	Diffused Light
Brightness	1,300,000lx WD=50mm With Condenser Lens 1,500,000lx	1,000,000lx WD=50mm With Condenser Lens 1,150,000lx	600,000lx WD=50mm With Condenser Lens 700,000lx	500,000lx WD=50mm	300,000lx WD=50mm With Condenser Lens 400,000lx	40,000lx WD=50mm 100,000cd/㎡	40,000lx WD=50mm 160,000cd/㎡
Light Emitting Surface (Length)	100mm×n Max. Length3,000mm	100mm×n Max. Length3,000mm	100mm×n Max. Length3,000mm	100mm×n Max. Length2,000mm	100mm×n Max. Length2,000mm	200mm×n Max. Length2,400mm	100mm×n Max. Length1,800mm
Output Control	Collective	In 100mm Increments	Collective	Collective	Collective	Collective	Collective
Air Cooling Method	Forced Air Cooling (Cooling Fan)	Natural Air Cooling	Natural Air Cooling	Natural Air Cooling	Natural Air Cooling	Natural Air Cooling	Natural Air Cooling
White Color Temperature	4,900K(typ)	4,900K(typ)	6,200K(typ)	5,700K(typ)	6,200K(typ)	4,900K(typ)	8,000K(typ)
Reference Page	P.13	P.14	P.15	P.16	P.17	P.18	P.19
Applicable Controller Series	IWDV-300S-48-C1 IWDV-600S-48-C1	IMC-300M10-TP IMC-600M20-TP IMC-1000M30-TP	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24 IWDV-240M2-24	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24 IWDV-240M2-24	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24 IWDV-240M2-24	IWDV-120S-48 IWDV-300S-48-C1 IWDV-300SL-48-C1	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24 IWDV-240M2-24
Product Image							
Output Control levels	1000 levels	1000 levels	1000 levels	1000 levels	1000 levels	No level, 1000 levels	1000 levels
Output Control Method	Constant Voltage	Constant Current	Constant Voltage	Constant Voltage	Constant Voltage	Constant Voltage	Constant Voltage
External Control	ON / OFF LAN / 10bit parallel	ON/OFF LAN	ON / OFF LAN / 10bit parallel	ON / OFF LAN / 10bit parallel	ON / OFF LAN / 10bit parallel	ON / OFF 0-5V Analog LAN / 10bit parallel	ON / OFF LAN / 10bit parallel
Reference Page	P.100	P.98	P.99	P.99	P.99	P.100-101	P.99

*The brightness data are reference value. They does not guarantee the quality of the product.
*White color temperature (typ) is a typical value. Please contact us for the details.

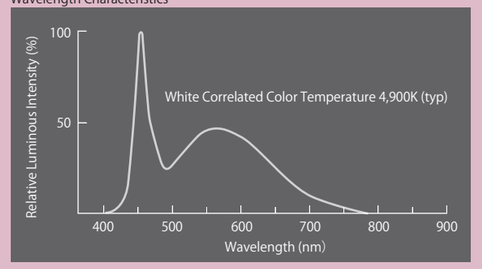
Illumination Type:Focused Light

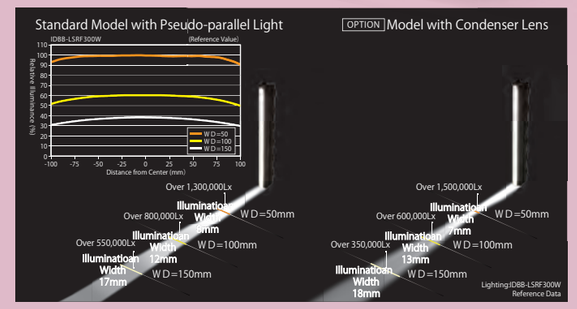
1,300,000Lx Line Light with Forced Air Cooling

IDBB-LSRF series



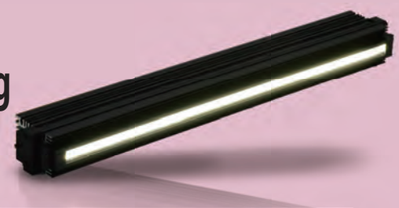
Wavelength Characteristics



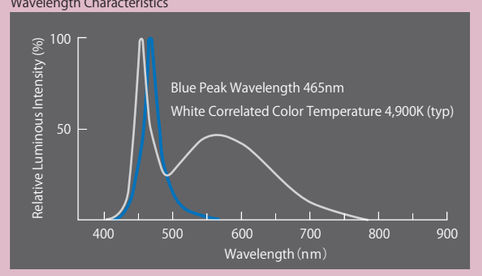


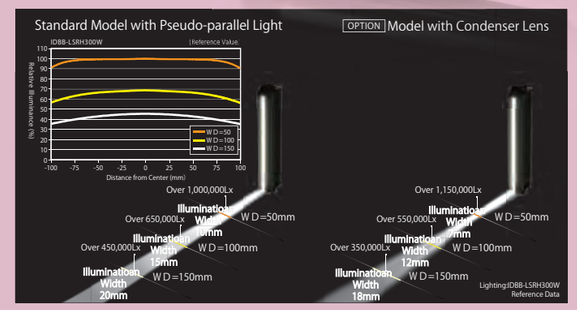
1,000,000Lx Line Light with Natural Air Cooling

IDBB-LSRH series



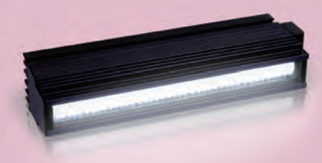
Wavelength Characteristics



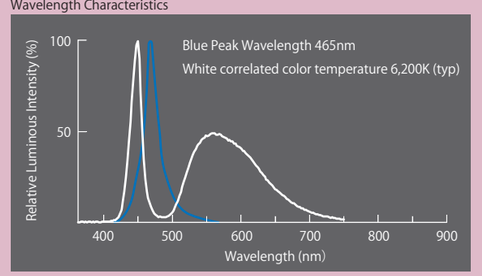


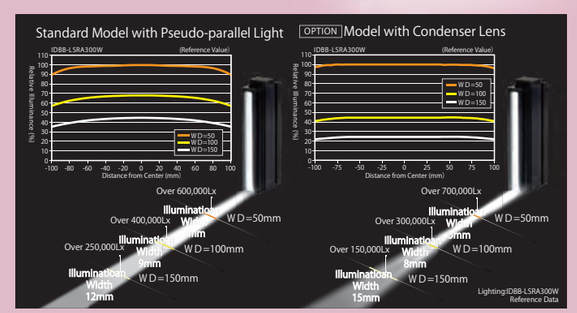
600,000Lx Brimax Line Light II

IDBB-LSRA series

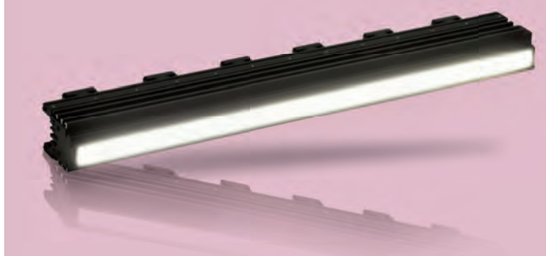


Wavelength Characteristics





Line Light



1,300,000Lx
Line Light with Forced Air Cooling

IDBB-LSRF series

Achieves a high intensityof over 1,300,000Lx

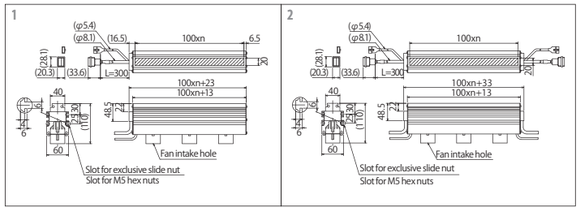
Capable of illuminating objects several dozen meters away

Special Optical Design | Forced Air Cooling | Power LEDs

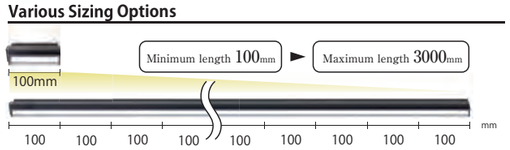
- A forced air cooling type is Available for The Brimax line light series
- Achieves a high Intensity of over 1,300,000Lx using forced air cooling
- Available in light emission sizes from 100 to 3,000mm in 100mm increments

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable controller	Drawing	
IDBB-LSRF100W	W	40	DC48V	IWDV-300S-48-C1 (P.100)	1	n=1
IDBB-LSRF200W	W	80				n=2
IDBB-LSRF300W	W	120				n=3
IDBB-LSRF400W	W	160				n=4
IDBB-LSRF500W	W	200				n=5
IDBB-LSRF600W	W	240				n=6
IDBB-LSRF700W	W	280				n=7
IDBB-LSRF800W	W	320		IWDV-600S-48-C1 (P.100)		n=8
IDBB-LSRF900W	W	360				n=9
IDBB-LSRF1000W	W	400				n=10
IDBB-LSRF1100W	W	440				n=11
IDBB-LSRF1200W	W	480				n=12
IDBB-LSRF1300W	W	520				n=13
IDBB-LSRF1400W	W	560				n=14
IDBB-LSRF1500W	W	600				n=15
IDBB-LSRF1600W	W	640		IWDV-600S-48-C1 2units (P.100)	2	n=16
IDBB-LSRF1700W	W	680				n=17
IDBB-LSRF1800W	W	720				n=18
IDBB-LSRF1900W	W	760				n=19
IDBB-LSRF2000W	W	800				n=20
IDBB-LSRF2100W	W	840				n=21
IDBB-LSRF2200W	W	880				n=22
IDBB-LSRF2300W	W	920				n=23
IDBB-LSRF2400W	W	960				n=24
IDBB-LSRF2500W	W	1000				n=25
IDBB-LSRF2600W	W	1040				n=26
IDBB-LSRF2700W	W	1080				n=27
IDBB-LSRF2800W	W	1120				n=28
IDBB-LSRF2900W	W	1160				n=29
IDBB-LSRF3000W	W	1200				n=30

*Please refer to P.124 for models of condenser lenses and diffusion plates.
*Optional condenser lens ILBB-□ and diffusion plate IKBB-LSR□ can be mounted. □ represents the size in 100mm increments. Condenser lens sizing from 100 to 1000mm and diffusion plate sizing from 100 to 1800mm are available. When ordering lighting, please specify whether a condenser lens or a diffusion plate should be installed or not. Please prepare or order a cable set for the length required. Diffusion plates are available with a transmissivity of 30%, 60%, 80%, or 90%.
*For connecting the lighting and controller, an extension cable and FAN operation cable are required. Please order a cable set of the desiered length.

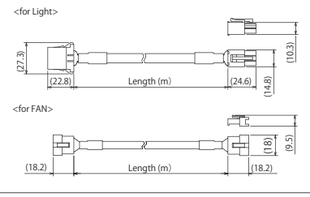


Various Sizing Options



Available in 100mm increments up to a maximum length of 3,000mm.

Extension cable and FAN operation cable set



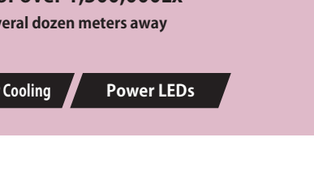
Model	長さ(m)
I-CB-S1-FSET-DNEL	1
I-CB-S2-FSET-DNEL	2
I-CB-S3-FSET-DNEL	3
I-CB-S5-FSET-DNEL	5
I-CB-S7-FSET-DNEL	7
I-CB-S10-FSET-DNEL	10

Avoid issues using the error detection function.

By using our exclusive controller IWDV,Lighting temperature abnormalities and Unconnected FAN units can be detected and by using an error signal issues can be quickly avoided.

Easy replacement of FAN unit

Each FAN unit mounted to the lighting is fixed with two screws which makes easy to replace when it needs a maintenance.



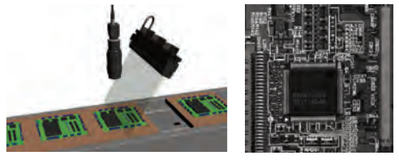
Controller (Voltage control)

IWDV-300S-48-C1
IWDV-600S-48-C1

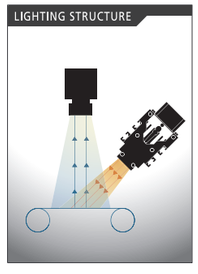
Output control: 1000 levels
External control: LAN, 10bit parallel

See P.100 for more details

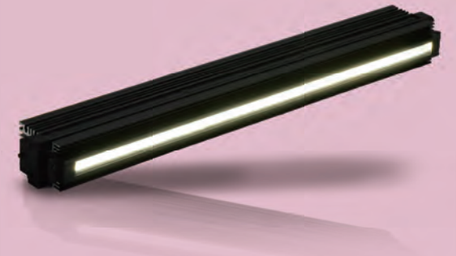
Object: PCB with Electronic Components



Light used: IDBB-LSRF300W



Line Light



1,000,000Lx
Line Light with Natural Air Cooling

IDBB-LSRH series

Achieves an industry-leading high intensity of over 1,000,000Lx using natural air cooling.

Capable of brightness adjustment in 100mm increments from a computer using an exclusive controller application.

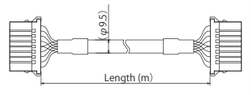
Special Optical Design | Natural Air Cooling | Power LEDs

- Achieves 1,000,000Lx at WD50mm using natural air cooling
- Capable of brightness adjustment in 100mm increments from a computer using an exclusive controller application.
- Available in light emission sizes from 100 to 3,000mm in 100mm increments

Model	Light Color		Power Consumption (W)	CH	Driving Method	Applicable controller	Drawing	
IDBB-LSRH100□	W	B	30	1CH	Constant Current	IMC-300M10-TP (P.98)	1	n=1
IDBB-LSRH200□	W	B	60	2CH				n=2
IDBB-LSRH300□	W	B	90	3CH				n=3
IDBB-LSRH400□	W	B	120	4CH				n=4
IDBB-LSRH500□	W	B	150	5CH				n=5
IDBB-LSRH600□	W	B	180	6CH				n=6
IDBB-LSRH700□	W	B	210	7CH				n=7
IDBB-LSRH800□	W	B	240	8CH				n=8
IDBB-LSRH900□	W	B	270	9CH				n=9
IDBB-LSRH1000□	W	B	300	10CH				n=10
IDBB-LSRH1100□	W	B	330	11CH		IMC-600M20-TP (P.98)	2	n=11
IDBB-LSRH1200□	W	B	360	12CH				n=12
IDBB-LSRH1300□	W	B	390	13CH				n=13
IDBB-LSRH1400□	W	B	420	14CH				n=14
IDBB-LSRH1500□	W	B	450	15CH				n=15
IDBB-LSRH1600□	W	B	480	16CH				n=16
IDBB-LSRH1700□	W	B	510	17CH				n=17
IDBB-LSRH1800□	W	B	540	18CH				n=18
IDBB-LSRH1900□	W	B	570	19CH				n=19
IDBB-LSRH2000□	W	B	600	20CH				n=20
IDBB-LSRH2100□	W	B	630	21CH		IMC-1000M30-TP (P.98)	3	n=21
IDBB-LSRH2200□	W	B	660	22CH				n=22
IDBB-LSRH2300□	W	B	690	23CH				n=23
IDBB-LSRH2400□	W	B	720	24CH				n=24
IDBB-LSRH2500□	W	B	750	25CH				n=25
IDBB-LSRH2600□	W	B	780	26CH				n=26
IDBB-LSRH2700□	W	B	810	27CH				n=27
IDBB-LSRH2800□	W	B	840	28CH				n=28
IDBB-LSRH2900□	W	B	870	29CH				n=29
IDBB-LSRH3000□	W	B	900	30CH				n=30

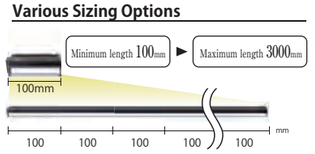
*□ represents light color (W=White, B=Blue).
*Please refer to P.124 for models of condenser lenses and diffusion plates. □ represents the size in 100mm increments.
*Optional condenser lens ILBBH-□ and diffusion plate IKBB-LSRH□ can be mounted. □ represents the size in 100mm increments. Condenser lens sizing from 100 to 1,000mm and diffusion plate sizing from 100 to 1,800mm are available. When ordering lighting, please specify whether a condenser lens or a diffusion plate should be installed or not. Diffusion plates are available with a transmissivity of 30%, 60%, 80%, or 90%.
*For connecting the lighting and controller, an extension cable is required. Please order a cable of the desired length.

Exclusive extension cable for IDBB-LSRH

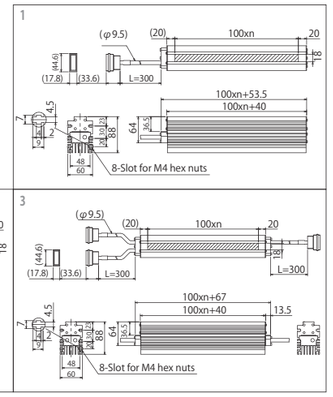


Model	Length (m)
I-CB-S1-HDN	1
I-CB-S2-HDN	2
I-CB-S3-HDN	3
I-CB-S5-HDN	5
I-CB-S7-HDN	7
I-CB-S10-HDN	10

Various Sizing Options



Available in 100mm increments up to a maximum length of 3,000mm.

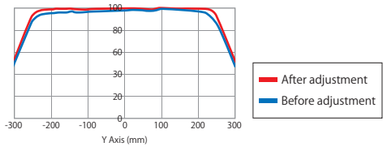


Capable of individual control in 100mm increments

By using the exclusive controller IMC series, individual control in 100mm increments is possible, allowing control for any situation. Furthermore, it is also equipped with an offset control that raises and lowers the maintained individual settings.

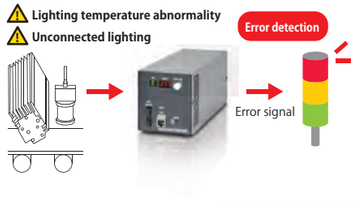
Controlling in 100mm increments

Capable of high uniform illumination using individual control.



Avoid issues using the error detection function.

By using our exclusive controller IMC,lighting temperature abnormalities and unconnected lighting can be detected and by using an error signal issues can be quickly avoided.



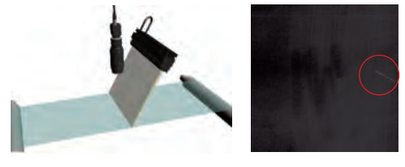
Controller (Current Control)

IMC series

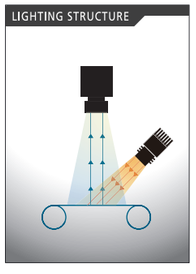
Output control: 1000 levels
(Capable of output control in 100mm increments.)
External control: LAN

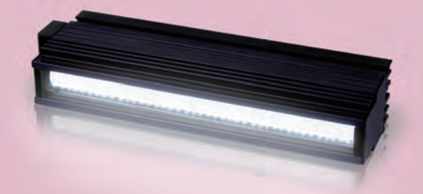
See P.98 for more details

Object: Surface inspection of films



Light used: IDBB-LSRH400W





600,000Lx
Brimax Line Light II

IDBB-LSRA series

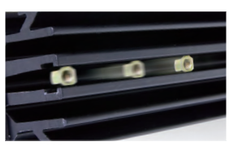
Special Optical Design | Natural Air Cooling | Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable controller	Drawing	
IDBB-LSRA100□	W B	20	DC24V	IWDV-100S-24 (P.99)	1	n=1
IDBB-LSRA200□	W B	40				n=2
IDBB-LSRA300□	W B	60				n=3
IDBB-LSRA400□	W B	80				n=4
IDBB-LSRA500□	W B	100				n=5
IDBB-LSRA600□	W B	120		IWDV-300S-24 (P.99)		n=6
IDBB-LSRA700□	W B	140				n=7
IDBB-LSRA800□	W B	160				n=8
IDBB-LSRA900□	W B	180				n=9
IDBB-LSRA1000□	W B	200				n=10
IDBB-LSRA1100□	W B	220				n=11
IDBB-LSRA1200□	W B	240				n=12
IDBB-LSRA1300□	W B	260				n=13
IDBB-LSRA1400□	W B	280				n=14
IDBB-LSRA1500□	W B	300				n=15
IDBB-LSRA1600□	W B	320		IWDV-600M2-24 (P.99)	2	n=16
IDBB-LSRA1700□	W B	340				n=17
IDBB-LSRA1800□	W B	360				n=18
IDBB-LSRA1900□	W B	380				n=19
IDBB-LSRA2000□	W B	400				n=20
IDBB-LSRA2100□	W B	420				n=21
IDBB-LSRA2200□	W B	440				n=22
IDBB-LSRA2300□	W B	460				n=23
IDBB-LSRA2400□	W B	480				n=24
IDBB-LSRA2500□	W B	500				n=25
IDBB-LSRA2600□	W B	520				n=26
IDBB-LSRA2700□	W B	540				n=27
IDBB-LSRA2800□	W B	560				n=28
IDBB-LSRA2900□	W B	580				n=29
IDBB-LSRA3000□	W B	600				n=30

*□ represents light color (W=White, B=Blue).
*Please refer to P.124 for models of condenser lenses and diffusion plates.
*Optional condenser lens ILBB-□ and diffusion plate IKBB-LSR□ can be mounted. □ represents the size in 100mm increments. Condenser lens sizing from 100 to1000 mm and diffusion plate sizing from 100 to1800 mm are available. When ordering lighting, please specify whether a condenser lens or a diffusion plate should be installed or not.
Diffusion plates are available with a transmissivity of 30%, 60%, 80%, or 90%.
*For connecting the lighting and controller, an extension cable is required.
Please order a cable of the desired length.
*Please refer to P.113 for I-CB-S■R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 7, 10)

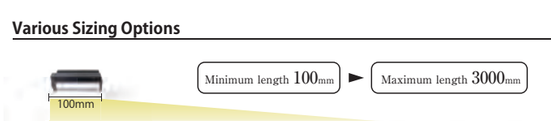
Easy installation according to your environment

Exclusive slide nut
Slot for M5, M4, and M3

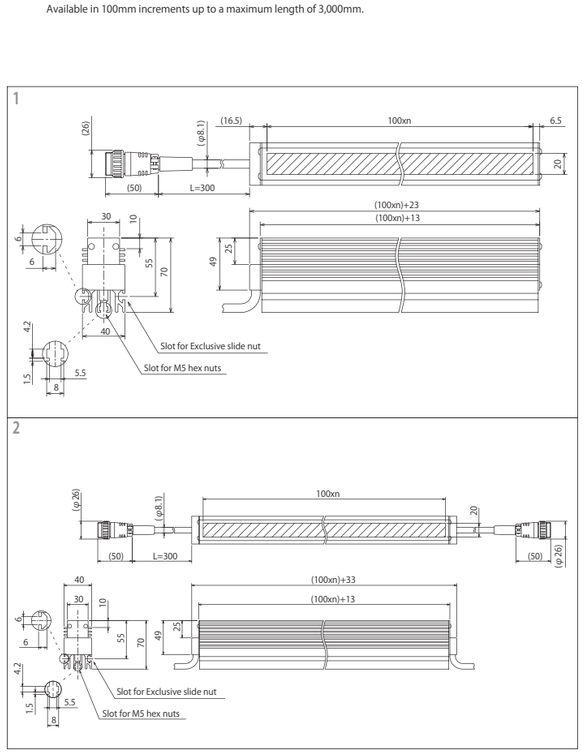


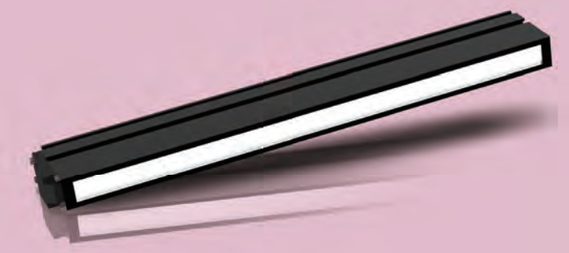
Slot for M5 hex nuts

Various Sizing Options



Available in 100mm increments up to a maximum length of 3,000mm.





Slim Line Light

IDBB-LSRS series

20㎜ streamlined case width
Space-saving slim line-lighting

Special Optical Design | Natural Air Cooling | Power LEDs | Design Registered

・Slim types are Available in our lineup
・Available in light emission sizes from 100 to 2000mm in 100mm increments

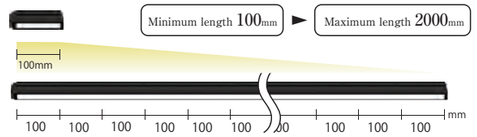
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controller	Drawing	
IDBB-LSRS100W	W	8	DC24V	IWDV-100S-24 (P.99)	1	n=1
IDBB-LSRS200W	W	16				n=2
IDBB-LSRS300W	W	24				n=3
IDBB-LSRS400W	W	32				n=4
IDBB-LSRS500W	W	40				n=5
IDBB-LSRS600W	W	48				n=6
IDBB-LSRS700W	W	56				n=7
IDBB-LSRS800W	W	64				n=8
IDBB-LSRS900W	W	72		IWDV-300S-24 (P.99)	2	n=9
IDBB-LSRS1000W	W	80				n=10
IDBB-LSRS1100W	W	88				n=11
IDBB-LSRS1200W	W	96				n=12
IDBB-LSRS1300W	W	104				n=13
IDBB-LSRS1400W	W	112				n=14
IDBB-LSRS1500W	W	120				n=15
IDBB-LSRS1600W	W	128				n=16
IDBB-LSRS1700W	W	136				n=17
IDBB-LSRS1800W	W	144				n=18
IDBB-LSRS1900W	W	152				n=19
IDBB-LSRS2000W	W	160				n=20

*Please refer to P.124 for models of diffusion plates.
*Optional diffusion plate IKBB-LSRS□ can be mounted. □ represents the size in 100mm increments.
Diffusion plate is available sizing from 100 to 1800mm. When ordering lighting, please specify whether a diffusion plate should be installed or not.
Diffusion plates are available with a transmissivity of 30%, 60%, 80%, or 90%.
*For lightings up to 70W of power consumption, please refer to P.112 for I-CB-S■-24 extension ables,
For lightings with over 70W of power consumption, please refer to P.113 for I-CB-S▼R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 10)
▼represents the length (m) of extension cables. (▼=1, 2, 3, 5, 7, 10)

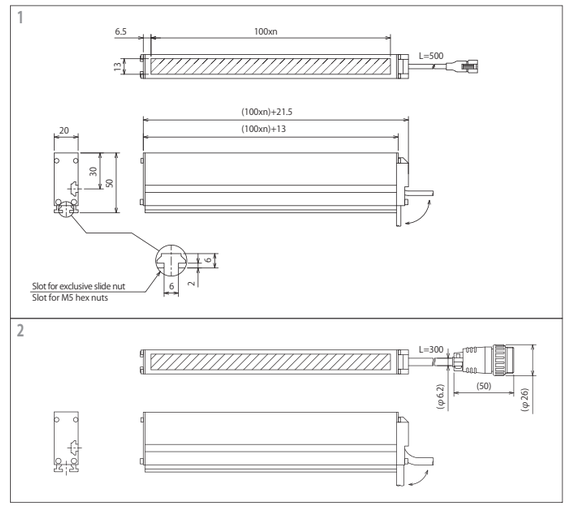
Significant downsizing

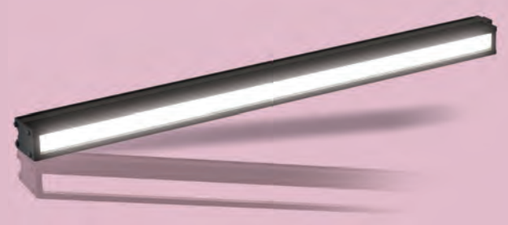
While maintaining an emission surface (short side) of 13mm, the size is greatly reduced to 20mm in width and 50mm in depth.
The volume is 35% and the thickness is half of the "IDBB-LSRA series."
Enable to installed in a narrow location, and to illuminate from angles close to the optical axis of the camera due to its slim size.

Various Sizing Options



・Available in light emission sizes from 100 to 3,000 mm in 100mm increments





Compact Line Light

IDBB-LSRC series

Line Light with smaller size, Light-weighted and Lower power

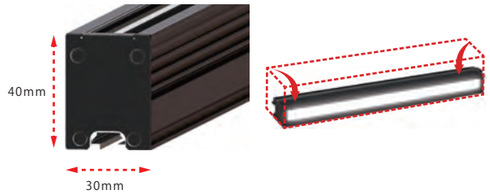
Special Optical Design | Natural Air Cooling | Power LEDs

- Compact types are Available in our lineup
- For parallel light type, available with the light emission sizes from 100 to 2,000 mm in 100 mm increments, for focused light type, from 100 to 1000 mm in 100 mm increments.

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controller	Drawing	
IDBB-LSRC100□	W B	9.5	DC24V	IWDV-100S-24 (P.99)	1	n=1
IDBB-LSRC200□	W B	19				n=2
IDBB-LSRC300□	W B	28.5				n=3
IDBB-LSRC400□	W B	38				n=4
IDBB-LSRC500□	W B	47.5				n=5
IDBB-LSRC600□	W B	57				n=6
IDBB-LSRC700□	W B	66.5				n=7
IDBB-LSRC800□	W B	76		IWDV-300S-24 (P.99)	2	n=8
IDBB-LSRC900□	W B	85.5				n=9
IDBB-LSRC1000□	W B	95				n=10
IDBB-LSRC1100□	W B	104.5				n=11
IDBB-LSRC1200□	W B	114				n=12
IDBB-LSRC1300□	W B	123.5				n=13
IDBB-LSRC1400□	W B	133				n=14
IDBB-LSRC1500□	W B	142.5				n=15
IDBB-LSRC1600□	W B	152				n=16
IDBB-LSRC1700□	W B	161.5				n=17
IDBB-LSRC1800□	W B	171				n=18
IDBB-LSRC1900□	W B	180.5				n=19
IDBB-LSRC2000□	W B	190				n=20

*□ represents light color(W=White, B=Blue).
*Please refer to P.124 for models of condenser lenses and diffusion plates.
*Optional condenser lens ILBB-□ and diffusion plate IKBB-LSR□ can be mounted.
□ represents the size in 100mm increments. Condenser lens sizing from 100 to 1000mm and diffusion plate sizing from 100 to 1800mm are available. When ordering lighting, please specify whether a condenser lens or a diffusion plate should be installed or not. Diffusion plates are available with a transmissivity of 30%, 60%, 80%, or 90%.
*For connecting the lighting over 800mm length and controller, an extension cable is required. Please order a cable for the length you need. Please order a cable of the desired length.
*For lighting with power consumption up to 70W, please refer to P.112 for I-CB-S■-24 extension cables. For lightings with power consumption over 70W, please refer to P.113 for I-CB-S▼R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 10)
▼represents the length (m) of extension cables. (▼=1, 2, 3, 5, 7, 10)

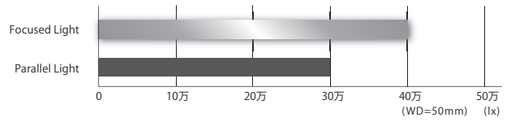
Significant downsizing

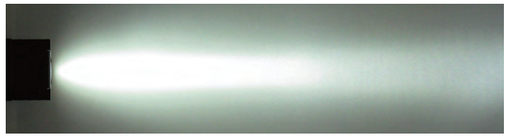


While keeping the emission surface (short side) of 18 mm, the size is greatly reduced to 30 mm in width, 40 mm in depth.
The housing size is 43% reduced and the weight is 42% reduced of "IDBB-LSRA series."
Enable to illuminate from angles close to the optical axis of the camera due to its slim size.

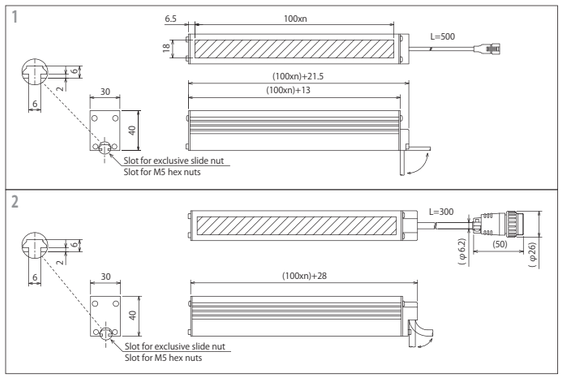
Brightness Comparison (Reference Value)

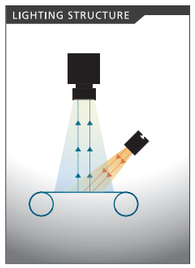
Selectable from the parallel light type as standards, and focused light type by installing an optional condenser lens.
By selecting the focused light type, the light intensity can be increased by approximately 33% compared to the parallel light type.





IDBB-LSRC400W
〈Illumination Image〉





Low Cost High Performance Line Light

IDBA-RK series

**Highly cost-effective model
Replaceable from fluorescent light**

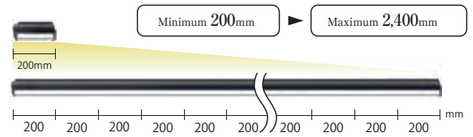
Natural Air Cooling | Power LEDs | Low Cost

- Smartly-priced high-performance line light by inheriting lighting our technologies
- Ideal for replacing fluorescent light for inspection
- Available in light emission sizes from 200 to 2,400 mm in 200 mm increments

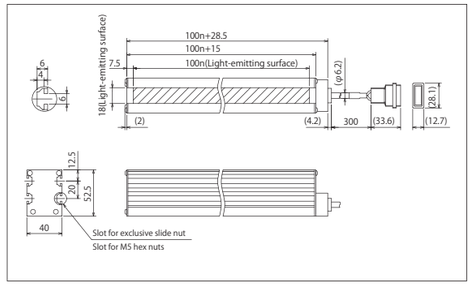
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controller	Drawing
IDBA-RK200W	W	19	DC48V	IWDV-120S-48(P.100)	n=2
IDBA-RK400W	W	38			n=4
IDBA-RK600W	W	57			n=6
IDBA-RK800W	W	76			n=8
IDBA-RK1000W	W	95			n=10
IDBA-RK1200W	W	114			n=12
IDBA-RK1400W	W	133		IWDV-300S-48-C1(Digital) IWDV-300SL-48-C1(Analog) (P.100・101)	n=14
IDBA-RK1600W	W	152			n=16
IDBA-RK1800W	W	171			n=18
IDBA-RK2000W	W	190			n=20
IDBA-RK2200W	W	209			n=22
IDBA-RK2400W	W	228			n=24

*For connecting the lighting and controller, an extension cable is required. Please order a cable of the desired length.
*Please refer to P.113 for extension cables I-CB-S■-DNEL.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 7, 10)

Wide-ranging size variations



Available in 200mm increments up to maximum length of 2,400mm.

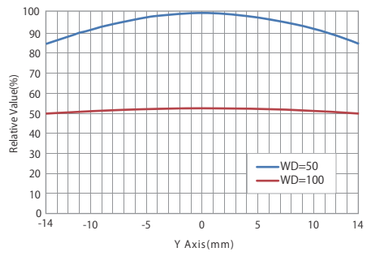


Film contaminants inspection

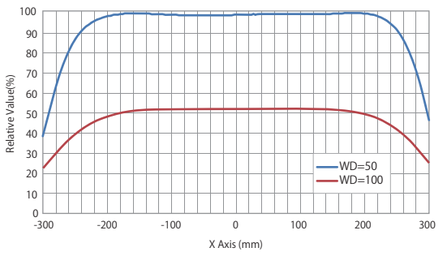
Light used: IDBA-RK200W
Object: Film

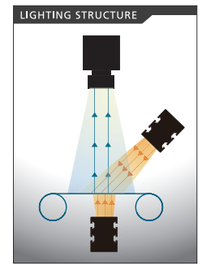
Illuminance Distribution Chart (Reference Value)

Center line in lateral direction(IDBA-RK600W)



Center line in longitudinal direction(IDBA-RK600W)





Briback Line Light II

IDBB-RE series

Transmissive Line Light

Available in 100 mm increments up to a maximum length of 1,800 mm

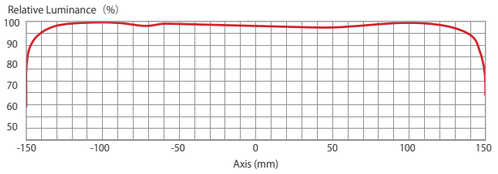
Natural Air Cooling | Power LEDs

Model	Light Color			Power Consumption (W)	Input Voltage	Applicable Controller	Drawing	
IDBB-RE100□	R	W	B	7	DC24V	IWDV-100S-24 (P.99)	1	n=1
IDBB-RE200□	R	W	B	14				n=2
IDBB-RE300□	R	W	B	21				n=3
IDBB-RE400□	R	W	B	28				n=4
IDBB-RE500□	R	W	B	35				n=5
IDBB-RE600□	R	W	B	42				n=6
IDBB-RE700□	R	W	B	49				n=7
IDBB-RE800□	R	W	B	56				n=8
IDBB-RE900□	R	W	B	63				n=9
IDBB-RE1000□	R	W	B	70				n=10
IDBB-RE1100□	R	W	B	77			2	n=11
IDBB-RE1200□	R	W	B	84				n=12
IDBB-RE1300□	R	W	B	91				n=13
IDBB-RE1400□	R	W	B	98				n=14
IDBB-RE1500□	R	W	B	105		IWDV-300S-24 (P.99)		n=15
IDBB-RE1600□	R	W	B	112				n=16
IDBB-RE1700□	R	W	B	119				n=17
IDBB-RE1800□	R	W	B	126				n=18

*□ represents light color(R=Red, W=White, B=Blue).
*Sizes other than those above are also available.
*For connecting the lighting over 1100mm length and controller, an extension cable is required. Please order a cable of the desired length.
*For lightings up to 70W of power consumption, please refer to P.112 for I-CB-S■-24 extension cables, For lightings with over 70W of power consumption, please refer to P.113 for I-CB-S▼R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 10)
▼represents the length (m) of extension cables. (▼=1, 2, 3, 5, 7, 10)

Luminance Distribution Chart (Reference Value)

Center line in longitudinal direction(IDBB-RE300W)



Significant downsizing

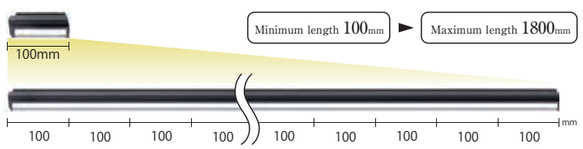
A major overhaul of the heat dissipation structure and an optical design made a compact design of length 30mm × 30mm in width possible.

The volume ratio is reduced by 60% compared to our conventional products. The mass ratio is reduced by 50%.

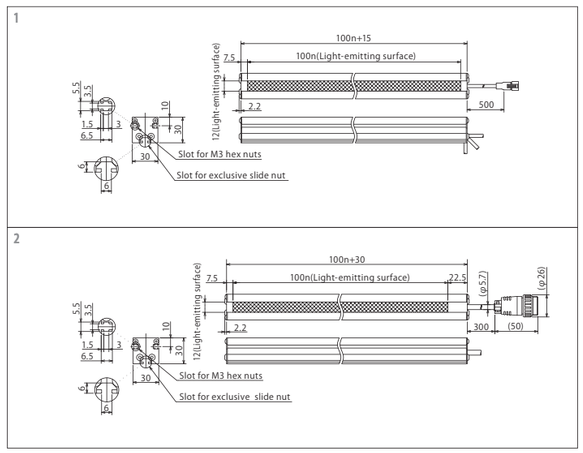
The cable outlet direction is 90° moble.

Due to the cable outlet's 90°movability, the cable can be easily adjusted in a small installation space.

Wide-ranging size variations

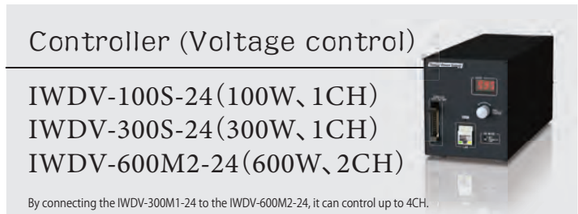


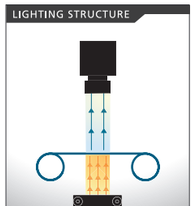
Available in 100 mm increments up to maximum length of 1,800 mm.



Easy installation according to your environment

A slide nut structure is used.





Half-pipe Light for Line Camera

IQDH-LSR series

Dome type lighting with high intensity and high uniformity for line scan camera
The light for line scan camera

Natural Air Cooling | Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controller	Drawing
IQDH-LSR100W-C02	W	14W×2	DC24V	IWDV-100S-24 IWDV-300S-24 (P.99)	1
IQDH-LSR200W-C02	W	28W×2			2
IQDH-LSR300W-C02	W	42W×2			3
IQDH-LSR400W-C02	W	56W×2			4

*Sizes other than those above are also available in 100 mm increments. Please contact our sales representative for details.
*For connecting the lighting and controller, two extension cables are required. Please order two cable of the desired length.
*When using with IWDV-100S-24, 2 extension cables of I-CB-S■R-MCBSM are required.
*Please refer to P.113 for I-CB-S■R-MCB extension cables.
■ represents the length (m) of extension cables. (▼=1, 2, 3, 5, 7, 10)

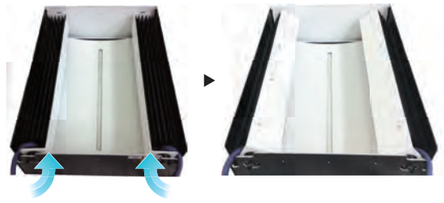
Large lighting opening gives a superior dome effect

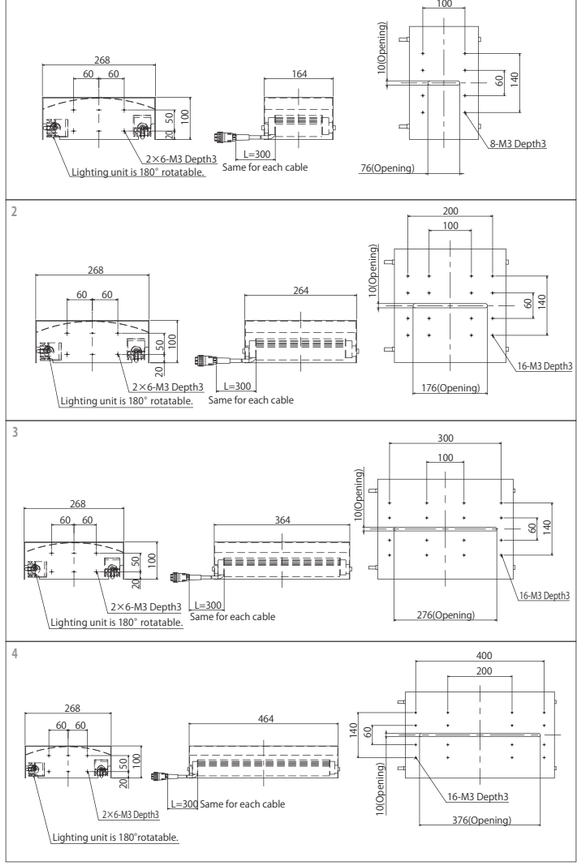
Approx. 160 mm of the lighting opening allows illumination from all the direction, which achieves superior dome effect at close distance. Higher dome effect can still be obtained even from a relatively far distance compared with the other dome type lighting for a line scan camera.

Lighting inner surface

Adjustable diffusion light angle for your inspection content

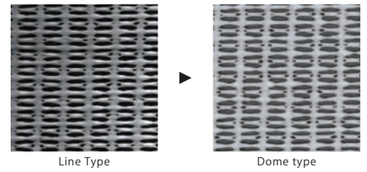
When needing the light of intensity-oriented or diffusion-oriented, the light can be adjusted due to its mechanism which makes the light source section adjustable from 0-180°. Changing the illumination shape depending on the inspected object is not necessary because of its excellent versatility.

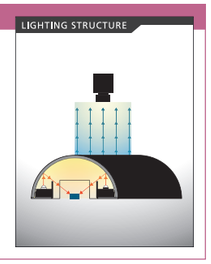




Effect

The dome effect clears out the shadow of irregularity and enables uniform imaging.

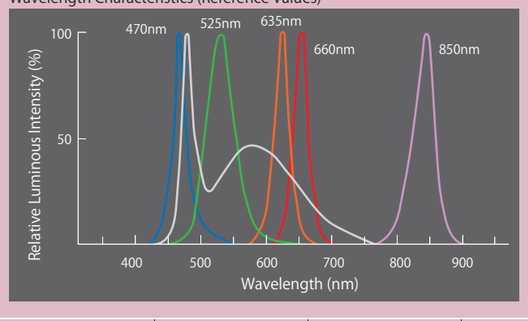




Ring Light

Ring Light

Wavelength Characteristics (Reference Values)



Series	IMAR-8ch series	IMAR series	IMAR-WP series	IMAR-CT series	IHR-LE series	IHRA series
Product Image						
Min. outer diameter	φ80mm	φ55mm	φ90mm	φ55mm	φ90mm	φ66mm
Max. outer diameter	φ200mm	φ250mm	φ140mm	φ200mm	-	φ353mm
Inspection field of view	Narrow to medium to wide	Narrow to medium to wide	Narrow to medium to wide	Narrow to medium to wide	Narrow to medium to wide	Medium to wide
Working Distance (Between Light and Object)	Short to Medium to Long	Short to Medium to Long	Short to Medium to Long	Short to Medium to Long	Short to Long	Medium to Long
Light Color	Red / White / Blue	Red / White / Blue	Red / White / Blue	Red / White / Blue	Red / White / Blue / Infrared	Red / White / Blue
White Color Temperature	6,500K(typ)	6,500K(typ)	6,500K(typ)	6,500K(typ)	4,900K(typ)	4,900K(typ)
Reference Page	P.22	P.23・24	P.24	P.25・26	P.27	P.28

Series	IDR-F series	IDR-F33/16 series	IDR series	IDR-LA series	IDRA-T series	IFR series	IPR series
Product Image							
Min. outer diameter	φ43mm	φ33mm	φ32mm	φ40mm	φ78mm	φ100mm	φ100mm
Max. outer diameter	φ110mm	-	φ140mm	φ200mm	φ450mm	φ150mm	φ180mm
Inspection field of view	Medium to wide	Narrow	Narrow to medium to wide	Narrow to medium to wide	Narrow to medium to wide	Medium to wide	Medium to wide
Working Distance (Between Light and Object)	Medium to Long	Short	Short to Medium to Long	Short to Medium	Short	Medium to Long	Short
Light Color	Red / White / Blue / Green	Red / White	Red / White / Blue / Green	Red / White / Blue / Green	Red / White / Blue / Green	Red / White / Blue / Green	Red / White / Blue / Green
White Color Temperature	7,000K(typ)	7,000K(typ)	7,000K(typ)	7,000K(typ)	7,000K(typ)	7,000K(typ)	7,000K(typ)
Reference Page	P.29	P.30	P.31	P.32	P.33	P.34	P.34

*Color temperature (typ) is a typical value. Please contact us for the details.

Multi-position Ring Light

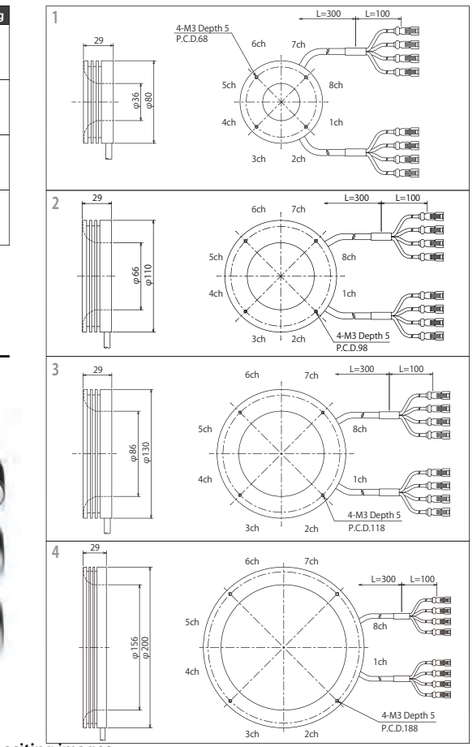
IMAR-8ch series

Multi-channel model that can illuminate from 8 segments
Ideal for visual inspection of irregularity objects.

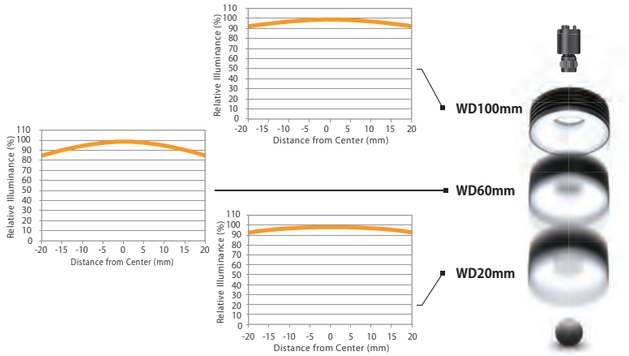
24V DC Models are available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable controllers	Drawing
IMAR-80□-8ch	AR	7	DC12V	A9/Each ch	IDGB-M8series（Continuous lighting）(P.91) IJS-40M8-TP（Overdrive Lighting）(P.103)	1
	W	8		CB/Each ch		
	B	8		95/Each ch		
IMAR-110□-8ch	AR	12		70/Each ch		2
	W	13.5		91/Each ch		
	B	13.5		6F/Each ch		
IMAR-130□-8ch	AR	14		A9/Each ch		3
	W	16		D8/Each ch		
	B	16		9E/Each ch		
IMAR-200□-8ch	AR	24		71/Each ch		4
	W	24		92/Each ch		
	B	24		70/Each ch		

*□ represents light color (AR=Red, W=White, B=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



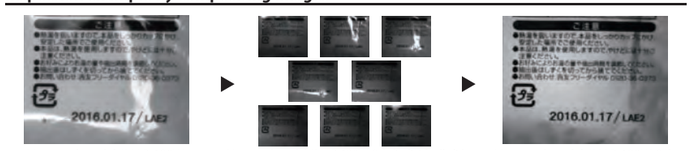
Illuminance Distribution Chart (Reference Values) IMAR-80W



Switching to high-speed illumination enables inspection with more detail

By combining with the overdrive controller IJS-40M8-TP (P.103), it becomes able to swich illumination rapidly from 8 directions.

Inspection example by compositing images



Measured model: IMAR-130W | Measured model: IMAR-130W-8ch (individually lit) | Measured model: IMAR-130W-8ch

By compositing images captured individually with the illumination from eight directions, it reduces halation.

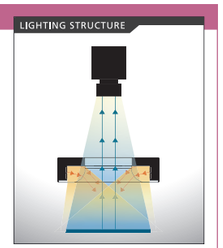
Effect

Enable to detect invisible defect that cannot be detected with omnidirectional irradition.

Omnidirectional illumination illuminates the entire area uniformly, so scratches cannot be detected.

The scratches cannot be emphasized even with the illumination from the same direction as the scratches.

The scratch can be emphasized and detected by irradiating perpendicularly to the direction of the scratch.



Multi-position Ring Light

IMAR series

Highly versatile lighting by changing illumination distance
New release of models with high intensity

IP67 Standard-Compliant Dust & Waterproof Model Available | 24V DC Models Available | NEW

High-Intensity Specification

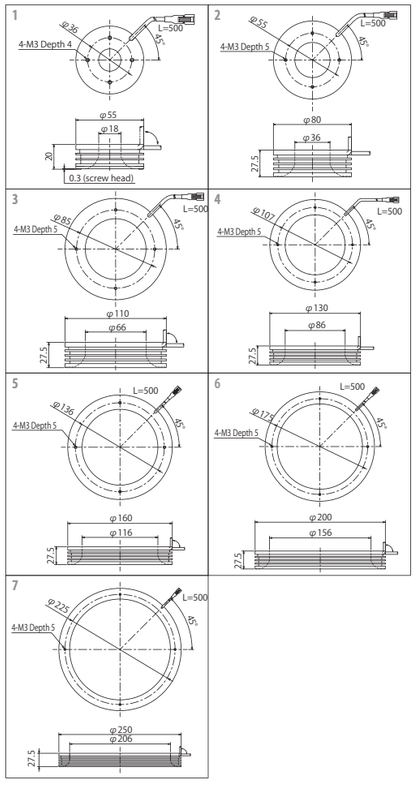
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-55□	DR	5	DC12V	D3	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW	6		B8		
	DB	5.5		A6		
IMAR-80□	DR	10		AC		2
	DW	11		A0		
	DB	10		8F		
IMAR-110□	DR	15		AF		3
	DW	17		A4		
	DB	15		92		
IMAR-130□	DR	18		A9		4
	DW	20		9D		
	DB	18		8C		
IMAR-160□	DR	23		AC		5
	DW	25		A2		
	DB	23		91		
IMAR-200□	DR	29		A6		6
	DW	30		A6		
	DB	29		95		
IMAR-250□-HV	DR	40	DC24V	-	ILP-60M2-24 (P.83) IDGB series (P.91)	7
	DW	45				
	DB	40				

*□ represents light color (DR=Red, DW=White, DB=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Standard Specifications (Scheduled to be discontinued in January 2021)

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-55■	AR	4.5	DC12V	95	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	W	4.5		C2		
	B	4.5		C5		
IMAR-80■	AR	8.5		7F		2
	W	8		AC		
	B	8		AE		
IMAR-110■	AR	12		87		3
	W	13.5		AC		
	B	13.5		AE		
IMAR-130■	AR	14.5		80		4
	W	16		A6		
	B	16		A9		
IMAR-160■	AR	20		7A		5
	W	20		A5		
	B	20		79		
IMAR-200■	AR	24		7E		6
	W	24		AA		
	B	24		B2		
IMAR-250■	AR	28.8		8C		7
	W	28.8		BA		
	B	28.8		85		

*■ represents light color (AR=Red, W=White, B=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Functional Characteristics

FEATURES

High-intensity LEDs are mounted in high density

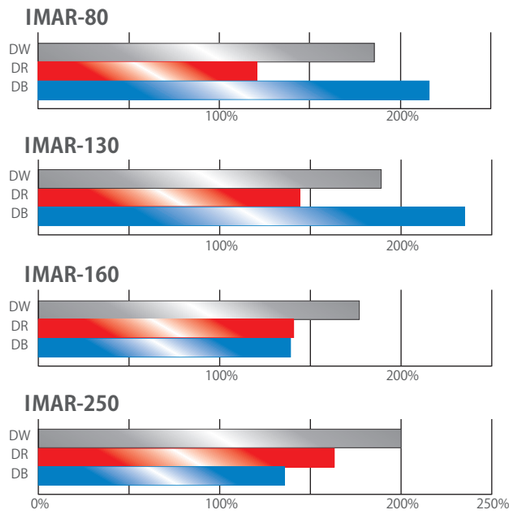
High-intensity power LEDs are in high densely to provide extremely bright and uniform ring lighting. In addition, by adopting a special diffusion plate, it can illuminate diffused light without reflecting the LED element.

Heat-dissipating fins

An original heat-dissipating structure provides drastically improved heat dissipation.

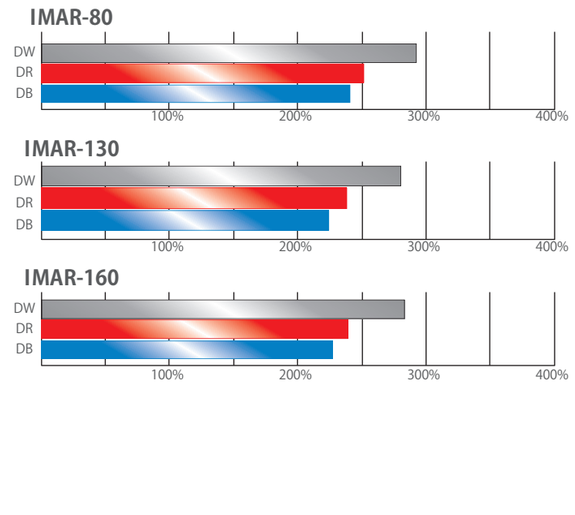
Comparison of Brightness with Conventional Products (Reference Values) Compared with standard specifications as 100%

Illumination with 1.2 to 2.3 times of the brightness compared to conventional products.



Comparison of Light Intensity by Overdriving (Reference Values) Compared with Continuous lighting as 100%

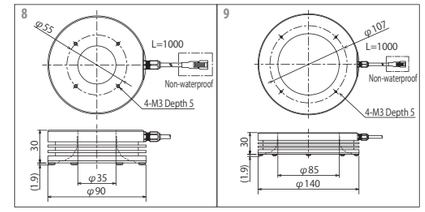
It is able to obtain 2.2 to 3.6 times the light intensity by overdriving.



Dustproof, Waterproof, and High intensity Specifications (IP 67 compliant)

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-90■-WP	DR	10	DC12V	AC	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	8
	DW	11		A0		
	DB	10		8F		
IMAR-140■-WP	DR	18		A9		9
	DW	20		9D		
	DB	18		8C		

*■ represents light color (DR=Red, DW=White, DB=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



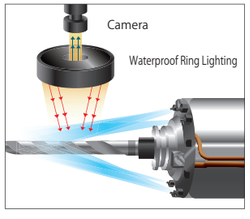
Dustproof and Waterproof Specifications (IP 67 compliant)

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-90■-WP	AR	8.5	DC12V	7F	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	8
	W	8		AC		
	B	8		AE		
IMAR-140■-WP	AR	14.5		80		9
	W	16		A6		
	B	16		A9		

*■ represents light color (AR=Red, W=White, B=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

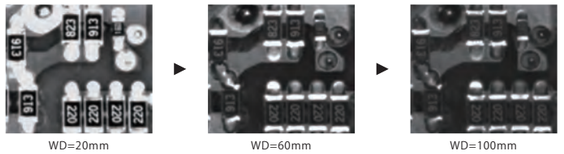
IP Code

The first digit "6" indicates the following degree of protection against solid objects.
・Dust tight
The second digit "7" indicates the following degree of protection against water.
・Not subject to harmful effects even if immersed in water under defined conditions of pressure and time
・Able to be fully submerged for 30 minutes at depths up to 1m (in cases of the device being shorter than 850mm).



Effect

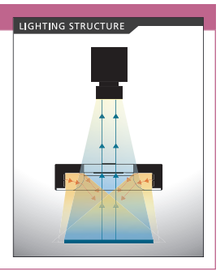
Lighting effects are altered by changing lighting height. Light Used: IMAR-80W



WD=20mm
Printing is emphasized clearly.

WD=60mm
Wiring pattern and electrodes are emphasized.

WD=100mm
Only the electrodes are emphasized.

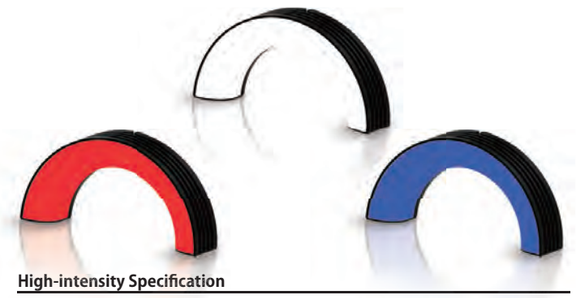


Multi-position Ring Light

IMAR-CT series

Lighting that matches the object shape and installation environment
New release of models with high intensity

24V DC Models Available NEW



High-intensity Specification

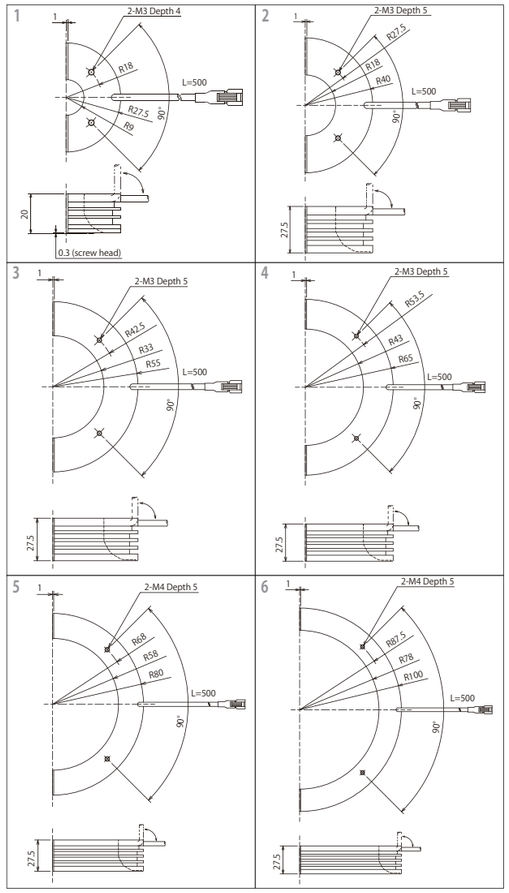
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-CT55□	DR	2.8	DC12V	B6	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	1
	DW	3.3		A3		
	DB	3.3		8C		
IMAR-CT80□	DR	6		8E		2
	DW	6.6		8C		
	DB	6.6		78		
IMAR-CT110□	DR	8		92		3
	DW	9.3		88		
	DB	9.3		7A		
IMAR-CT130□	DR	10		8E		4
	DW	11.5		87		
	DB	11.5		7B		
IMAR-CT160□	DR	12.5		91		5
	DW	14		8D		
	DB	14		7A		
IMAR-CT200□	DR	16		99		6
	DW	17.5		96		
	DB	17.5		82		

*□ represents light color (DR=Red, DW=White, DB=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Standard Specifications (Scheduled to be discontinued in January 2021)

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IMAR-CT80■	AR	4.3	DC12V	75	ILP-30M2(P.85) IDGB series(P.93) Overdrive controllers, etc.	2
	W	4		9D		
	B	4		77		
IMAR-CT130■	AR	7.3		79		4
	W	8		9B		
	B	8		75		

*■ represents light color (AR=Red, W=White, B=Blue).
This model has 12V DC input voltage, but 24V DC models are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Functional Characteristics

FEATURES

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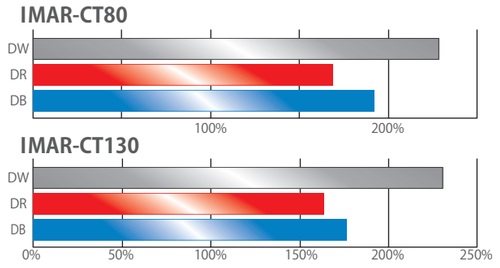
High-intensity power LEDs are in high densely to provide extremely bright and uniform ring lighting. In addition, by adopting a special diffusion plate, it can illuminate diffused light without reflecting the LED element.

Heat-dissipating fins

An original heat-dissipating structure provides drastically improved heat dissipation.

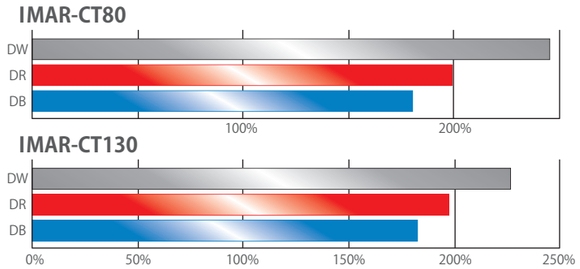
Comparison of Brightness with Conventional Products (Reference Values) Compared with standard specifications as 100%

Illumination with 1.6 to 2.3 times the brightness compared to conventional products.

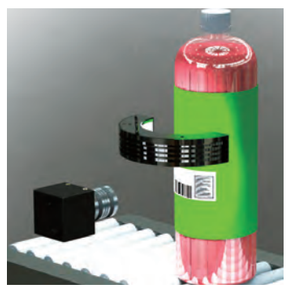


Comparison of Light Intensity by Overdriving (Reference Values) Compared with Continuous lighting as 100%

It can obtain 1.8 to 2.4 times the light intensity by overdriving.

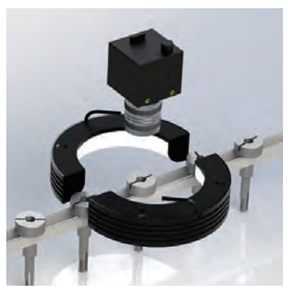


Application Examples



Printing recognition on conveying objects

Suitable for recognizing printed bar codes and such on the curved surface of cylindrical bottles, etc.

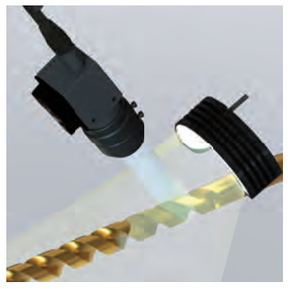


Inspection for conveying objects

Suitable for inspections at closer ranges to the object without the lighting interfering with the conveyor

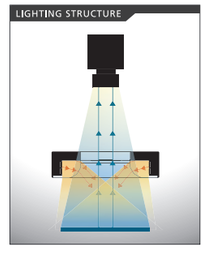
Shape recognition of bottle mouth, cap, etc.

Suitable for recognizing shapes with spiral processing



Inspection for cylindrical objects

Suitable for surface defects and shape recognition of wear and deformations on cylindrical objects



Ring Light

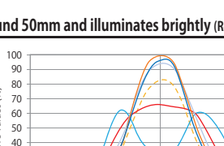
B′C Ring Light

IHR-LE series

Available with short distance focused illumination type and long distance direct illumination type

Vibration- and shock-resistant design

Vibration-Resistant | Shock-Resistant | Power LEDs | 24V DC Models Available

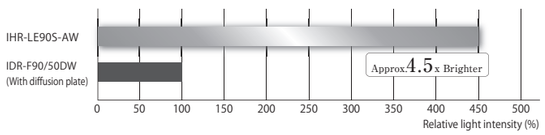


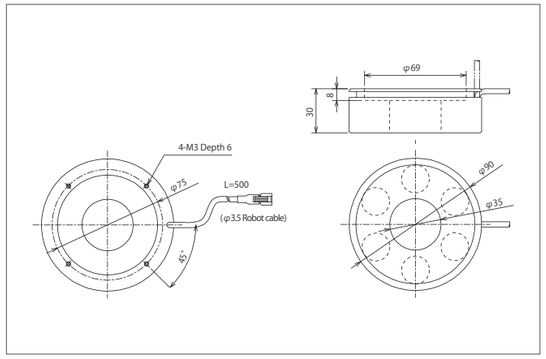
Vibration- and shock-resistant design enables use on moving part such as robot arms.
A sample application to support settings is available on our website.

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers
IHR-LE90□-■	R	10.5	DC12V	92	ILP‐30M2 (P.83) IDGB series (P.91) IPPA/IPSA series (P.89) Overdrive controllers, etc.
	AW			C6	
	B			7E	
	IR(850)			BA	
IHR-LE90C50-■	R	10.5		92	
	AW			C6	
	B			7E	
	IR(850)			BA	
IHR-LE90C100-■	R	10.5		92	
	AW			C6	
	B			7E	
	IR(850)			BA	

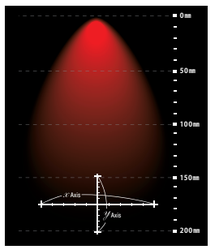
*□ represents S (wide-angle light distribution) or L (narrow-angle light distribution).
*■ represents light color (R=Red, AW=White, B=Blue, IR-850=Infrared).
*C50=focused at 50mm type, and C100=focused at 100mm type.
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*A polarizing plate can be attached.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

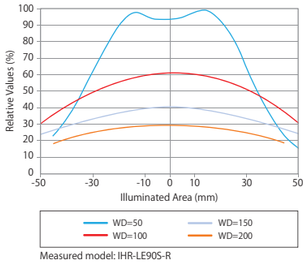
Brightness Comparison (Reference Values of WD at 100mm)





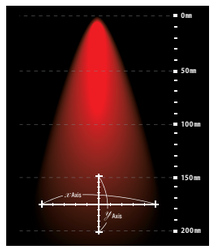
S type Wide-angle light distribution - Illuminates wide area at close range (Reference Values)

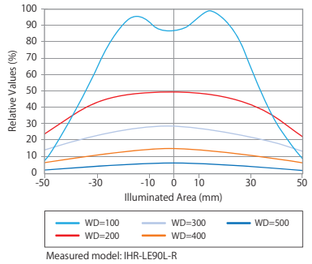




Measured model: IHR-LE90S-R

L type Narrow-angle light distribution - Illuminates long distance brightly (Reference Values)



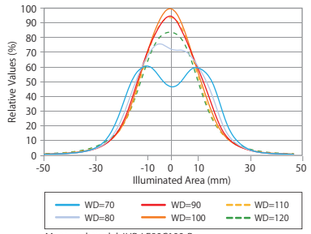


Measured model: IHR-LE90L-R

Short focus C50 type: Focused at around 50mm and illuminates brightly (Reference Values)

Measured model: IHR-LE90C50-R

Short focus C100 type: Focused at around 100mm and illuminates brightly (Reference Values)



Measured model: IHR-LE90C100-R

Ring Light

NEO Ring Light

IHRA series

Ring light with high-illuminance and wide-area illumination

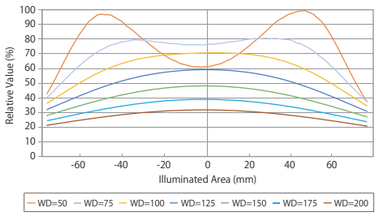
Available from φ60 to φ350

Power LEDs | 24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IHRA-60□S	R	6.5	DC12V	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	AW					
	B					
IHRA-80□S	R	9		FF		2
	AW					
	B					
IHRA-120□S	R	13.5		FF		3
	AW					
	B					
IHRA-150□S	R	18		FF		4
	AW					
	B					
IHRA-220□S	R	28.5		FF		5
	AW			C3		
	B			BC		
IHRA-270□HVS	R	34	DC24V	—	ILP-60M2-24 (P.83) IDGB-24 series (P.91)	6
	AW			—		
	B			—		
IHRA-350□HVS	R	44		—		7
	AW			—		
	B			—		

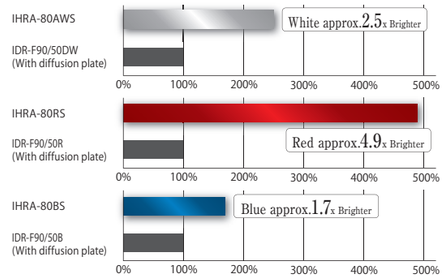
*□ represents light color (R=Red, AW=White, B=Blue).
*This model has 12V DC input voltage, but 24V DC models are also available.
*The diffusion plate is removable. An optional polarizing plate can be attached.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.

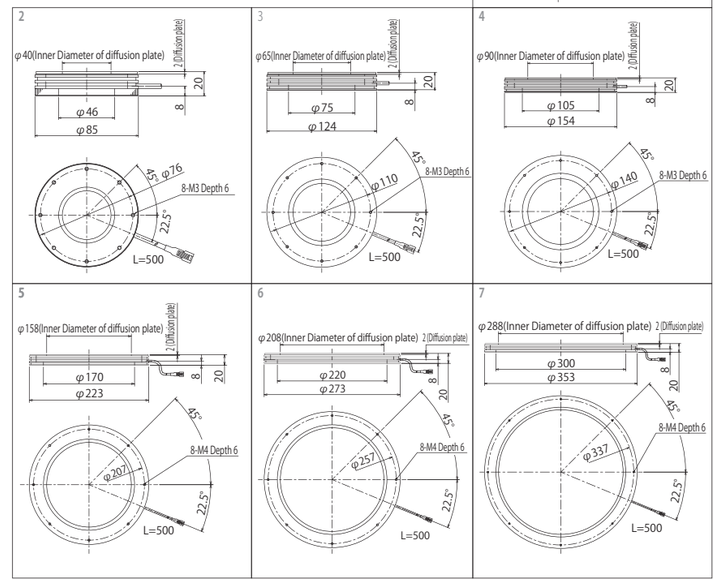
Illuminance Distribution Chart (Reference Values)



Measured model: IHRA-150AWS

Brightness Comparison with Conventional Products (Reference Values) (WD=50mm)

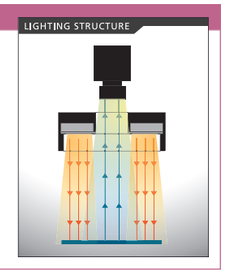




Effect

Example image of large object illuminated from a distance of over 600mm. A wide area is uniformly illuminated.

IDR-90/50DW | IHRA-350AWHVS | IDR-90/50DW | IHRA-350AWHVS



Ring Light

Flat Direct Ring Light

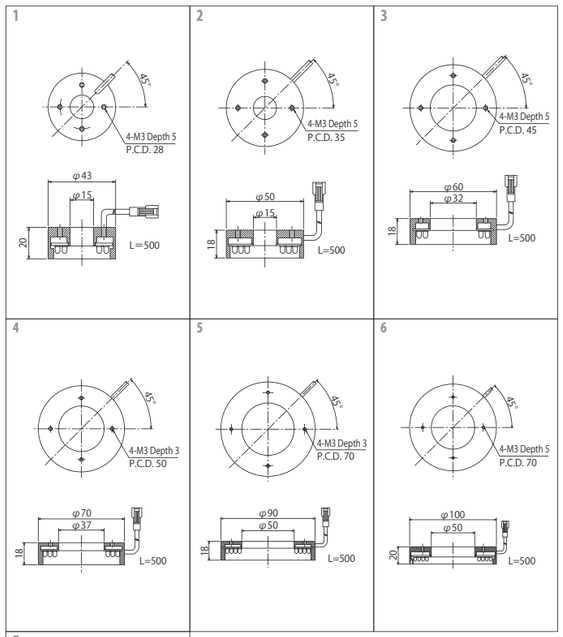
IDR-F series

Wide range uniform illumination with LEDs mounted on a flat surface

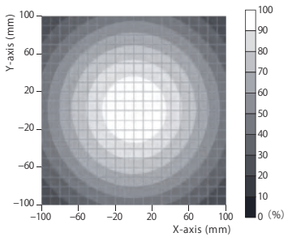
24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IDR-F43/15□	DR	1.8	DC12V	C6	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	2.2		FF		
IDR-F50/15□	DR	3.1		DA		2
	DW B G	3.3		FF		
IDR-F60/32□	DR	3.6		C7		3
	DW B G	3.6		FF		
IDR-F70/37□	DR	4.9		D4		4
	DW B G	5.6		FF		
IDR-F90/50□	DR	7.3		F0		5
	DW B G	6.2		FF		
IDR-F100/50□	DR	8.5		FF		6
	DW B G	6.5		FF		
IDR-F110/60□	DR	12.1		E1		7
	DW B G	9.6		FF		

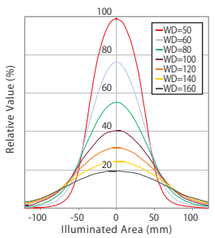
*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*Optional diffusion plate and polarizer can be attached.
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Illuminance Distribution Chart (Reference Values)



Excellent uniform illumination even at long working distances.
Measured model: IDR-F110/60DW
WD：200mm

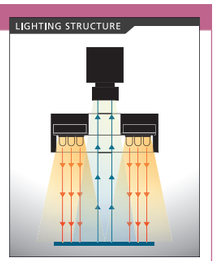


Since the LED is mounted parallel to the object surface, a wide uniform area can be secured.
Measured model: IDR-F70/37DW

Effect

A wide area can be imaged by flat illumination from the top.

IDR-90/50DW ▶ IDR-F90/50DW　　IDR-90/50DR ▶ IDR-F90/50DR



Ring Light

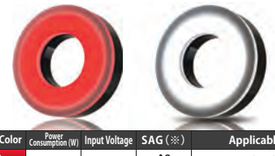
Flat Direct Ring Light

IDR-F33/16 series

Ultra Thin Rring Lighting

Attachable on telecentric lens with φ16mm outer diameter.

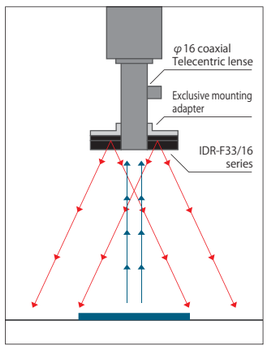
*Recommended WD: 40mm and 65mm



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable controllers	Drawing
IDR-F33/16RS	R	2	DC12V	A8	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDR-F33/16WS	W			D3		

*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Compact, Lightweight Design



The thin design with a thickness of only 8mm (including 2mm diffusion plate) can significantly reduce the installation space.
Suitable design for coaxial telecentric lens with φ16mm outer diameter.

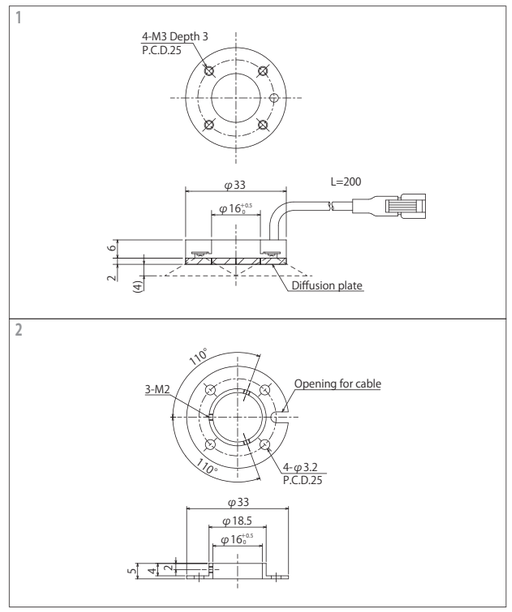
Dedicated Adapter

Model	Applicable Light	Drawing
IHL-33/16-5	IDR-F33/16 series	2

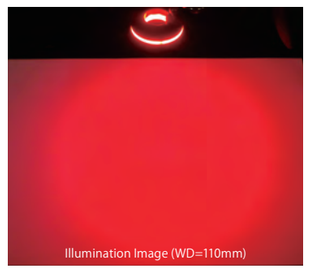
This adapter can be used to fix the IDR-F33/16 series and φ16 telecentric lens.

Exclusive polarizing plate

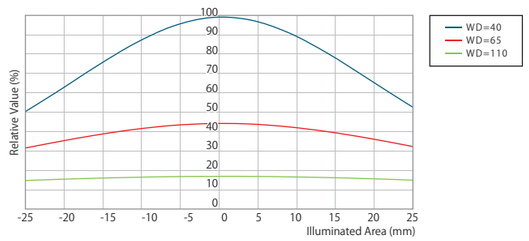
Model	Applicable Light
IKR-F33/16-PL	IDR-F33/16 series



High Output Illumination for a Wide Range



The field of view of telecentric lens from WD40mm to 110mm can be illuminated uniformly.

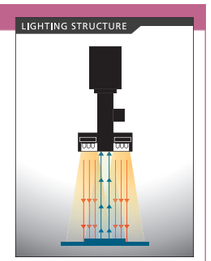


Effect

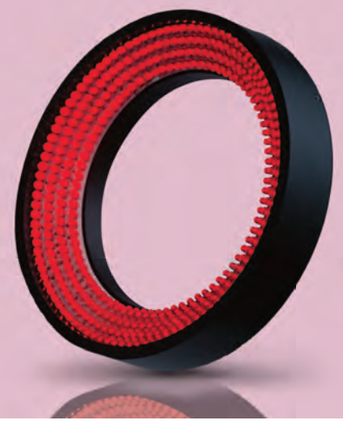
High contrast imaging is possible by combining a coaxial spot light and ring light
Applications: Alignment mark, QR code, Inspection of Character, Electronic Component, Semiconductor, etc.

Magnification X1 WD 65mm　　Magnification X2 WD 40mm

Object: PCB (Lands) ▶ Coaxial Spot Light ▶ IDR-F33/16WS　　Object: Resistance (Character) ▶ Coaxial Spot Light ▶ IDR-F33/16WS



Ring Light

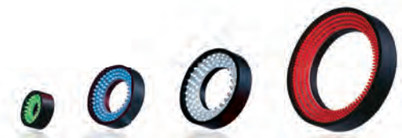


Direct Ring Light

IDR series

General purpose ring light for a variety of visual inspections

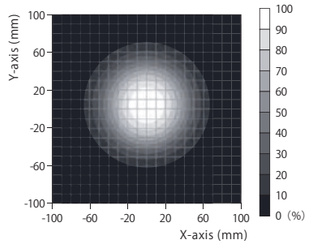
24V DC Models Available



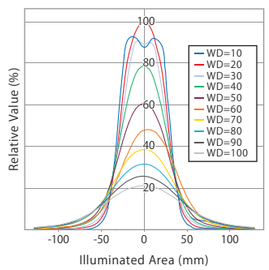
Model	Light Color	Power Consumption (W)	Input Voltage	WD(mm)	SAG(※)	Applicable Controllers	Drawing
IDR-32/10□	DR	1.6	DC12V	10～30	D8	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	1.8			FF		
IDR-38/15□	DR	1.8		10～35	C6		2
	DW B G	2.2			FF		
IDR-40/25□	DR	1.2		25～45	C6		3
	DW B G	1.5			FF		
IDR-42/18□	DR	2.2		25～45	D0		4
	DW B G	2.6			FF		
IDR-50/28□	DR	3		20～50	C7		5
	DW B G	2.7			FF		
IDR-66/36□	DR	4.3		40～80	FF		6
	DW B G	5.4			FF		
IDR-70/39□	DR	4.7		20～70	FF		7
	DW B G	5.8			FF		
IDR-90/50□	DR	7.1		40～90	FF		8
	DW B G	6.5			FF		
IDR-110/60□	DR	9.6		40～100	FF		9
	DW B G	9.6			FF		
IDR-140/95□	DR	13.9		50～110	FF		10
	DW B G	10.8			FF		

*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*Optional diffusion plate and polarizing plate can be attached.
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

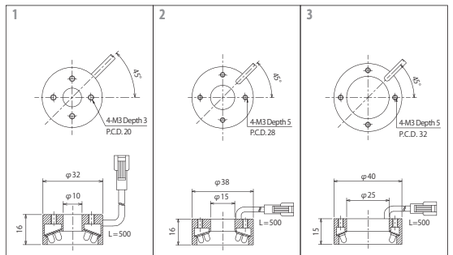
Illuminance Distribution Chart (Reference Values)

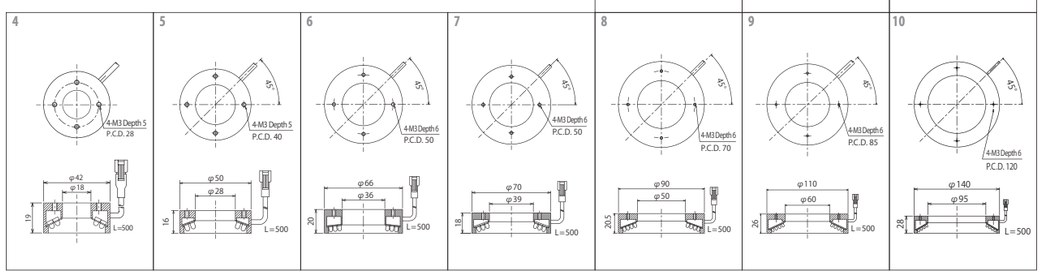


It illuminates the center brightly by setting a tilt angle to the LED.Please contact our sales representative for the illumination angle.
Light used:IDR-110/60DW
WD:50mm



Light used:IDR-70/39DW

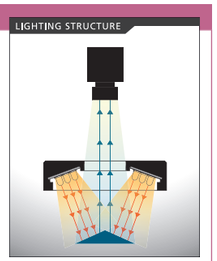




Effect

Example images of improved object shine by direct illumination from the top.

IDR-110/60DW Direct Illumination ▶ IDR-110/60DW with Diffusion Plate ▶ IDR-110/60DW with Polarizer



Ring Light

Low angle Direct Ring Light

IDR-LA series

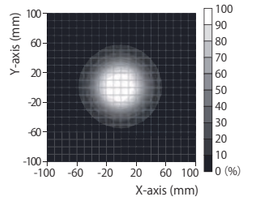
Ideal for scratch inspection and edge detection

24V DC Models Available

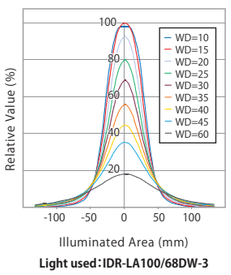
Model	Light Color	Power Consumption (W)	Input Voltage	WD(mm)	SAG(※)	Applicable Controllers	Drawing
IDR-LA40/15□-2	DR	2.1	DC12V	5～10	D9	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	2.2			FF		
IDR-LA50/24□-2-C01	DR	2.7		10～20	D1		2
	DW B G	2.9			FF		
IDR-LA74/48□	DR	5.4		15～30	C8		3
	DW B G	5.4			FF		
IDR-LA100/68□-3	DR	7		15～40	FF		4
	DW B G	5.4			FF		
IDR-LA120/70□-3	DR	10.5		15～40	F3		5
	DW B G	6.9			FF		
IDR-LA140/108□-3	DR	11.9		10～30	F4		6
	DW B G	8			FF		
IDR-LA200/170□-3	DR	18.4		40～70	F0		7
	DW B G	18.9			FF		

*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*Optional diffusion plate for ring light can be attached.
・Excludes LA40/15
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

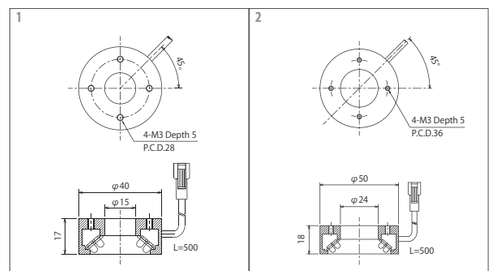
Illuminance Distribution Chart (Reference Values)

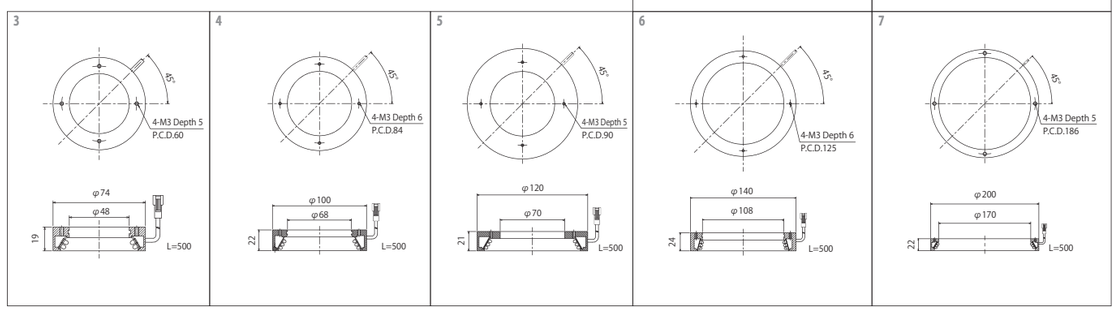


Able to illuminate a wide range uniformly even at a close distance to the object surface.
Light used:IDR-LA100/68DW-3
WD:20mm



Light used:IDR-LA100/68DW-3

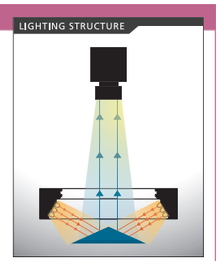




Effect

Able to detect the chipping and contour of the object by illuminating from the entire circumference at a low angle.

IDR-90/50B ▶ IDR-LA100/68B-3



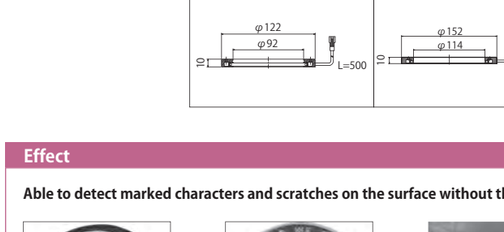
Ring Light

Horizontal Opposed Ring Light

IDRA-T series

Emphasize irregularities by illuminating from the horizontal direction.

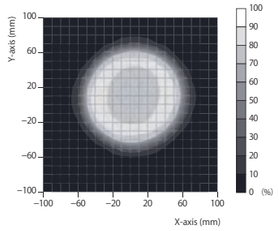
24V DC Models Available



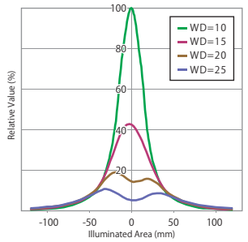
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IDRA-T78/46□-1	DR	2.4	DC12V	C6	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	2.9		FF		
IDRA-T84/54□-1	DR	3		C7		2
	DW B G	2.9		FF		
IDRA-T96/60□-1	DR	3.6		C7		3
	DW B G	3.6		FF		
IDRA-T122/92□-1	DR	4.2		C8		4
	DW B G	4.7		FF		
IDRA-T152/114□-1	DR	5.4		C8		5
	DW B G	5.8		FF		
IDRA-T176/140□-1	DR	7.2		CA		6
	DW B G	7.2		FF		
IDRA-T206/170□-1	DR	8.4		CA		7
	DW B G	8.7		FF		
IDRA-T450/400R-1	R	11.6		—		8
IDRA-T450/400□-1	DW B G	17.3		—		

*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*Optional diffusion plate for ring light can be attached.
This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

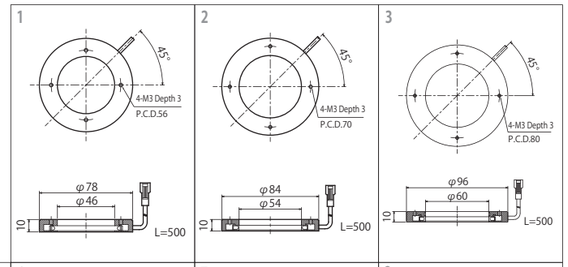
Illuminance Distribution Chart (Reference Values)



Uniform illumination even at the close distances to the object surface.
Light used：IDRA-T176/140DW-1
WD：10mm



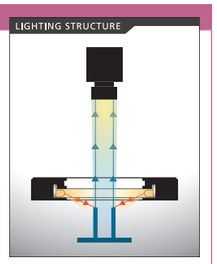
The illumination area is substantially limited due to the variable working distance.
Light used：IDRA-T96/60DW-1



Effect

Able to detect marked characters and scratches on the surface without the LED being reflected.

IDRA-T78/46B-1 | IDRA-T96/60DR-1 | Direct Ring Light | IDRA-T122/92DR-1



Ring Light

Shadow-less Ring Light

IFR・IPR series

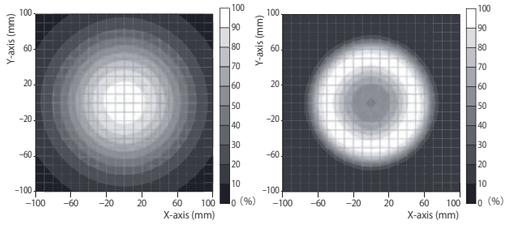
Uniform Illumination of Glossy and Irregular Surfaces

24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFR-100□	R	2.9	DC12V	6F	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	4.4		FF		
IFR-130□	R	3.6		70		2
	DW B G	5.4		FF		
IFR-K74/20□	R	3.9		70		3
	DW B G	5.8		FF		
IFR-K100□	R	2.9		6F		4
	DW B G	4.4		FF		
IFR-K150□	R	4.1		70		5
	DW B G	6.2		FF		
IPR-100/73□	R	5.3		71		6
	DW B G	8		FF		
IPR-136/109□	R	7.2		72		7
	DW B G	10.8		FF		
IPR-180/153□	R	10.4		75		8
	DW B G	15.5		FF		

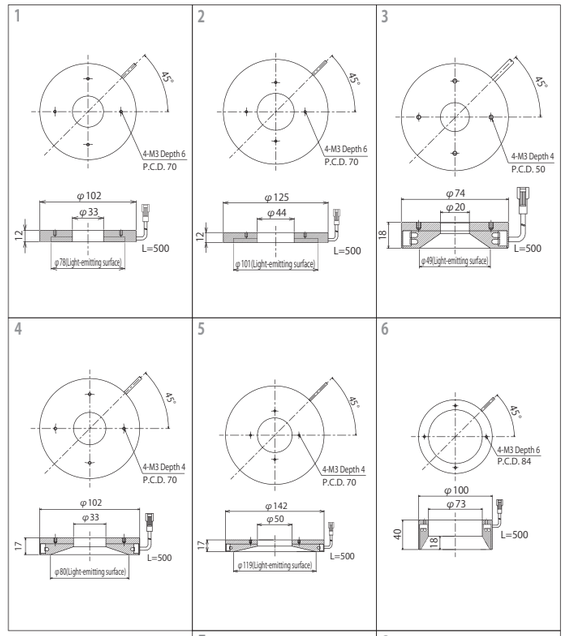
*□ represents light color (R=Red, DW=White, B=Blue, G=Green).
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Illuminance Distribution Chart (Reference Values)



Soft illumination with excellent uniformity. The K model can illuminate the central area even brighter.
Measured model:IFR-K150DW
WD：50mm

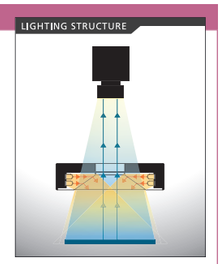
The uniform illumination surface can be moved by changing the working distance.
Measured model:IPR-136/109DW
WD：10mm



Effect

Halation can be reduced by irradiating indirect light.

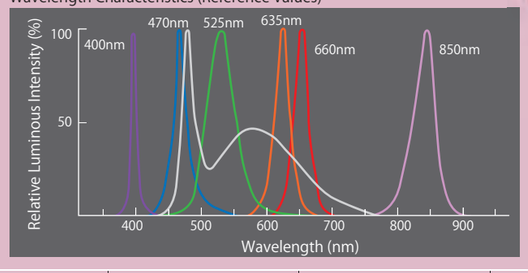
Ring Light | IFR-150DW | Ring Light with Diffusion Plate | IPR-136/109DW



Bar Light

Bar Light

Wavelength Characteristics (Reference Values)



Series	IDBA-HM series	IDBA-HMS series	IDBA-FD series	IDBA-LEH2 series	IDBA-LEH series
Product Image					
Light Distribution Angle	Wide-angle	Wide-angle	Wide-angle	Narrow-angle or Medium-wide-angle	Narrow-angle or Medium-wide-angle
Recommended WD	50～1,000㎜	20～1,000㎜	50～1,000㎜	80～5,000㎜	80～3,000㎜
Size of Light-emitting Surface	Multiples of 100mm Maximum 2,000mm	Multiples of 50mm (12V DC) Maximum 350mm Multiples of 50mm (24V DC) Maximum 1,200mm	Multiples of 100mm Maximum 2,400mm	Multiples of 75mm (12V DC) Maximum 225mm Multiples of 150mm (24V DC) Maximum 1,800mm	Multiples of 75mm (12V DC) Maximum 300mm Multiples of 150mm (24V DC) Maximum 1,800mm
Housing Size (Height x Width)	35×50㎜	30x25㎜	35×142㎜	36×68㎜	36×36㎜
Brightness Comparison (White, light-emitting surface size approx. 150mm)	1x	T.B.D	1x	3 to 4x	2 to 3x
Light Color	Red / White / Blue	Red / White / Blue	Red / White / Blue	Red / White / Blue	Red / White / Blue
White Color Temperature	5,000K (typ)	5,000K (typ)	5,000K (typ)	4,900K (typ)	4,900K (typ)
Reference Page	P.36	P.37	P.38	P.39	P.40

Series	IDBA-LE series	IDBA-SE series	IDBA-SL series	IDBA series
Product Image				
Light Distribution Angle	Narrow-angle or Medium-wide-angle	Medium-wide-angle	Narrow-angle	Medium-wide-angle
Recommended WD	80～1,500㎜	80～1,000㎜	-	10～300㎜
Size of Light-emitting Surface	Multiples of 75mm (12V DC) Maximum 450mm Multiples of 150mm (24V DC) Maximum 1,200mm	Multiples of 50mm Maximum 800mm	Multiples of 30mm (12V DC) Maximum 240mm Multiples of 60mm (24V DC) Maximum 300mm	Wide Range of Shapes
Housing Size (Height x Width)	34×33㎜	25×25㎜	20×115㎜	14×12㎜～
Brightness Comparison (White, light-emitting surface size approx. 150mm)	1x	1x	-	0.6x
Light Color	Red / White / Blue / Green Infrared 850nm Ultraviolet 400nm	Red / White / Blue	Red / White / Blue / Green	Red / White / Blue / Green Infrared Ultraviolet
White Color Temperature	4,900K (typ)	6,200K (typ)	6,500K (typ)	7,000K (typ)
Reference Page	P.41	P.42	P.43	P.44

*White color temperature (typ) is a typical value. Please contact us for the details.

Wide Bar Light

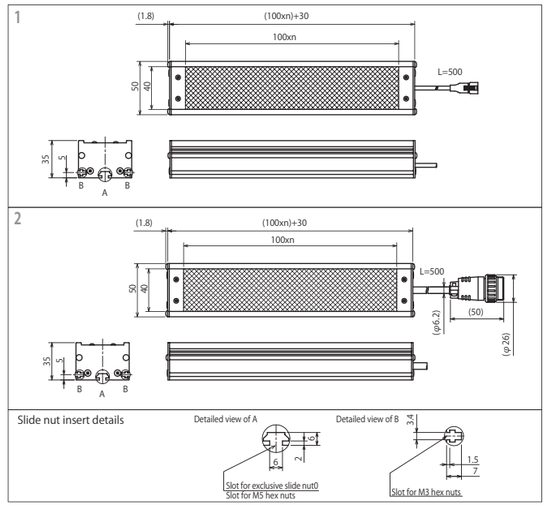
IDBA-HM series

Wide Bar Light of 40mm light-emitting surface
Available with high-luminance specification and high-uniformity specification.

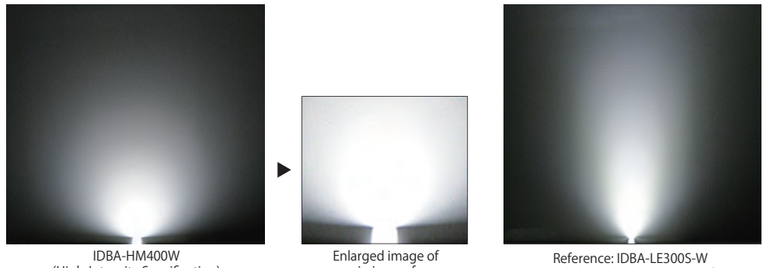
- Wide type with high uniformity of diffused light that does not cause uneven luminance in the front and back for a large object.
- Its light distribution is wide at 140°
- Available with high-luminance specification that is suitable for direct illumination and high-uniformity specification that is for backlight use.

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing	
IDBA-HM100□■	R W B	10	DC 24V	ILP-60M2-24 (P.83) IDGB-24 Series (P.91)	1	n=1
IDBA-HM200□■	R W B	20				n=2
IDBA-HM300□■	R W B	30				n=3
IDBA-HM400□■	R W B	40				n=4
IDBA-HM500□■	R W B	50				n=5
IDBA-HM600□■	R W B	60				n=6
IDBA-HM700□■	R W B	70				n=7
IDBA-HM800□■	R W B	80		IWDV-100S-24 (P.99)	2	n=8
IDBA-HM900□■	R W B	90				n=9
IDBA-HM1000□■	R W B	100				n=10
IDBA-HM1100□■	R W B	110		IWDV-300S-24(P.99) IWDV-600M2-24(P.99)		n=11
IDBA-HM1200□■	R W B	120				n=12
IDBA-HM1300□■	R W B	130				n=13
IDBA-HM1400□■	R W B	140				n=14
IDBA-HM1500□■	R W B	150				n=15
IDBA-HM1600□■	R W B	160				n=16
IDBA-HM1700□■	R W B	170				n=17
IDBA-HM1800□■	R W B	180				n=18
IDBA-HM1900□■	R W B	190				n=19
IDBA-HM2000□■	R W B	200				n=20

*□ represents light color (R=Red, W=White, B=Blue).
*■ represents -S when selecting the high-uniformity specification.
*Sizes other than those above are also available.
*An extension cable is required to connect lighting with power consumption of over 70W to a controller. Please order a cable of the desired length.
*For lighting with power consumption up to 70W, please refer to P.112 for I-CB-S■-24 extension cables. For lighting with power consumption of over 70W, please refer to P.113 for I-CB-S■R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 10)



Wide-angle light distribution - Illuminates a wide area



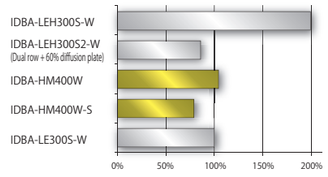
IDBA-HM400W (High-Intensity Specification)

Enlarged image of emission surface

Reference: IDBA-LE300S-W (Wide-angle light distribution specification)

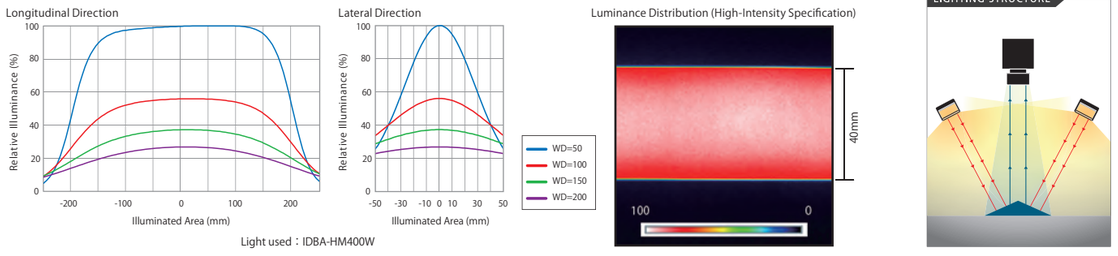
The light distribution of IDBA-HM series is wider than IDBA-LE series. Suitable for replacing fluorescent lights.

Brightness Comparison (Reference values)



The IDBA-HM series is equal in brightness to the IDBA-LEH2 series with a 60% diffusion plate and the IDBA-LE series of wide-angle light distribution specification (S type).

Illuminance Distribution and Uniformity Evaluation (Reference values)



Light used：IDBA-HM400W

Bar Light

High Uniformity Bar Light

IDBA-HMS series

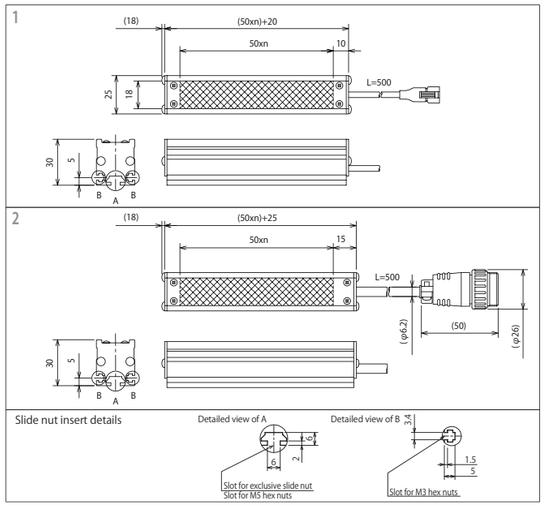
Compact Size with 30mm Housing Height and 25mm Housing Width
Light-emitting Surface Width of 18mm Small Universal Bar Lighting

Design Registered NEW

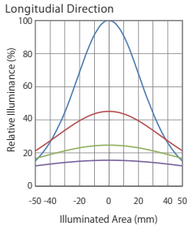
- All-purpose type with high uniformity and high diffusibility.
- Available with high-Intensity specification that is suitable for direct illumination and high-uniformity specification that is for backlight use.

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IDBA-HMS50□■	R W B	R:3.6, W/B:4	DC 12V	ILP-30M2（P.83） IDGB-24 Series (P.91) Overdrive controllers, etc.	1 n=1
IDBA-HMS100□■	R W B	R:7.2, W/B:8			n=2
IDBA-HMS150□■	R W B	R:10.8, W/B:12			n=3
IDBA-HMS200□■	R W B	R:14.4, W/B:16			n=4
IDBA-HMS250□■	R W B	R:18, W/B:20			n=5
IDBA-HMS300□■	R W B	R:21.6, W/B:24			n=6
IDBA-HMS350□■	R W B	R:25.2, W/B:28			n=7
IDBA-HMS50□HV■	R W B	R:3.6, W/B:4	DC 24V	ILP-60M2-24（P.83） IDGB-24 Series (P.91)	n=1
IDBA-HMS100□HV■	R W B	R:7.2, W/B:8			n=2
IDBA-HMS150□HV■	R W B	R:10.8, W/B:12			n=3
IDBA-HMS200□HV■	R W B	R:14.4, W/B:16			n=4
IDBA-HMS250□HV■	R W B	R:18, W/B:20			n=5
IDBA-HMS300□HV■	R W B	R:21.6, W/B:24			n=6
IDBA-HMS350□HV■	R W B	R:25.2, W/B:28			n=7
IDBA-HMS400□HV■	R W B	R:28.8, W/B:32			n=8
IDBA-HMS500□HV■	R W B	R:36, W/B:40			n=10
IDBA-HMS600□HV■	R W B	R:43.2, W/B:48			n=12
IDBA-HMS700□HV■	R W B	R:50.4, W/B:56			n=14
IDBA-HMS800□HV■	R W B	R:57.6, W/B:64	IWDV-100S-24 (P.99)	2	n=16
IDBA-HMS900□HV■	R W B	R:64.8, W/B:72			n=18
IDBA-HMS1000□HV■	R W B	R:72, W/B:80			n=20
IDBA-HMS1100□HV■	R W B	R:79.2, W/B:88			n=22
IDBA-HMS1200□HV■	R W B	R:86.4, W/B:96			n=24

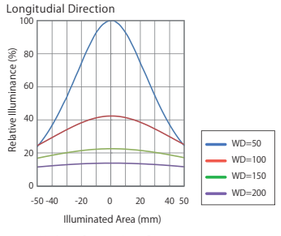
*□ represents light color (R=Red, W=White, B=Blue).
*■ represents -S when selecting the high-uniformity specification.
*Sizes other than those above are also available.
*An extension cable is required to connect lighting with a power consumption of over 64W to a controller because the connector will be switched to a metal connector.
Please order a cable of the desired length. Please refer to P.113 for 24V DC lighting extension cables.



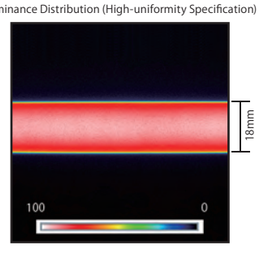
Illuminance Distribution and Uniformity Evaluation (Reference values)

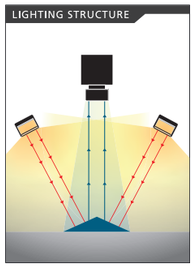


<High-Intensity Specification>



<High-uniformity Specification>





Bar Light

Wide Bar Light

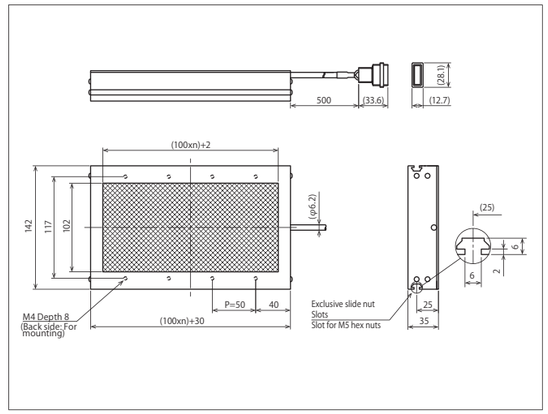
IDBA-FD series

102mm Emission Surface Wide Bar Light Ideal for Backlight Applications Uses

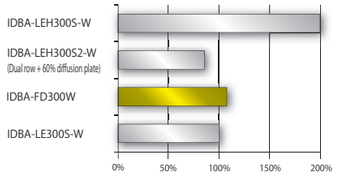
- The width of the light-emitting surface is 102mm, which is almost 4 times wider than IDBA-LEH series.Ideal for backlight applications due to its high-uniformity illumination.
- Available in light emission sizes from 100 to 2,400mm in 100mm increments, and suite for large equipment.

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IDBA-FD100□	R W B	R:15, W/B:16.5	DC 48V	① Applicable Controllers① IWDV-120S-48 (P.100)	n=1
IDBA-FD200□	R W B	R:30, W/B:33			n=2
IDBA-FD300□	R W B	R:45, W/B:49.5			n=3
IDBA-FD400□	R W B	R:60, W/B:66			n=4
IDBA-FD500□	R W B	R:75, W/B:82.5			n=5
IDBA-FD600□	R W B	R:90, W/B:99			n=6
IDBA-FD700□	R W B	R:105, W/B:115.5			n=7
IDBA-FD800□	R W B	R:120, W/B:132		R:①、W/B:②	n=8
IDBA-FD900□	R W B	R:135, W/B:148.5		② Applicable Controllers② IWDV-300S-48-C1 (P.100) IWDV-300SL-48-C1 (P.101) IWDV-600S-48-C1 (P.100) IWDV-600SL-48-C1 (P.101)	n=9
IDBA-FD1000□	R W B	R:150, W/B:165			n=10
IDBA-FD1100□	R W B	R:165, W/B:181.5			n=11
IDBA-FD1200□	R W B	R:180, W/B:198			n=12
IDBA-FD1300□	R W B	R:195, W/B:214.5			n=13
IDBA-FD1400□	R W B	R:210, W/B:231			n=14
IDBA-FD1500□	R W B	R:225, W/B:247.5			n=15
IDBA-FD1600□	R W B	R:240, W/B:264			n=16
IDBA-FD1700□	R W B	R:255, W/B:280.5			n=17
IDBA-FD1800□	R W B	R:270, W/B:297			n=18
IDBA-FD1900□	R W B	R:285, W/B:313.5		R:②、W/B:③	n=19
IDBA-FD2000□	R W B	R:300, W/B:330		R:②、W/B:③ Applicable Controllers③ IWDV-600S-48-C1 (P.100) IWDV-600SL-48-C1 (P.101)	n=20
IDBA-FD2100□	R W B	R:315, W/B:346.5		③	n=21
IDBA-FD2200□	R W B	R:330, W/B:363			n=22
IDBA-FD2300□	R W B	R:345, W/B:379.5			n=23
IDBA-FD2400□	R W B	R:360, W/B:396			n=24

*□ represents light color (R=Red, W=White, B=Blue).
*For connecting the lighting and controller, an extension cable is required. Please order a cable of the desired length.
*Please refer to P.113 for I-CB-S■R-DNEL extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 4, 5, 7, 10)



Brightness Comparison (Reference Values)



The IDBA-FD series is at least equal in brightness to the IDBA-LEH2 series with a 60% diffusion plate, and the IDBA-LE series of wide-angle light distribution specification (S type) .

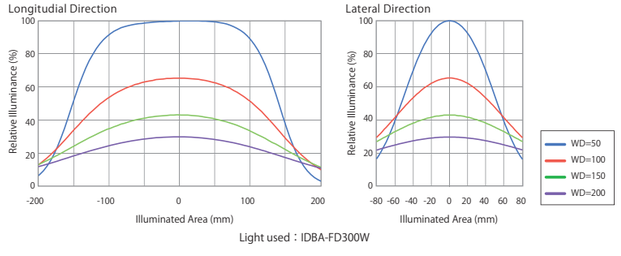
Wide-angle light distribution - Illuminates a wide area


IDBA-FD300W

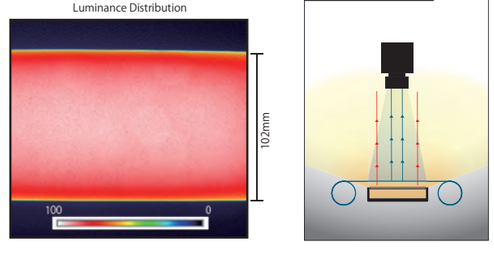

Enlarged image of emission surface

The IDBA-FD series has wider distribution angles compared to the IDBA-HM series, making it ideal for backlights.

Illuminance Distribution and Uniformity Evaluation (Reference values)



Light used：IDBA-FD300W



Bar Light

High-Intensity B'C Line Light (Dual Row LED)

IDBA-LEH2 series

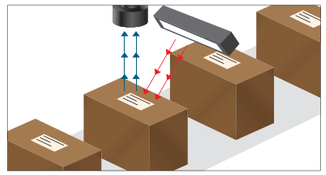
Approx. 3 to 4 times brighter than the conventional product with our original optical technology.
Available up to a maximum length of 1,800mm.
Able to illuminate long distances up to WD 5,000mm with L type.

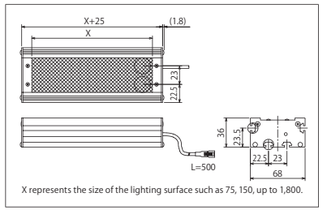
Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※) R	SAG(※) W	SAG(※) B	Applicable Controllers
IDBA-LEH75□2-■	R W B	9	DC12V	B2	E3	E3	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH150□2-■	R W B	18	DC12V	B8	F0	F0	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH225□2-■	R W B	27	DC12V	BF	FF	FF	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH150□2-■HV	R W B	18	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH300□2-■HV	R W B	36	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH450□2-■HV	R W B	54	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH600□2-■HV	R W B	72	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH750□2-■HV	R W B	90	DC24V				IWDV-100S-24 (P.99)
IDBA-LEH900□2-■HV	R W B	108	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1050□2-■HV	R W B	126	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1200□2-■HV	R W B	144	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1350□2-■HV	R W B	162	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1500□2-■HV	R W B	180	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1650□2-■HV	R W B	198	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1800□2-■HV	R W B	216	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)

*□ represents S (wide-angle light distribution) or L (narrow-angle light distribution).
*■ represents light color (R=Red, W=White, B=Blue).
*The diffusion plate with 90% transmissivity comes as a standard. 80% and 60% are also available as options. *A polarizing plate can also be attached to each size.
*An extension cable is required to connect lighting with a power consumption of over 70W to a controller because the connector will be switched to a metal connector. Please order a cable of the desired length. *Please refer to P.112 for 24V DC lighting extension cables.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Label Inspection on Cardboard

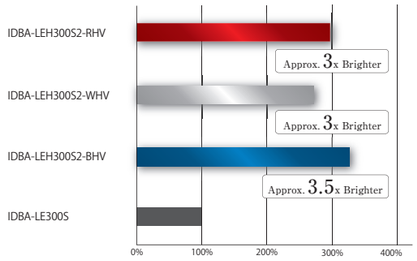




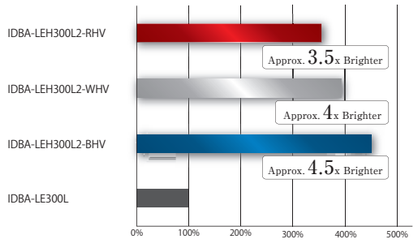
X represents the size of the lighting surface such as 75, 150, up to 1,800.

Brightness Comparison with Conventional Products (Reference Values) Lighting size: 300mm

Wide-angle light distribution S type (WD=100mm)

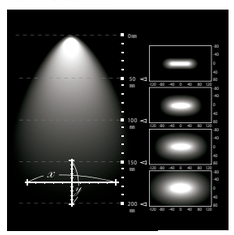


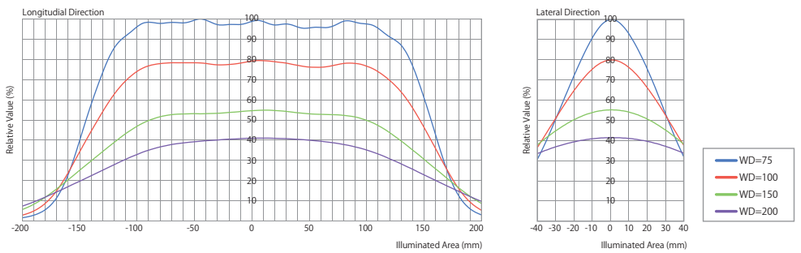
L type Narrow-angle light distribution (WD=100mm)



S type Wide-angle light distribution - Illuminates a wide area at close range (Reference Values)

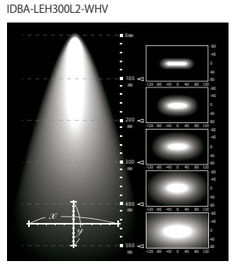
IDBA-LEH300S2-WHV

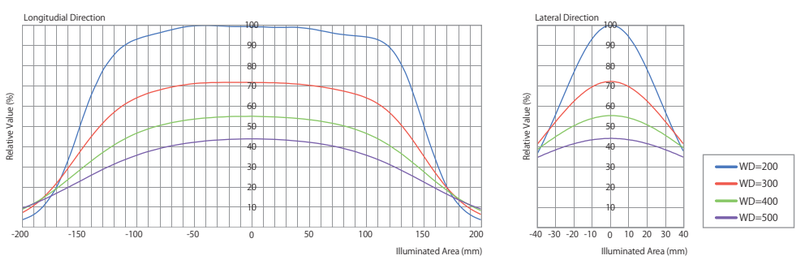




L type Narrow-angle light distribution - Illuminates a wide area at close range (Reference Values)

IDBA-LEH300L2-WHV





Bar Light

High-luminance B'C Line Light (Single Row LED)

IDBA-LEH series

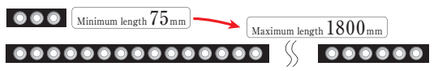
Approx. 2 to 3 times brighter than the conventional product with our original optical technology.
Available up to a maximum length of 1,800mm.
Able to illuminate long distances up to WD 3,000mm with L type.

Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※) R	SAG(※) W	SAG(※) B	Applicable Controllers
IDBA-LEH75□-■	R W B	6.5	DC12V	89	AB	AB	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH150□-■	R W B	13	DC12V	8C	B1	B1	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH225□-■	R W B	19.5	DC12V	8E	B7	B7	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH300□-■	R W B	26	DC12V	91	BD	BD	ILP-30M2 (P.83) IDGB Series (P.91) Overdrive controllers, etc.
IDBA-LEH150□-■HV	R W B	13	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH300□-■HV	R W B	26	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH450□-■HV	R W B	39	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH600□-■HV	R W B	52	DC24V				ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LEH750□-■HV	R W B	65	DC24V				IDGB-24 Series (P.91)
IDBA-LEH900□-■HV	R W B	78	DC24V				IWDV-100S-24 (P.99)
IDBA-LEH1050□-■HV	R W B	91	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1200□-■HV	R W B	104	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1350□-■HV	R W B	117	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1500□-■HV	R W B	130	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1650□-■HV	R W B	143	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)
IDBA-LEH1800□-■HV	R W B	156	DC24V				IWDV-300S-24 (P.99) IWDV-600M2-24 (P.99)

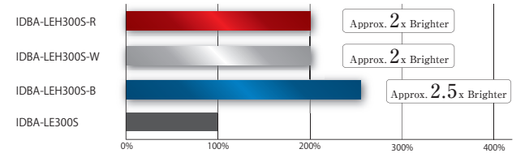
*□ represents S (wide-angle light distribution) or L (narrow-angle light distribution).
*■ represents light color (R=Red, W=White, B=Blue).
*The diffusion plate with 90% transmissivity comes as a standard. 80% and 60% are also available as options.
*A polarizing plate can also be attached to each size.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details. Please order a cable of the desired length. Please refer to P.113 for 24V DC lighting extension cables.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Size Selection

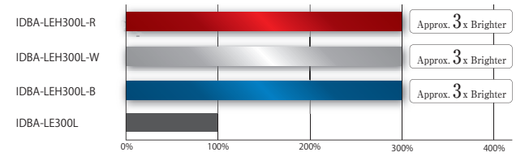


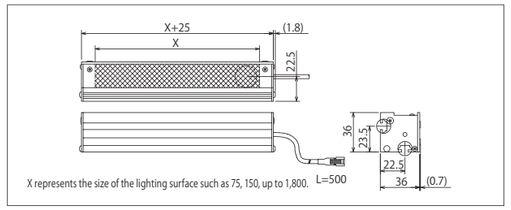
Brightness Comparison with Conventional Products (Reference Values) Lighting size:300mm

S type Wide-angle light distribution (WD=100mm)



L type Narrow-angle light distribution (WD=300mm)

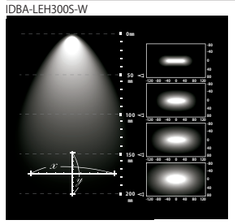


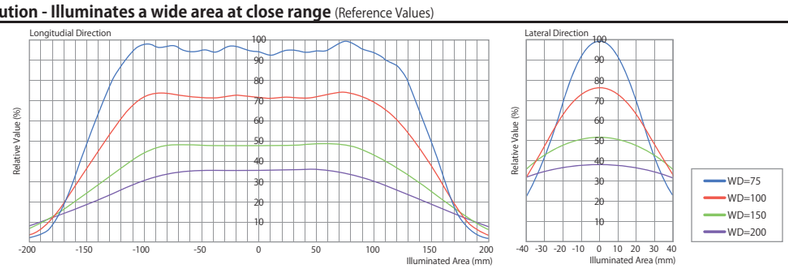


X represents the size of the lighting surface such as 75, 150, up to 1,800.

S type Wide-angle light distribution - Illuminates a wide area at close range (Reference Values)

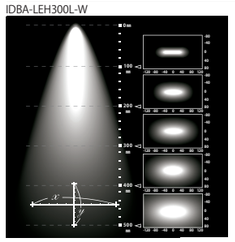
IDBA-LEH300S-W

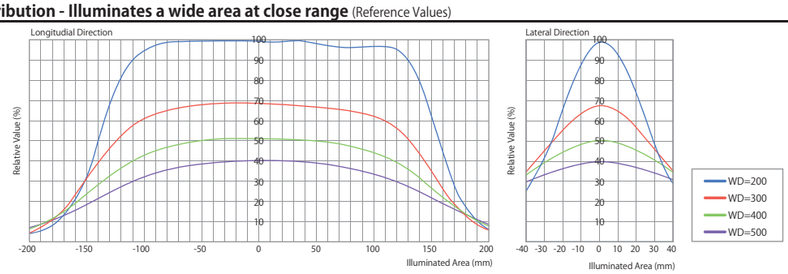




L type Narrow-angle light distribution - Illuminates a wide area at close range (Reference Values)

IDBA-LEH300L-W





Bar Light

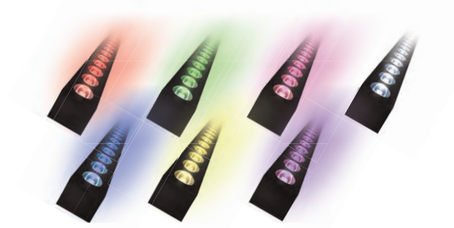
B′C Line Light

IDBA-LE series

Ideal for large objects and long-distance illumination

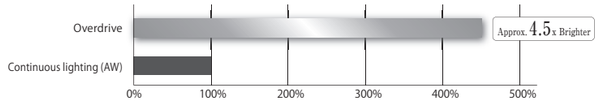
Available with Red, Blue, Green, Yellow, Infrared, and Ultraviolet

Power LEDs | 24V DC Models Available | Low Cost



Brightness Comparison (Reference Values)

It is approx. 4.5 times brighter when overdriving.



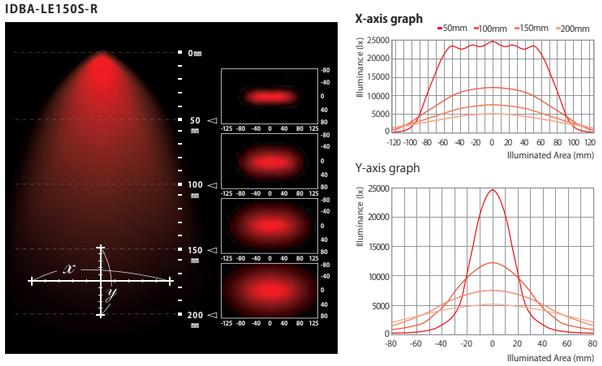
*Please refer to P.107 for overdrive controllers.

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers
IDBA-LE75□-■	R AW B G Y IR(850) UV(400)	4.5	DC12V	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.
IDBA-LE150□-■	R AW B G Y IR(850) UV(400)	9		
IDBA-LE225□-■	R AW B G Y IR(850) UV(400)	13.5		
IDBA-LE300□-■	R AW B G Y IR(850) UV(400)	18		
IDBA-LE375□-■	R AW B G Y IR(850) UV(400)	22.5		
IDBA-LE450□-■	R AW B G Y IR(850) UV(400)	27		
IDBA-LE 600 □-■HV	R AW B G Y IR(850) UV(400)	36	DC24V	ILP-60M2-24 (P.83) IDGB-24 Series (P.91)
IDBA-LE 750 □-■HV	R AW B G Y IR(850) UV(400)	45		
IDBA-LE 900 □-■HV	R AW B G Y IR(850) UV(400)	54		
IDBA-LE 1050 □-■HV	R AW B G Y IR(850) UV(400)	63		
IDBA-LE 1200 □-■HV	R AW B G Y IR(850) UV(400)	72		

*□ represents S (wide-angle light distribution) or L (narrow-angle light distribution).
*■ represents light color (R=Red, AW=White, B=Blue, G=Green, Y=Yellow, IR-850=Infrared, UV-400=Ultraviolet).
*The diffusion plate with 90% transmissivity comes as a standard. 80% and 60% are also available as options.
*A polarizing plate can also be attached to each size.
*24V DC models are also available for the models in multiples of 150mm with 12V DC input voltage.
*The production of green and yellow is scheduled to be discontinued.

S type Wide-angle light distribution - Illuminates a wide area at close range (Reference Values)

IDBA-LE150S-R

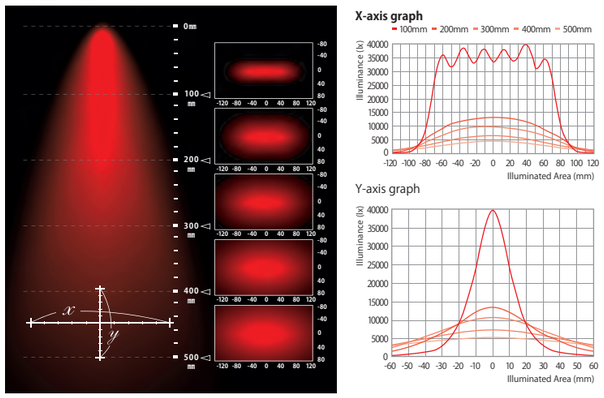


X-axis graph

Y-axis graph

L type Narrow-angle light distribution - Illuminates a wide area at close range (Reference Values)

IDBA-LE150L-R



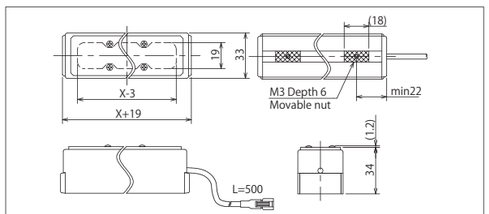
X-axis graph

Y-axis graph

SAG Value

Model	R	AW	G	B	Y	IR (850)	UV (400)
IDBA-LE75□-■	C7	F3	9B	90	8E	CB	7F
IDBA-LE150□-■	C9	FA	9D	92	8F	CD	80
IDBA-LE225□-■	CA	FF	9E	94	90	CE	82
IDBA-LE300□-■	CC	FF	A0	95	92	D0	83
IDBA-LE375□-■	CD	FC	A1	97	93	D1	85
IDBA-LE450□-■	CF	E0	A3	98	94	D3	87

*The SAG value indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



X represents the size of lighting surface such as 75, 150, up to 1,200.

Easy installation according to your environment

Easy adjustment with mounting jig by adopting a movable nut.
The standard screw size is M3, but M4 and M5 are also available as an option.
Please refer to P.122 for exclusive slide nuts.

Bar Light

B′C Line Light

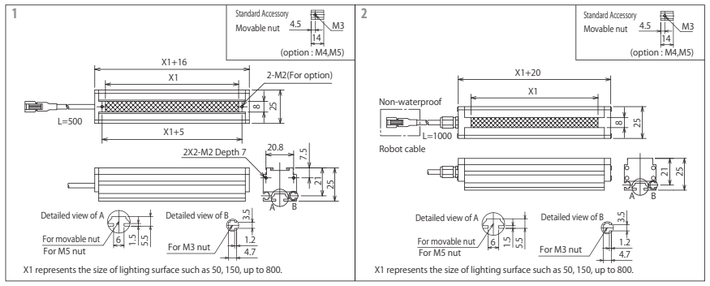
IDBA-SE series

Compact model with optical design equivalent to IDBA-LE-S (Wide-angle)

Power LEDs | IP67 Standard-Compliant Dust & Waterproof Model Available | 24V DC Models Available | Low Cost

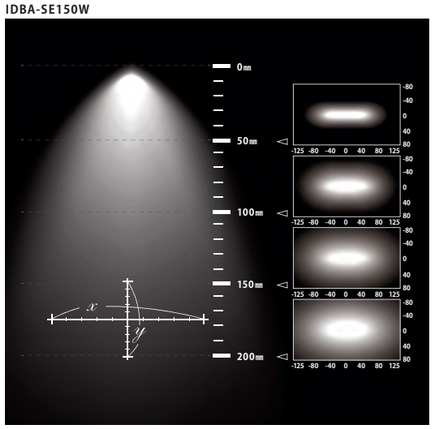
Standard Model	Waterproof Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※) R	SAG(※) W	SAG(※) B	Applicable Controllers	Drawing
IDBA-SE50□	IDBA-SE50□-WP	R W B	3.5	DC12V	D8	A3	A6	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1 (Standard) 2 (Waterproof)
IDBA-SE100□	IDBA-SE100□-WP	R W B	7		DB	A4	A8		
IDBA-SE150□	IDBA-SE150□-WP	R W B	10.5		DD	A6	AA		
IDBA-SE200□	IDBA-SE200□-WP	R W B	14		E0	A9	AC		
IDBA-SE250□	IDBA-SE250□-WP	R W B	17.5		E2	AA	AE		
IDBA-SE300□	IDBA-SE300□-WP	R W B	21		E4	AC	B0		
IDBA-SE350□	IDBA-SE350□-WP	R W B	24.5		E6	AE	B2		
IDBA-SE400□	IDBA-SE400□-WP	R W B	28		E8	B0	B3		
IDBA-SE500□HV	IDBA-SE500□HV-WP	R W B	35	DC24V	—	—	—	ILP-60M2-24 (P.83) IDGB-24 series (P.91)	
IDBA-SE600□HV	IDBA-SE600□HV-WP	R W B	42		—	—	—		
IDBA-SE700□HV	IDBA-SE700□HV-WP	R W B	49		—	—	—		
IDBA-SE800□HV	IDBA-SE800□HV-WP	R W B	56		—	—	—		

*□ represents light color (R=Red, W=White, B=Blue).
*24V DC models are also available for the models in multiples of 100mm with 12V DC input voltage.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

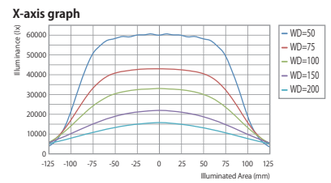


Wide-angle light distribution - Illuminates wide area at close range (Reference Values)

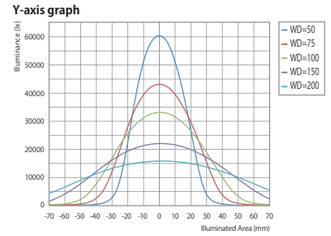
IDBA-SE150W



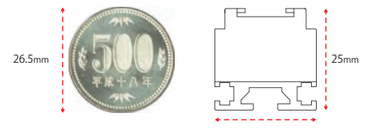
X-axis graph



Y-axis graph



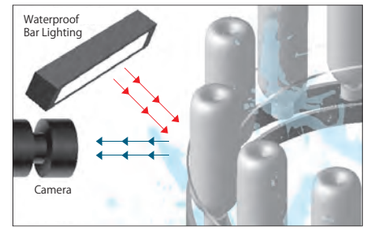
Compact design of 25mm × 25mm



Easy installation according to your environment

Easy adjustment with mounting jig by adopting a movable nut.
The standard screw size is M3, but M4 and M5 are also available as an option.
Please refer to P.122 for more details.

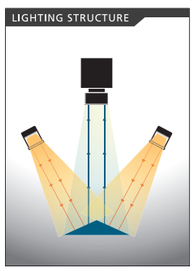
Visual Inspection of Plastic Bottles



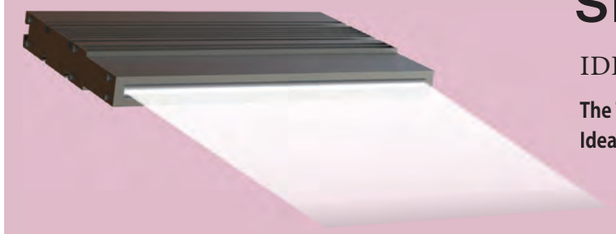
International Protection Code

The first digit "6" indicates the following degree of protection against solid objects.
- **Dust tight**

The second digit "7" indicates the following degree of protection against water.
- **not subject to harmful effects even if immersed in water under defined conditions of pressure and time**
- **Able to be fully submerged for 30 minutes at depths up to 1m (in cases of the device being shorter than 850mm).**



Bar Light

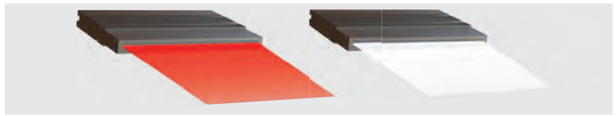


Slit Line Light

IDBA-SL series

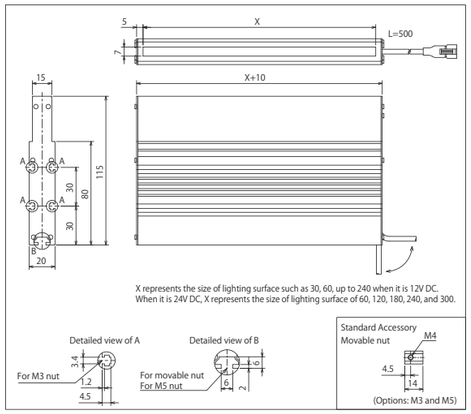
The Thinnest Slit Light of Our Product with Width 0.5 mm
Ideal for light-section method and fine contaminants detection.

Special Optical Design | Design Registered

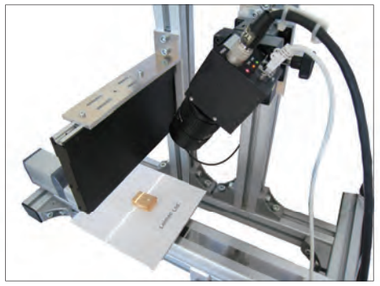


Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※) R	W	B	G	Applicable Controllers
IDBA-SL30□	R W B G	3.5W	DC12V	FF	FF	FF	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.
IDBA-SL60□	R W B G	7W		FF	FF	FF	FF	
IDBA-SL90□	R W B G	10.5W		FF	FF	FF	FF	
IDBA-SL120□	R W B G	14W		FF	FF	FF	FF	
IDBA-SL150□	R W B G	17.5W		FF	F9	FF	FD	
IDBA-SL180□	R W B G	21W		FF	DD	E3	E1	
IDBA-SL210□	R W B G	24.5W		FF	C9	CC	CB	
IDBA-SL240□	R W B G	28W		F7	BC	BF	BE	
IDBA-SL60□HV	R W B G	7W	DC24V	-	-	-	-	ILP-60M2-24 (P.83) IDGB-24 series (P.91)
IDBA-SL120□HV	R W B G	14W		-	-	-	-	
IDBA-SL180□HV	R W B G	21W		-	-	-	-	
IDBA-SL240□HV	R W B G	28W		-	-	-	-	
IDBA-SL300□HV	R W B G	35W		-	-	-	-	

*□ represents light color (R=Red, W=White, B=Blue, G=Green).
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Ideal for light-section method and fine contaminants detection.

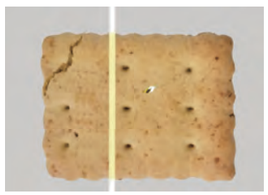


The object's 3D data can be used for high resolution measurements of height, position, and volume by combining with a camera for 3D measurement.

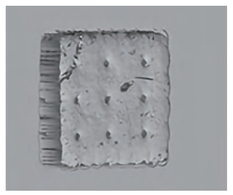
Less likely to spread even when the distance to the object is far due to its narrow illumination width.

The special optical design achieved an illumination width of approx. 0.5mm at WD 50mm. Even in operating environments where there will be some distance to the target object, the narrow illumination width of approx. 2.1mm at WD 500mm is maintained, enabling use in a variety of applications.

Distance from the object (mm)	Width (mm) (Reference Values)
WD=50	0.5
WD=100	0.6
WD=150	0.8
WD=200	1.0
WD=300	1.4
WD=400	1.7
WD=500	2.1


Objects with a crack, contaminants, or damage

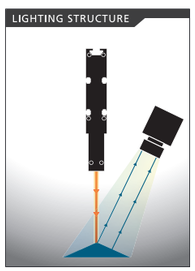

Displays irregularities such as cracks and contaminants as a monochrome image


Displays height, shape, etc., as a more detailed stereoscopic image


Detection of distortion of connector pins, etc.


Light does not hit correctly due to distortion


Detection of surface distortion



Bar Light

Bar Light

IDBA・IDBA-Q series

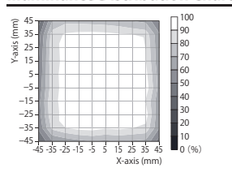
Wide range of use from oblique lighting to back lighting

24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IDBA-C11/14□	DR	0.3	DC12V	C5	ILP-30M2 (P.83) IDGB Series (P.91, 93) Overdrive controllers, etc.	1
	DW B G	0.4		FF		
IDBA-C11/14□S-H21	DR	0.3		C5		2
	DW B G	0.4		FF		
IDBA-C15/26□S	DR	0.6		C5		3
	DW B G	1.1		FF		
IDBA-C27/34□	DR	2.4		C6		4
	DW B G	2.9		FF		
IDBA-C50/15□	DR	1.8		C6		5
	DW B G	2.2		FF		
IDBA-C100/11□	DR	2.4		C6		6
	DW B G	2.9		FF		
IDBA-C100/15□	DR	4.2		C8		7
	DW B G	4.4		FF		
IDBA-C140/11□	DR	4.2		C8		8
	DW B G	4.4		FF		
IDBA-C132/15□	DR	5.4		C8		9
	DW B G	5.8		FF		
IDBA-C72/24□	DR	5.4		C8		10
	DW B G	4.4		FF		
IDBA-C25/25□S	DR	1.8		C6		11
	DW B G	2.2		FF		
IDBA-C50/50□S	DR	6.4		EF		12
	DW B G	5.4		FF		
IDBA-C70/75□S	DR	10.2		CC		13
	DW B G	10.1		FF		
IDBA-C100/100□S	DR	20.4		D3		14
	DW B G	20.6		FF		
IDBA-C15/200□S	DR	8.4		CA		15
	DW B G	8.9		FF		
IDBA-C185/30□S	DR	13.2		CE		16
	DW B G	13		FF		
IDBA-C300/24□S	DR	20.2		CE		17
	DW B G	25.6		DC		
IDBA-QC360□	DR	6		C6/Each ch	IDGB Series (4CH or more) (P.91-93) Overdrive controllers (4CH or more), etc.	18
	DW B G	8.8		FF/Each ch		
IDBA-QC690□	DR	21.6		C8/Each ch		19
	DW B G	17.6		FF/Each ch		

*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*The model with suffix "S" in the end on the model table means the diffusion plate is attached. The diffusion plate with 60% transmissivity comes as a standard for DR series, and others come with 80%.
*Optional diffusion plate and polarizing plate can be attached.
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

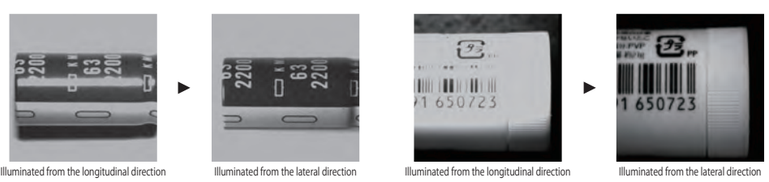
Illuminance Distribution Chart (Reference Values)

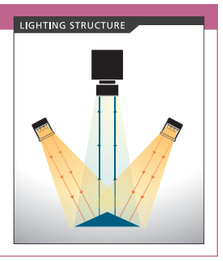


Delivers high-uniformity and high-intensity illumination in an area excluding approx.10mm of the outer edge of the light-emitting surface. Measured model: IDBA-C100/100DWS

Effect

Example images of differences in illumination direction. Light used: IDBA-C72/24DW

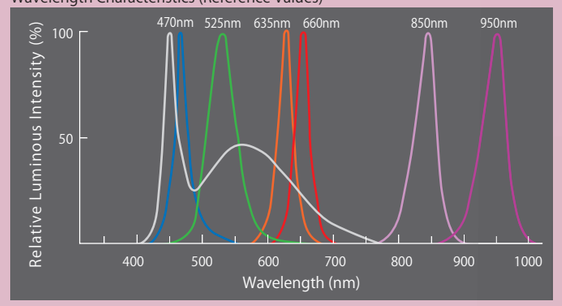

Illuminated from the longitudinal direction | Illuminated from the lateral direction | Illuminated from the longitudinal direction | Illuminated from the lateral direction



Backlight

Backlight

Wavelength Characteristics (Reference Values)



Series	IFLA series	IFL series	IDHM series	IHM/IHM-V series	IFPA series	IFPA-D series	IFD series
Product Image							
Illumination Type	Edge-lit	Edge-lit	Back-lit	Back-lit	Back-lit	Back-lit	Back-lit
Thickness (Min.)	5mm	7mm	11mm	17mm	45mm	45mm	35mm
Size of Light-emitting Surface	25×25mm～ 30×80mm	25×25mm～ 150×200mm	30mm square × n	25×30mm～ 214×226mm	100mm square × n (400mm or less)	100mm square × n (500mm or less)	100mm angle × n
Brightness (Luminance)	12,500cd/㎡ (30/41W)	4,000cd/㎡ (30/41DW) 8,500cd/㎡ (50/50DW)	20,000cd /㎡ White	50,000cd/㎡ (66/60AW)	25,000cd /㎡ White	25,000cd /㎡ White	18,000cd /㎡ White
Light Color	Red / White / Blue	Red / White / Blue / Green	Red / White / Blue / Green	Red / White / Blue / Infrared	Red / White / Blue	Red / White / Blue	White / Infrared
White Color Temperature	8,800K (typ)	7,000K (typ)	7,000K (typ)	7,000K (typ)	4,900K (typ)	4,900K (typ)	5,300K (typ)
Reference Page	P.46	P.46	P.47	P.48•49	P.51	P.52	P.53

*The brightness data are reference values. They do not guarantee the quality of the product.
*White color temperature (typ) is a typical value. Please contact us for the details.

Square Edge-Light

IFLA・IFL series

Thin uniform flat-surface light with low power consumption and low heat generation

24V DC Models Available

IFLA series

Higher uniformity and thinner than the IFL series of the same shape

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFLA-25/25□	R	0.6	DC12V	FF	ILP-30M2(P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	W	0.9		9D		
	B	0.5		A4		
IFLA-30/41□	R	1.2		F9		2
	W	1.7		BD		
	B	0.9		9D		
IFLA-30/80□	R	2.4		F8		3
	W	2.6		97		
	B	1.7		9D		

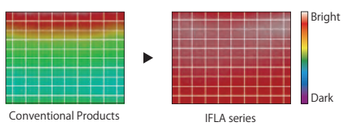
*□ represents light color (R=Red, W=White, B=Blue).
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

IFL series

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFL-50/50□	R	2	DC12V	6E	ILP-30M2(P.83) IDGB series (P.91) Overdrive controllers, etc.	4
	DW B G	2.9		FF		
IFL-80/100□	R	3.4		6F		5
	DW B G	5.1		FF		
IFL-100/100□	R	3.9		70		6
	DW B G	5.8		FF		
IFL-135/180□	R	5.8		71		7
	DW B G	8.7		FF		
IFL-150/200□	R	6.8		72		8
	DW B G	10.1		FF		

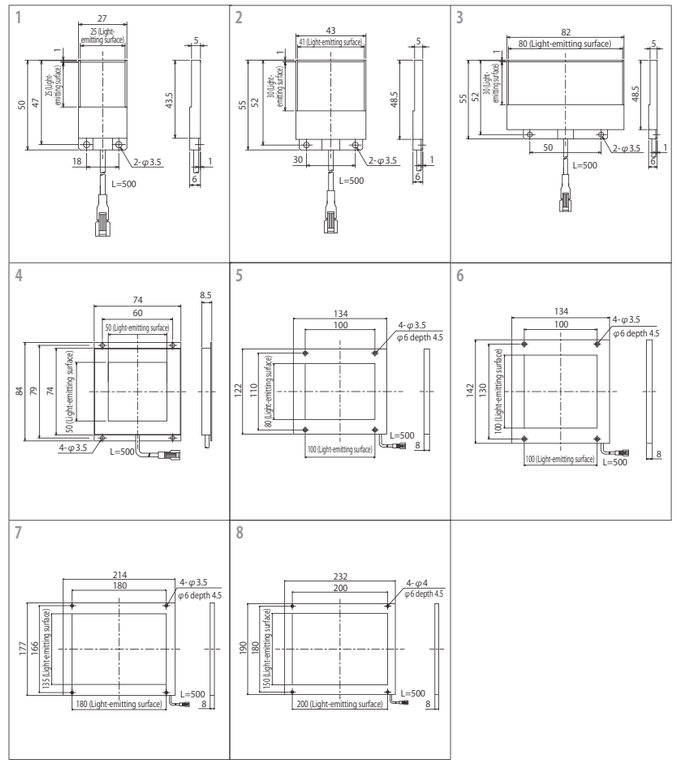
*□ represents light color (R=Red, DW=White, B=Blue, G=Green).
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Illuminance Distribution Chart (Reference Values)



Conventional Products ▶ IFLA series

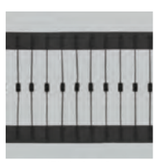
IFLA 5mm-thick Light-emitting Surface



Effect

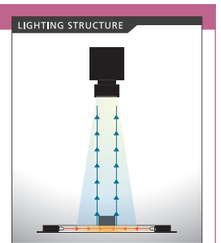
Able to obtain clear silhouette images simply by illuminating from the back.


IFL-50/50B


IFL-80/100R


IFL-80/100B


IFL-80/100B



Backlight

Chip LED Flat-surface Light

IDHM series

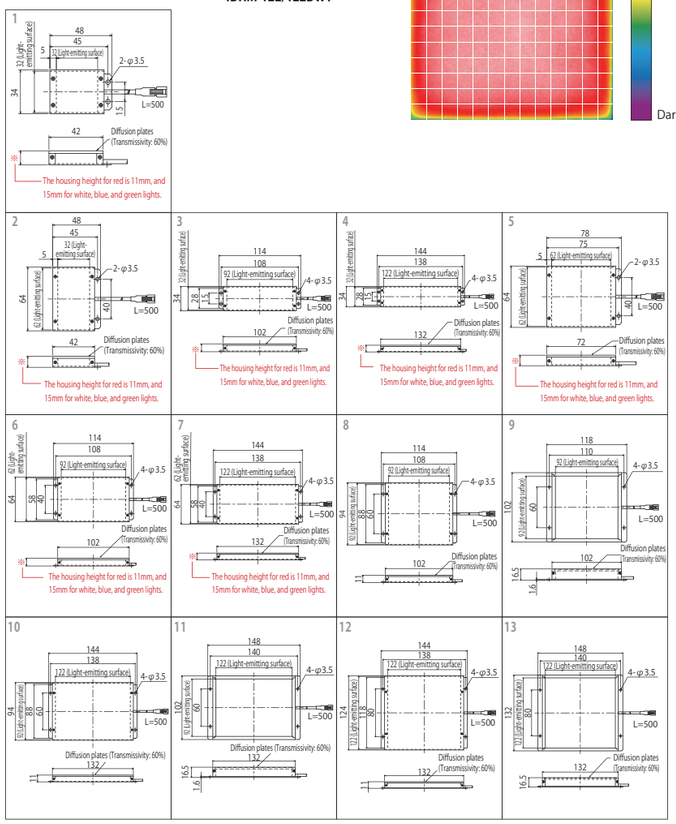
Thin flat-surface light with high-luminance and high uniformity

Available in sizes of multiples of 30mm²

24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IDHM-32/32HRT	R	1.5	DC12V	74	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDHM-32/32DWT	DW	1.8		FF		
IDHM-32/32□T	B G	1.8		DC		
IDHM-32/62HRT	R	2.9		75		2
IDHM-32/62DWT	DW	3.6		FF		
IDHM-32/62□T	B G	3.6		DD		
IDHM-32/92HRT	R	4.4		75		3
IDHM-32/92DWT	DW	5.4		FF		
IDHM-32/92□T	B G	5.4		E0		
IDHM-32/122HRT	R	5.8		76		4
IDHM-32/122DWT	DW	7.2		FF		
IDHM-32/122□T	B G	7.2		E3		
IDHM-62/62HRT	R	5.8		76		5
IDHM-62/62DWT	DW	7.2		FF		
IDHM-62/62□T	B G	7.2		E3		
IDHM-62/92HRT	R	8.7		76		6
IDHM-62/92DWT	DW	10.8		FF		
IDHM-62/92□T	B G	10.8		E8		
IDHM-62/122HRT	R	11.6		77		7
IDHM-62/122DWT	DW	14.4		FF		
IDHM-62/122□T	B G	14.4		E0		
IDHM-92/92HRT	R	13		78		8
IDHM-92/92DWT	DW	16.2		FF		
IDHM-92/92□T	B G	16.2		E6		9
IDHM-92/122HRT	R	17.3		79		10
IDHM-92/122DWT	DW	21.6		FF		11
IDHM-92/122□T	B G	21.6		ED		
IDHM-122/122HRT	R	23.1		7B		12
IDHM-122/122DWT	DW	28.8		FF		13
IDHM-122/122□T	B G	28.8		F3		

*□ represents light color (B=Blue, G=Green).
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



Illuminance Distribution Chart (Reference Values)

Maintains soft uniformity except for the edges.
Measured model: IDHM-122/122DWT

Effect

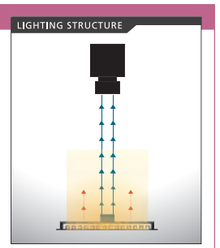
Able to obtain clear silhouette images using high-luminance uniform illumination from the back.


IDHM-92/92BT

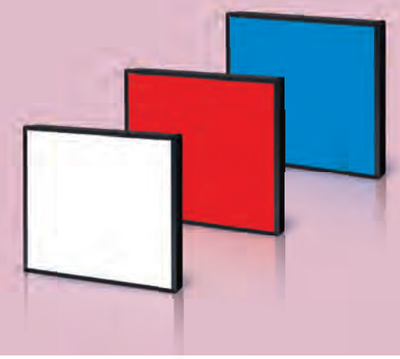

IDHM-92/92BT


IDHM-62/62DWT


IDHM-62/62DWT



Backlight



Flat-surface Light with high intensity chip LED

IHM series

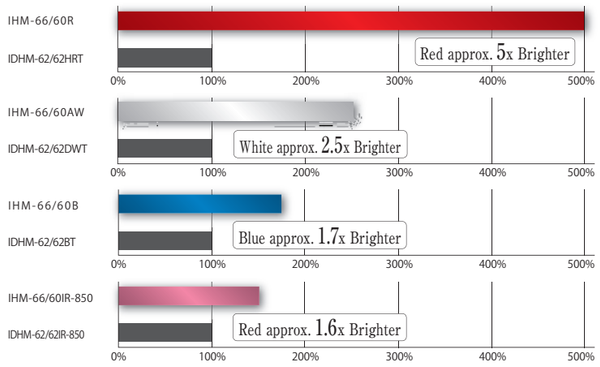
High output, lightweight, back-lit transmissive light at an affordable price
Also available in infrared 850nm and 950nm

24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IHM-25/30□	R	2	DC12V	9A	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	AW			F9		
	B			98		
	IR(850)			E3		
	IR(950)			E3		
IHM-66/60□	R	7.5		F5		2
	AW			FF		
	B			B3		
	IR(850)			FF		
	IR(950)			FF		
IHM-108/114□	R	14.7		FF		3
	AW			FF		
	B			FF		
	IR(850)			FF		
	IR(950)			FF		
IHM-150/142□	R	24		FF		4
	AW			CF		
	B			D0		
	IR(850)			E5		
	IR(950)			EF		
IHM-214/226□HV	R	47	DC24V	–	ILP-60M2-24 (P.83) IDGB-24 Series (P.91)	5
	AW					
	B					
	IR(850)					
	IR(950)					

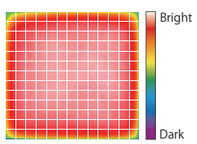
*□ represents light color (R=Red, AW=White, B=Blue, IR-850 or IR-940=Infrared).
*24V DC models are also available for the models with 12V DC input voltage.
*Please refer to P.82 for 24V DC models.
*Optional polarizing plate and light control film can be attached.
Please refer to P.119-120 for more details.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Drastically Increased Brightness - Comparison of each color using IHM-66/60 sizes (Reference Values)



Illuminance Distribution Chart (Reference Values)

High uniformity except for the edges.
Measured model: IHM-108/114AW

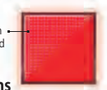


Functional Characteristics

FEATURES

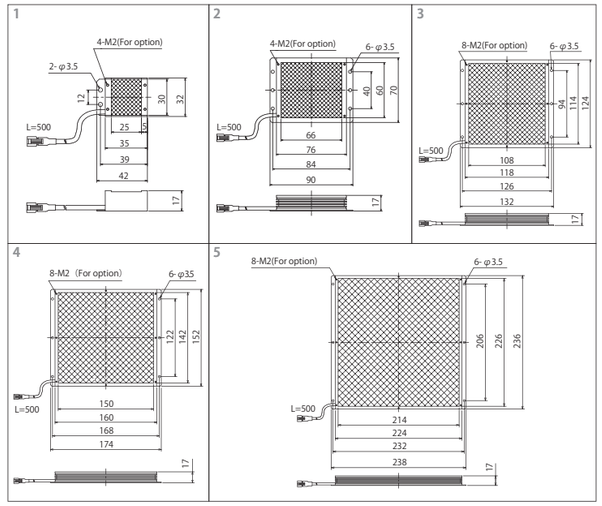
High-intensity LEDs are mounted in high density

Back-lit transmissive light with extremely high-luminance and high uniformity



Heat-dissipating fins

The heat dissipation is dramatically improved from the original heat dissipation structure.

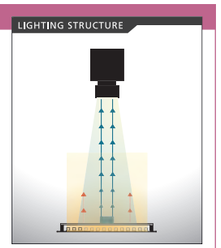


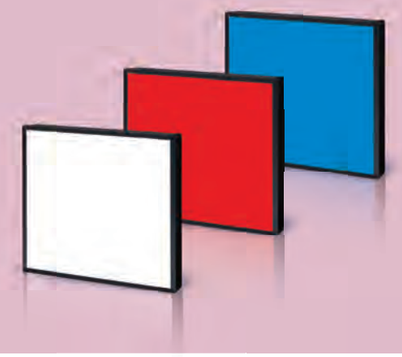
Effect

Image comparison at shutter speed 1/10,000 (100% light output)


IDHM-62/62HRT


IHM-66/60R





Back Light
with Narrow-angle Light Distribution

IHM-V series

Narrow-angle light distribution prevents light diffraction.
Ideal for edge detection of cylindrical and glossy surfaces

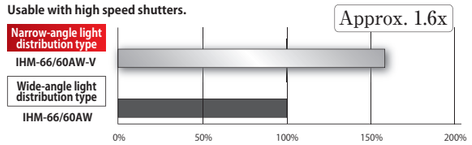
24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IHM-25/30□-V	R	2	DC12V	9A	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	AW			F9		
	B			98		
	IR(850)			E3		
	IR(950)			E3		
IHM-66/60□-V	R	7.5		F5		2
	AW			FF		
	B			B3		
	IR(850)			FF		
	IR(950)			FF		
IHM-108/114□-V	R	14.7		FF		3
	AW			FF		
	B			FF		
	IR(850)			FF		
	IR(950)			FF		
IHM-150/142□-V	R	24		FF		4
	AW			CF		
	B			D0		
	IR(850)			E5		
	IR(950)			EF		
IHM-214/226□HV-V	R	47	DC24V	—	ILP-60M2-24 (P.83) IDGB-24 Series (P.91)	5
	AW					
	B					
	IR(850)					
	IR(950)					

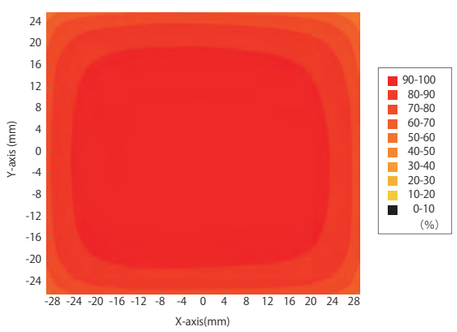
*□ represents light color (R=Red, AW=White, B=Blue, IR-850 or IR-940=Infrared).
*Please refer to P.82 for 24V DC models.
*Optional polarizing plate and light control film can be attached.
Please refer to P.119-120 for more details.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Increased Brightness Compared with IHM-66/60 sizes (Reference Values)

Approx. 1.6 times brighter than wide-angle light distribution type.
Usable with high speed shutters.

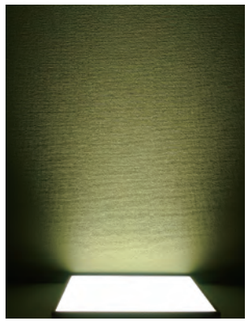


Illuminance Distribution Chart (Reference Values) Measured model: IHM-66/60AW-V

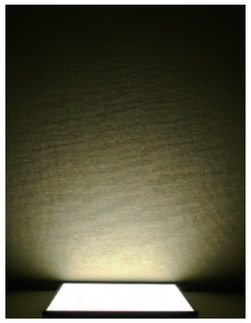


Narrow-angle Light Distribution Prevents Light Diffraction

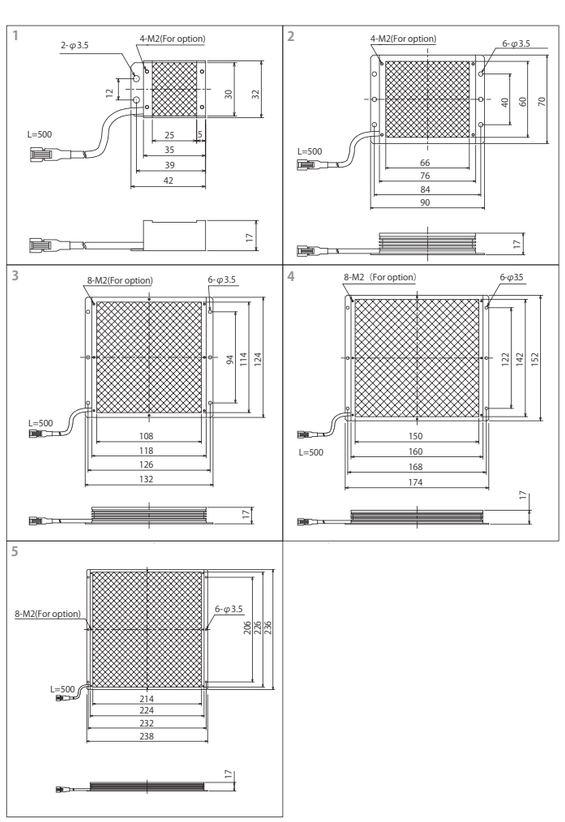
Narrow-angle light distribution prevents the light diffusion around shiny metallic cylinders and enables edge detection.



Narrow-angle light distribution type **IHM-V series**

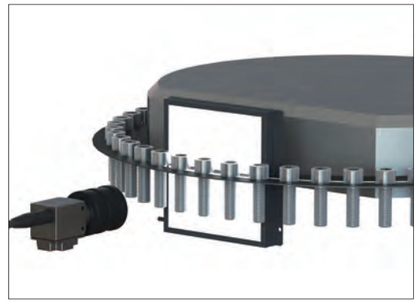


Wide-angle light distribution type **IHM series**



Application example: Edge detection of shiny metallic parts and cracks and contaminants detection of transparent objects, etc.

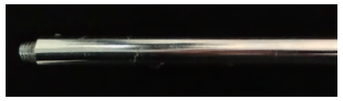
- Lead frame missing piece and bending detection
- Dimensions, cracks, and contaminants detection of transparent objects such as glass and resin



- Thread pitch measurement, crack and chipping detection
- Edge detection of cylindrical objects

Effect

Shiny cylinders, metal connectors, screws, etc.
Able to prevent light diffusion around cylindricals and glossy objects and detect edges



Object: Shiny Cylindrical Metal

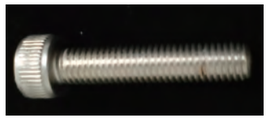
Wide-angle light distribution type (IHM)

Narrow-angle light distribution type (IHM-V)

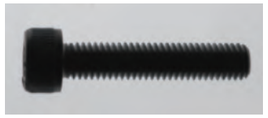
Object: Metal Connector (Mat)

Wide-angle light distribution type

Narrow-angle light distribution type



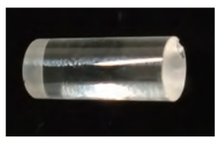
Object: Hexagon Bolt Screw (Mat)



Wide-angle light distribution type

Narrow-angle light distribution type

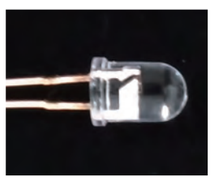
Glass, resins, plastics, etc.
Able to detect edges of transparent objects with parallel light. Air bubbles and cracks on the edge can also be detected.
On the other hand, because they are difficult to penetrate, the wide-angle light distribution type is effective for internal contaminants and condition inspection.



Object: Cylindrical Glass

Wide-angle light distribution type

Narrow-angle light distribution type



Object: LED (resin)

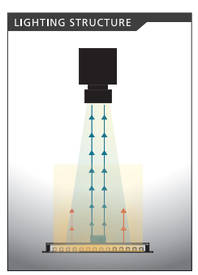
Wide-angle light distribution type

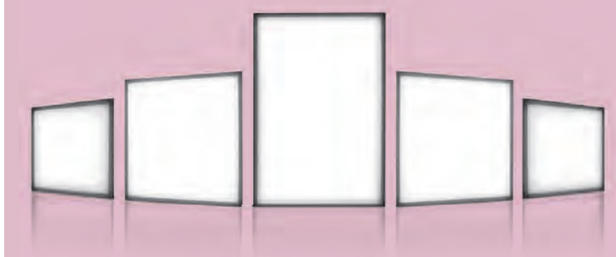
Narrow-angle light distribution type

Object: Cotton Swab (On Plastic Stick)

Wide-angle light distribution type

Narrow-angle light distribution type





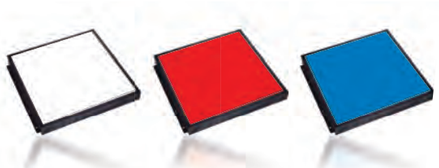
Large Sized Backlight

IFPA series

Large and Uniform Backlight

Available in multiples of 100mm² sizes (Up to 400mm² as standard)

Power LEDs



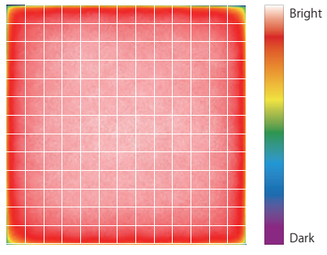
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IFPA-200/100□HV	R AW B	20	DC24V	ILP-60M2-24 (P.83) IDGB-24 Series (P.91)	1
IFPA-300/100□HV	R AW B	30			2
IFPA-400/100□HV	R AW B	40			3
IFPA-200/200□HV	R AW B	40			4
IFPA-300/200□HV	R AW B	60		IWDV-100S-24 (P.99)	5
IFPA-400/200□HV	R AW B	80			6
IFPA-300/300□HV	R AW B	90			7
IFPA-400/300□HV	R AW B	120		IWDV-300S-24 (P.99)	8
IFPA-400/400□HV	R AW B	160			9

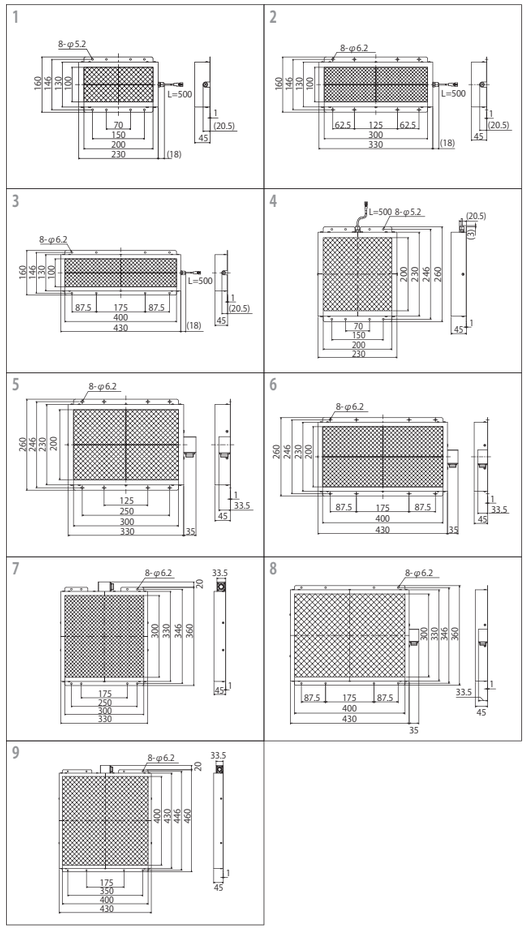
*□ represents light color (R=Red, AW=White, B=Blue).
*For lighting with power consumption less than 60W, please use an extension cable on P.112 or P.114.
*An extension cable is required to connect lighting with a power consumption of over 60W to the controller because the connector will be switched to a metal connector.
Please order a cable of the desired length. Please refer to P.113 for 24V DC lighting extension cables.

Illuminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 10% except approx. 50mm from the edges of the light-emitting surface.

Measured model: IFPA-300 /300AWHV





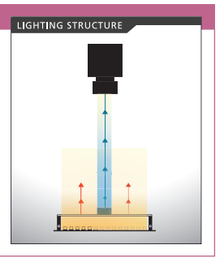
Effect

Ideal for visual inspection of large objects.


IFPA-400/400AWHV


IFPA-400/400AWHV


IFPA-200/200AWHV



Large Sized Backlight with an Opening

IFPA-D series

Large and High Uniform Backlight Supporting Camera Imaging

Two opening sizes are available to match the lens size

Power LEDs

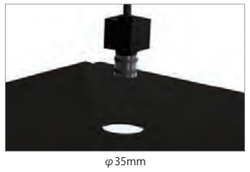
- **The light-emitting surface size is available in 100mm increments from 200×100mm to 500×500mm.**
- **Two opening sizes are available at φ35mm and φ55mm to the center of the light-emitting surface.**
- **Custom sizing Available**
  - **The opening position can be changed in vertical and horizontal directions in 50mm increments from the center of the light emission surface.**
  - **The connector position can be changed to the short side or the long side.**

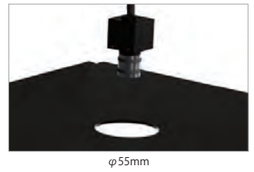
Model	Light Color	Power Consumption (W)	Input Voltage	Captoller Type	Applicable Controllers	Drawing
IFPA-100/100□HV-(X1)D	R AW B	5	DC24V	①	【Controller Type①】 ILP-60M2-24(P.83) IDGB-24 Series(P.91) etc. 【Controller Type②】 IWDV-100S-24 (P.99) 【Controller Type③】 IWDV-300S-24 (P.99)	1
IFPA-200/100□HV-(X1)D	R AW B	15		①		
IFPA-200/200□HV-(X1)D	R AW B	35		①		2
IFPA-300/100□HV-(X1)D	R AW B	25		①		3
IFPA-300/200□HV-(X1)D	R AW B	55		①		
IFPA-300/300□HV-(X1)D	R AW B	85		②		4
IFPA-400/100□HV-(X1)D	R AW B	35		①		1
IFPA-400/200□HV-(X1)D	R AW B	75		②		3
IFPA-400/300□HV-(X1)D	R AW B	115		③		
IFPA-400/400□HV-(X1)D	R AW B	155		③		4
IFPA-500/100□HV-(X1)D	R AW B	45		①		1
IFPA-500/200□HV-(X1)D	R AW B	95		②		3
IFPA-500/300□HV-(X1)D	R AW B	145		③		
IFPA-500/400□HV-(X1)D	R AW B	195		③		
IFPA-500/500□HV-(X1)D	R AW B	245		③		4

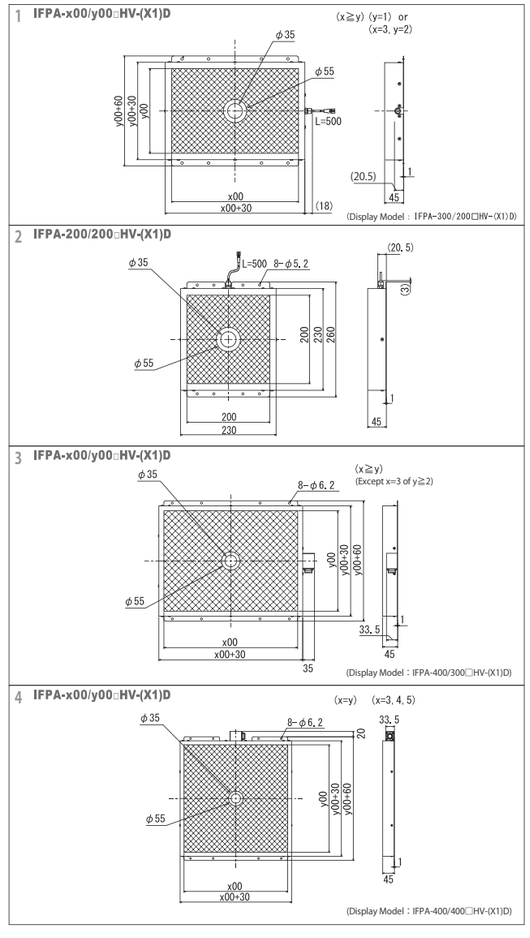
*□ represents light color (R=Red, AW=White, B=Blue).
*The X1 represents the opening diameter (35=φ35mm, 55=φ55mm).
*For lighting with power consumption up to 70W, please use an extension cable on P.112 or P.114.
*An extension cable is required to connect lighting with a power consumption of over 70W to the controller because the connector will be switched to a metal connector.
Please order a cable of the desired length. Please refer to P.113 for 24V DC lighting extension cables.

Two opening sizes are available

Two opening sizes are available to match the lens size

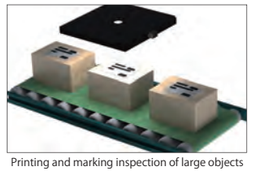

φ35mm

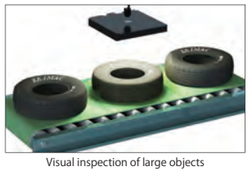

φ55mm

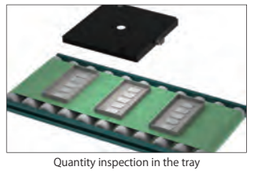


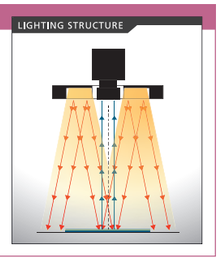
Effect

Ideal for visual inspection of large objects.

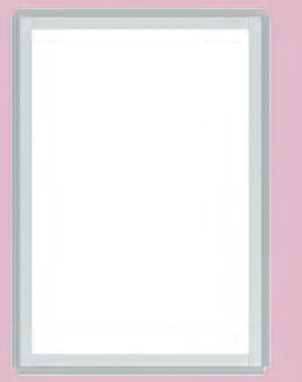

Printing and marking inspection of large objects


Visual inspection of large objects


Quantity inspection in the tray



Backlight



Large Sized Backlight

IFD series

Ideal for Replacing Fluorescent Backlights

Low Cost

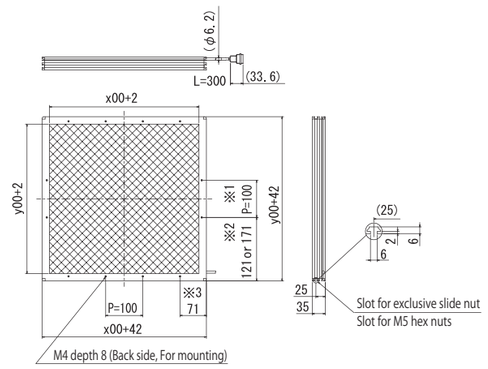
Sizes from A4 to A1 (International Paper Size) are available as standards. Achieved high uniformity.
Sizes larger than 500mm can be customized by 100mm increments.

Paper Size	Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers
A4	IFD-300/200W	W	30	DC48V	IWDV-120S-48 (P.100) (Digital) IWDV-300S-48-C1 (P.100) (Digital) IWDV-300SL-48-C1 (P.101) (Analog)
A3	IFD-400/300W	W	60		
A2	IFD-600/400W	W	120		
A1	IFD-800/600W	W	240		

*For connecting the lighting and controller, an extension cable is required. Please order a cable of the desired length.
*Please refer to P.113 for I-CB-S■-DNEL extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 7, 10)

IFD-x00/y00W

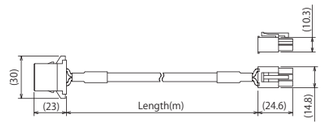
(x≧y) (x=1, 2, 3, ⋯, 24)
(y=1, 2, 3, ⋯, 9)



*1 Limits to y≧4 (If y is less than 4, there will be no mounting hole in y direction)
*2 When y is an odd number=121, when y is an even number=171
*3 Limits to x≧2 (If x is 1, there will be no mounting hole in x direction)

Extension Cable

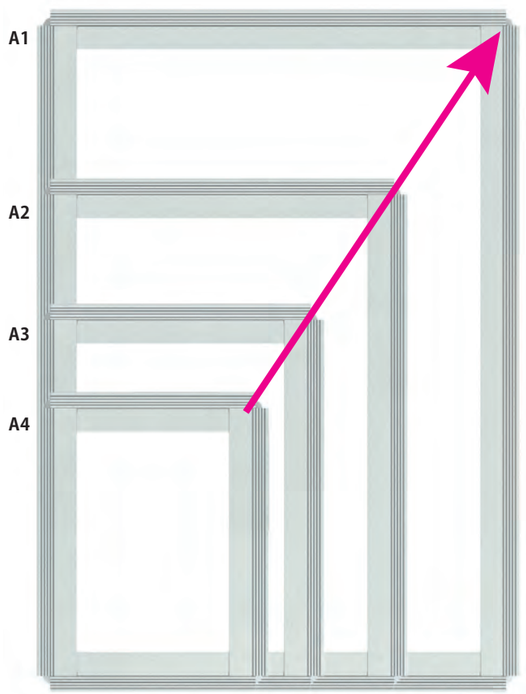
I-CB-S※-DNEL



Model	Length (m)
I-CB-S1-DNEL	1
I-CB-S2-DNEL	2
I-CB-S3-DNEL	3
I-CB-S5-DNEL	5
I-CB-S7-DNEL	7
I-CB-S10-DNEL	10

※ represents length.

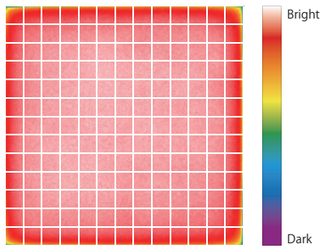
Sizes from A4 to A1 are available as standards.



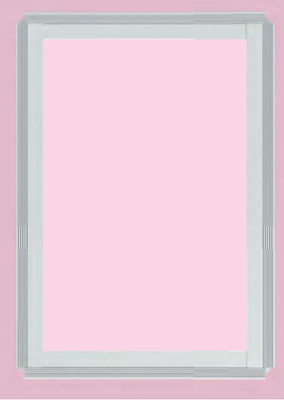
Illuminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 10% except 50mm from the edges of the light-emitting surface.

Measured model: IFD-400/400W



Backlights



Large Sized Backlight

IFD Infrared series

Large Sized Infrared Backlight

Low Cost

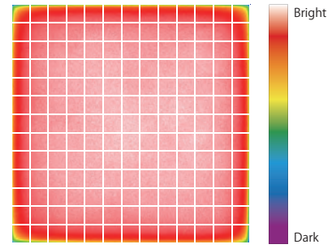
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers
IFD-200/100IR-850	IR (850)	16	DC24V	IWDV-100S-24 (P.99)
IFD-300/100IR-850	IR (850)	24		
IFD-400/100IR-850	IR (850)	32		
IFD-500/100IR-850	IR (850)	40		
IFD-600/100IR-850	IR (850)	48		
IFD-200/200IR-850	IR (850)	32		
IFD-300/200IR-850	IR (850)	48		
IFD-400/200IR-850	IR (850)	64		
IFD-500/200IR-850	IR (850)	80		
IFD-600/200IR-850	IR (850)	96		
IFD-300/300IR-850	IR (850)	72		
IFD-400/300IR-850	IR (850)	96		
IFD-500/300IR-850	IR (850)	120		IWDV-300S-24 (P.99)
IFD-600/300IR-850	IR (850)	144		
IFD-400/400IR-850	IR (850)	128		
IFD-500/400IR-850	IR (850)	160		
IFD-600/400IR-850	IR (850)	192		
IFD-500/500IR-850	IR (850)	200		
IFD-600/500IR-850	IR (850)	240		

*For connecting the lighting and controller, an extension cable is required. Please order a cable of the desired length.
*Please refer to P.113 for I-CB-S■R-MCBSM and I-CB-S■R-MCB extension cables.
*■ represents the length (m) of extension cables. (■=1, 2, 3, 5, 7, 10)

Illuminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 10% except approx. 50mm from the edges of the light-emitting surface.

Measured model: IFD-400/400IR-850

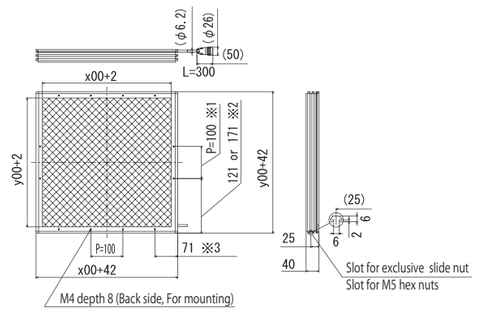


Available sizes in 100mm increments

〈Maximum Available Size〉
・2400mm×100mm ・1500mm×200mm ・1000mm×300mm
・700mm×400mm

IFD-x00/y00IR-850

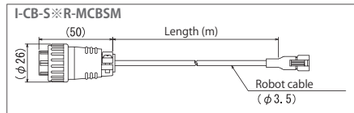
(x≧y) (x=1, 2, 3, ⋯, 24)
(y=1, 2, 3, ⋯, 5)



*1 Limits to y≧4 (If y is less than 4, there will be no mounting hole in y direction)
*2 When y is an odd number=121, when y is an even number=171
*3 Limits to x≧2 (If x is 1, there will be no mounting hole in x direction)

Extension Cable for Connecting to ILP-60M2-24 and IDGB-24

I-CB-S※R-MCBSM



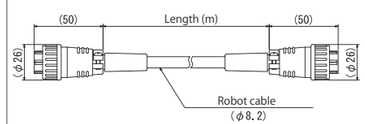
Model	Length (m)
I-CB-S1R-MCBSM	1
I-CB-S2R-MCBSM	2
I-CB-S3R-MCBSM	3
I-CB-S5R-MCBSM	5
I-CB-S7R-MCBSM	7
I-CB-S10R-MCBSM	10

※ represents length.

This cable is for lighting with power consumption up to 70W.

Extension Cable for Connecting to the IWDV

I-CB-S※R-MCB



Model	Length (m)	Length (m)
I-CB-S1R-MCB		1
I-CB-S2R-MCB		2
I-CB-S3R-MCB		3
I-CB-S5R-MCB		5
I-CB-S7R-MCB		7
I-CB-S10R-MCB		10

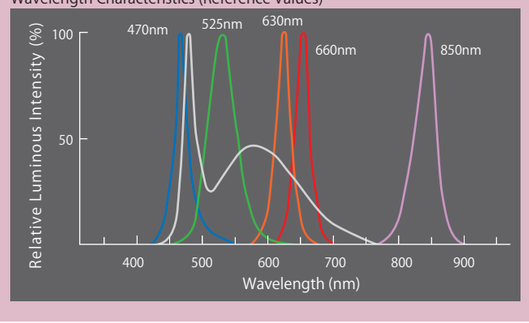
※ represents length.

*Please refer to P.113 for more extension cable details.

Dome Light

Dome Light

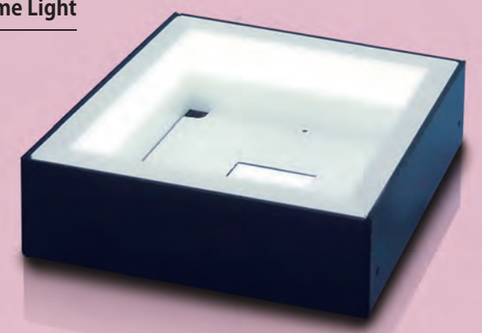
Wavelength Characteristics (Reference Values)



Series	IPQC series	IFHA series	IDDA-KH series	IDD-K series
Product Image				
Features	Shadowless oblique illumination by removing the reflector	Able to be installed without taking up space with its thickness of 8mm	High-illuminance Indirect Dome Light	Indirect domes/ coaxial lights can be attached
Height	30㎜	8㎜ / 9㎜(400/200HV)	30mm or more	39mm or more
Size of Light-emitting Surface	□20～□108mm	50x50㎜～300x300㎜	φ28～φ300㎜	φ54～φ114㎜
Working Distance (Between Light and Object)	Short to Medium	Short	Short	Short
Light Color	Red / White / Blue	Red / White / Blue / Infrared	Red / White / Blue	Red / White / Blue / Green
White Color Temperature	4,900K(typ)	5,000K(typ)	4,900K(typ)	7,000K(typ)
Reference Page	P.56	P.57	P.61	P.62

Series	IDD series	IDD-CB series	IQD・IQDH series
Product Image			
Features	Light Focused Dome Light	Dome Light with 16ch-division	Half-pipe Indirect Dome Light
Height	37mm or more	40mm or more	30mm or more
Size of Light-emitting Surface	φ60～φ102㎜	φ55.8～φ113㎜	30×65㎜～220×350㎜
Working Distance (Between Light and Object)	Short	Short	Short
Light Color	Red / White / Blue / Green	White	White
White Color Temperature	7,000K(typ)	7,000K(typ)	5,000K(typ)
Reference Page	P.63	P.63	P.64

*White color temperature (typ) is a typical value. Please contact us for the details.

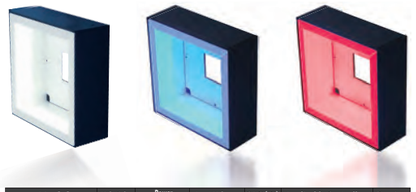


Square Flat-surface Light

IPQC series

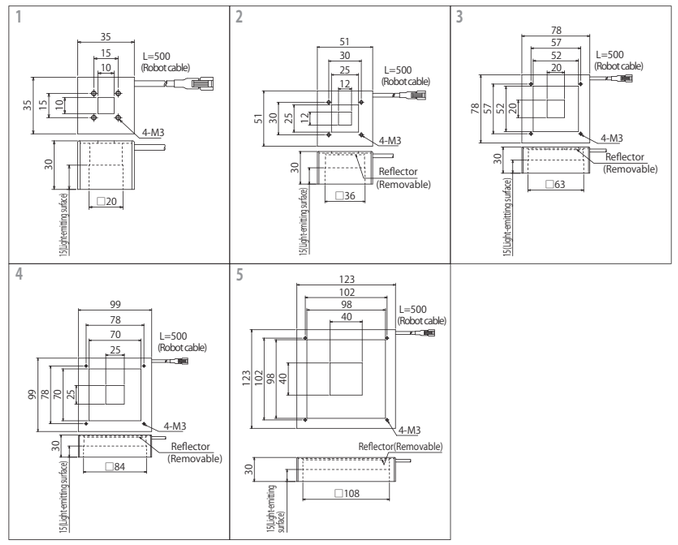
Indirect Uniform Oblique Light with High-illuminance

24V DC Models Available **Power LEDs**

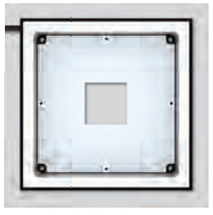


Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IPQC-35□	R	4.2	DC12V	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	W	4.7				
	B	4.7				
IPQC-51□	R	6.5		FF		2
	W	6.8				
	B	6.8				
IPQC-78□	R	11.5		FF		3
	W	12.5				
	B	12.5				
IPQC-99□	R	16.5		FF		4
	W	19		FA		
	B	18		FF		
IPQC-123□	R	21		FF		5
	W	24		D8		
	B	22.5		E9		

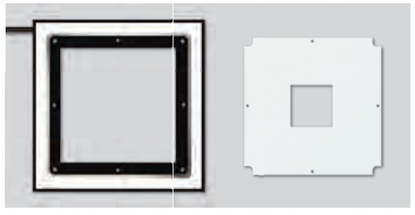
*□ represents light color (R=Red, W=White, B=Blue).
*This model has 12V DC input voltage, but 24V DC models are also available.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



From Dome Lighting to Shadowless Oblique Lighting



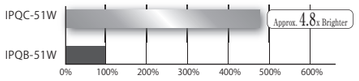
Standard Specifications



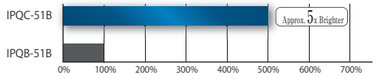
It becomes shadowless oblique lighting from dome lighting by removing the reflector.

Brightness Comparison with Conventional Products (Reference Values)

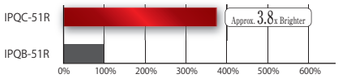
White lighting (WD 10mm)



Blue lighting (WD 10mm)

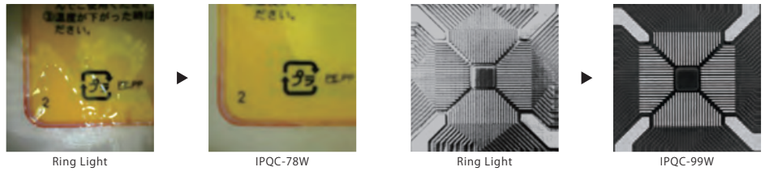


Red lighting (WD 10mm)

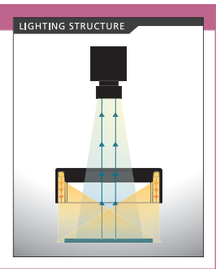


Effect

Images without surface reflection can be obtained by the uniform oblique illumination .



Ring Light　IPQC-78W　Ring Light　IPQC-99W



Dome Light

Square Dome Light

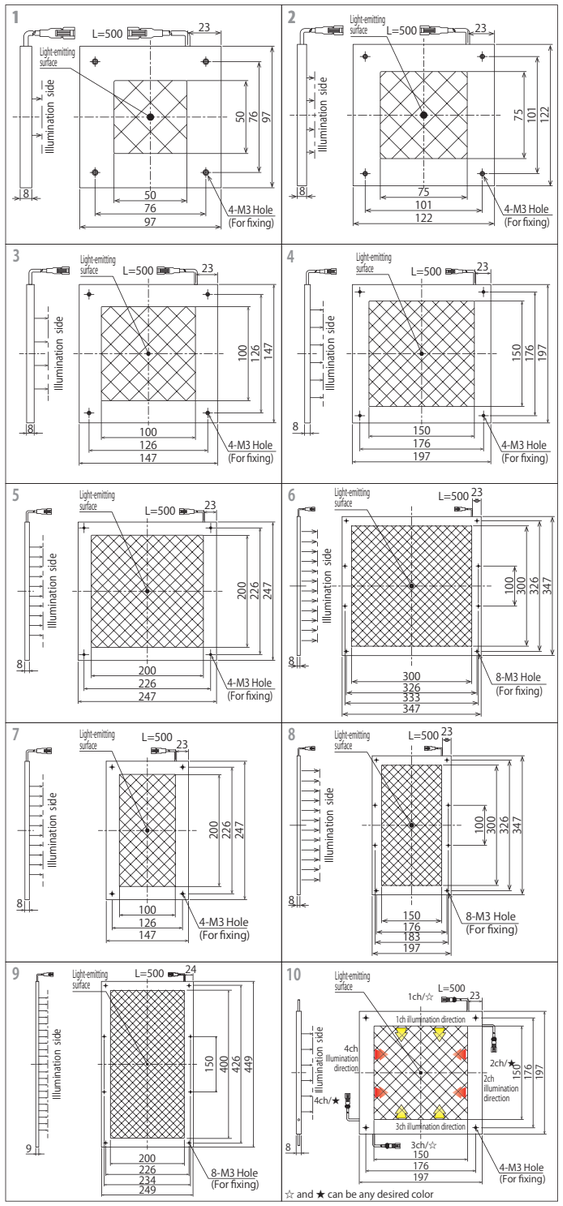
IFHA series

Lightweight and 8mm thin Dome Light
Much brighter and much clearer! Its no camera window design allows it to illuminate a wide range uniformly!

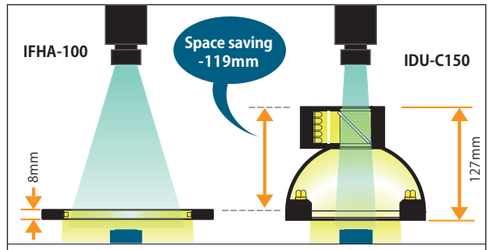
24V DC Models Available | Patent Pending | NEW

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Coptoller Type	Applicable Controllers	Drawing
IFHA-50□	R	9.5	DC12V	D0	①	【Controller Type①】 ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	W			CB			
	B			AD			
	IR(850)	6		FF			
IFHA-75□	R	14		DC			2
	W			E0			
	B			B6			
	IR(850)	9		FF			
IFHA-100□	R	22		C3			3
	W			BC			
	B			A5			
	IR(850)	12.5		FF			
IFHA-150□	R	30		DA			4
	W			B8			
	B			B6			
	IR(850)	17		FF			
IFHA-200□HV	R	33	DC24V	-	②	【Controller Type②】 ILP-60M2-24 (P.83) IDGB-24 Series (P.91)	5
	W						
	B						
IFHA-200□	IR(850)	20.5	DC12V	FF	①		
IFHA-300□HV	R	46	DC24V	-	②	【Controller Type③】 IDGB-■M4 IDGB-■M8 (P.91) Other, overdrive controller (Over 4 CH) etc.	6
	W						
	B						
	IR(850)	38					
IFHA-200/100□	R	20	DC12V	FF	①		7
	W			FF			
	B			F1			
	IR(850)	17.5		FF			
IFHA-300/150□HV	R	30	DC24V	-	②		8
	W						
	B						
	IR(850)	26					
IFHA-400/200□HV	R	44					9
	W						
	B						
IFHA-150WR	W	W:7.5x2ch	DC12V	B8(W)	③		10
	R	R:7.5x2ch		DA(R)			
IFHA-150WIR-850	W	W:7.5x2ch		B8(W)			
	IR(850)	IR:6.2x2ch		FF(IR)			

*□ represents light color (R=Red, W=White, B=Blue, IR-850=Infrared).
*■ represents the power capacity (30=30W, 50=50W, 100=100W).
*24V DC models are also available for the models with 12V DC input voltage except IFHA-75IR-850.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.
*The 2-color combination model is one of the examples.
Other sizes or any combination of desired emission colors can be customized.



Lightweight and thin, and easy to install. Able to capture images in a wide field of view by not having a camera window.

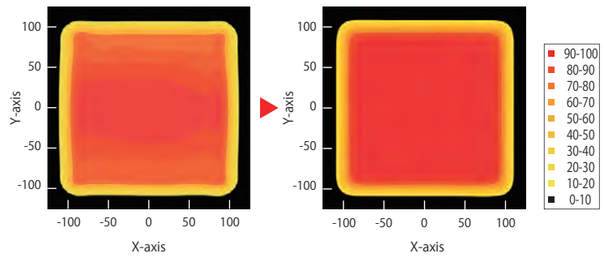


◎Able to be installed in small spaces due to its space saving size
◎Able to capture images with the entire opening as the field of view because there is no camera window.
◎Able to capture images without reflection interference even when close to the object.

Significantly Improved Uniformity

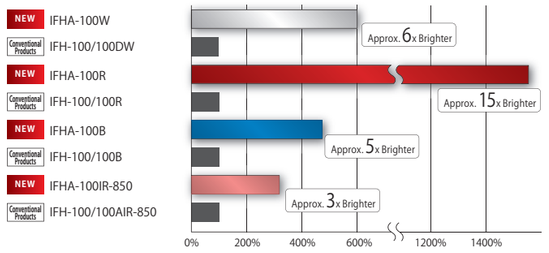
Conventional Products IFH-200/200DW
Illuminance Distribution(LWD=10mm)

NEW IFHA-200WHV
Illuminance Distribution(LWD=10mm)



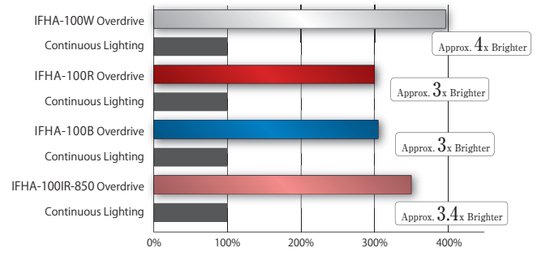
Brightness Improved by approx. 6 times Compared to Conventional Products

Our improved light guide plate was able to more than approx. triple the illuminance compared to conventional products of the same size.



Able to Illuminate Approx.4 Times More by Overdriving for White.

It is able to obtain 3 to 4 times the light intensity by overdriving.



Clarity of the Light Guide Plate is also Greatly Improved

Our improved light guide plate is able to recognize even the blurring of printing due to its improved clarity.

Object: Coffee Package

IFH-150/150DW(Conventional Products) ▶ IFHA-150W

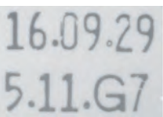
Barcodes

The gap between cords and the thickness of the line that used to look wavy can be accurately recognized by its clarity.

Printing

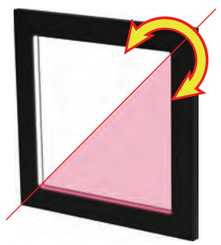
Camera: Monochrome USB3.0
Shutter Speed: 1/000
Lens: 25mm
Aperture: 4

▶

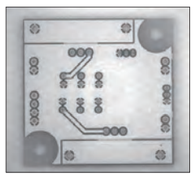


Camera: Monochrome USB3.0
Shutter Speed: 1/000
Lens: 25mm
Aperture: 6

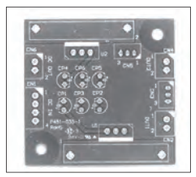
Any combination of desired emission colors can be customized.



It is able to make the light with two different emission colors by customizing the configuration.
This customization clarifies the difference by irradiating different colors without changing imaging position, and the space for two units (two colors) can be accommodated in one unit to make the inspection line compact.
***The intensity of the illumination for each color will decrease by combining colors.**

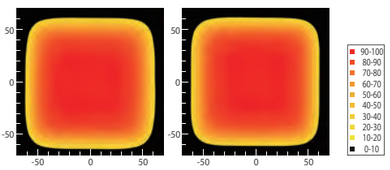


<Infrared Light Illumination >
The PCB's circuit pattern can be detected by penetrating the printing, resist layer, etc.



<White Light Illumination >
It is able to detect silk-screen printings clearly on the PCB.

<IFHA-100WIR: White and Infrared Combination> <IFHA-100W>
White monochromatic illumination
Illuminance Distribution(LWD=10mm) Illuminance Distribution(LWD=10mm)



The comparison of illuminance distribution shows the high uniformity even with a two-color combination configuration.

Refer to the next page for the effects (Image examples).

Image Example with IFHA series

Able to brightly illuminate the entire field of view uniformly while suppressing halation.
Since the IR specification permeates certain types of ink, it is able to recognize scratches and dust with the printing erased.

Printing and marking simultaneous inspection

Object: Coin Cell Battery

Dome Light：IDDA-KH120AW (LWD=10mm)

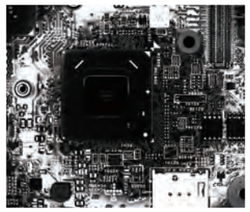
Although the marking can be detected, the printing cannot be recognized. Dirt and contaminants on the surface are recognized.

Light Used：IFHA-150W (LWD=20mm)

Marking and printing can be recognized simultaneously. Dirt and contaminants on the surface are suppressed

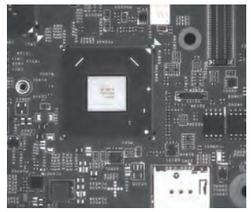
Silk-screen printing inspection on the PCB

Object: PCB



Ring Light：IMAR-130W (LWD=100mm)

Halation occurs near the light-emitting part and it becomes dark in the central area of the camera hole.



Light Used：IFHA-150W (LWD=10mm)

The entire field of view can be illuminated uniformly and silk-screen printed letters and lines are clearly visible.

Quantity inspection in a plastic bag

Object: Screws in a polyethylene bag

Ring Light：IMAR-200W (LWD=80mm)

Halation occurs on the surface of the bag and is not ideal for quantity inspection in the plastic bag.

Light Used：IFHA-150W (LWD=10mm)

The surface halation is reduced and internal quantity can be easily inspected.

Printing inspection of curved surfaces such as cans

Object: Beverage Can

Bar Light: 2 bar lights of oblique illumination

Barcodes, etc., on the curved surface cannot be recognized due to the light reflection.

Light Used：IFHA-150W (LWD=5mm)

The effect of reflections is small even on a curved surface, and the recognizable area is wide.

Printing inspection of a recess

Object: Paper container (bottom)

Light Used：IMAR-130W (LWD=60mm)

Shadows appear around the printed area that make difficult to recognize characters

Light Used：IFHA-150W (LWD=10mm)

Characters can be easily recognized due to low shadow reflection.

Print inspection of film

Object: Coated aluminum film

Ring Light：IMAR-130W (LWD=50mm)

Color irregularity occurs on the printed area due to halation on the film surface.

Light Used：IFHA-150W (LWD=20mm)

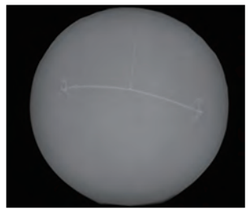
No color irregularity due to halation, and printing and peripheral characters can be clearly recognized.

Inspection of scratches and contaminants on the printed area

Object: Paper container lid

Light Used：IFHA-150W (LWD=15mm)

The reflection on the shrink-wrapped surface is suppressed and the printing is clearly recognized.

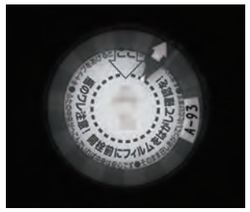


Light Used：IFHA-150IR-850 (LWD=15mm)

Due to permeation of printing ink, printing can be erased which makes scratches, dust, etc., in the printing area recognizable.

Printing, scratches, and contaminants inspection

Object: Shrink packaging of a metal lid

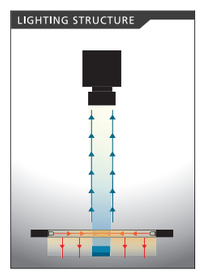


Light Used：IFHA-150W (LWD=15mm)

The reflection on paints and the shrink-wrapped surface is suppressed and the printing is clearly recognized.

Light Used：IFHA-150IR-850 (LWD=15mm)

Infrared can erase printing other than printed letters, and can recognize the printed area in addition to scratches, contamination, etc.



Dome Light

NEO Dome Light

IDDA-KH series

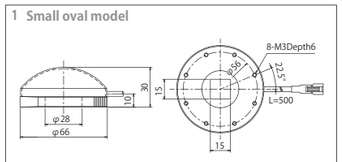
High-intensity Dome Light
Available from φ60 to φ350

Power LEDs | **24V DC Models Available**

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IDDA-KH60□	R / AW / B	6.5	DC12V	FF	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	1
IDDA-KH80□	R / AW / B	9	DC12V	FF	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	2
IDDA-KH120□	R / AW / B	13.5	DC12V	FF	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	3
IDDA-KH150□	R / AW / B	18	DC12V	FF	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	4
IDDA-KH220□	R / AW / B	28.5	DC12V	FF / C3 / BC	ILP-30M2(P.83) IDGB series(P.91) Overdrive controllers, etc.	5
IDDA-KH270□HV	R / AW / B	34	DC24V	—	ILP-60M2-24(P.83) IDGB-24 series (P.91)	6
IDDA-KH350□HV	R / AW / B	44	DC24V	—	ILP-60M2-24(P.83) IDGB-24 series (P.91)	7

*□ represents light color (R=Red, AW=White, B=Blue).
*24V DC models are also available for the models with 12V DC input voltage.
*Please refer to P.82 for 24V DC models.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.

1 Small oval model



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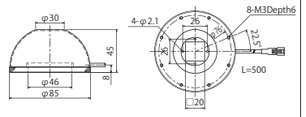

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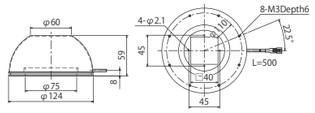
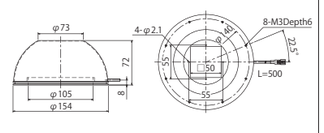


4



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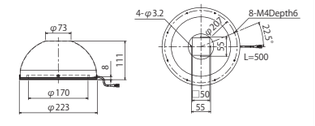

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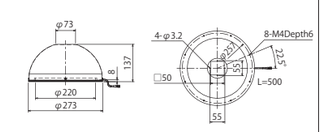
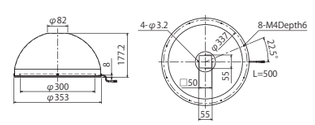
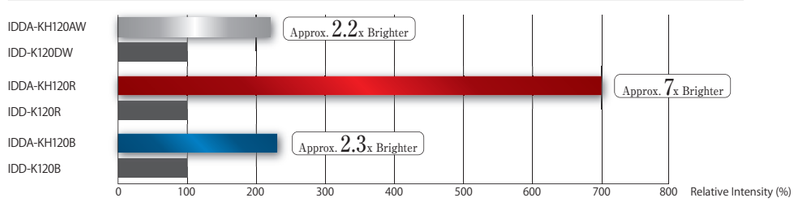


7



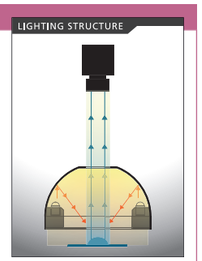
Brightness Comparison with Conventional Products (Reference Values) (WD=50mm)



Effect

Misalignment of an aluminum lid can be clearly recognized by changing the wavelength band.The bottom surface of a paper cup with depth can be illuminated brightly and uniformly.

LIGHTING STRUCTURE



Dome Light

Dome Light

IDD-K•IDU-C series

Reflective Uniform Dome Light with Coaxial Light

24V DC Models Available

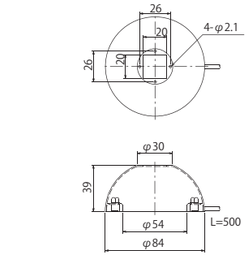
IDD-K series

IDU-C series

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IDD-K80R	R	3.9	DC12V	70	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDD-K80□	DW / B / G	4.4	DC12V	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDD-K120R	R	6.3	DC12V	72	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	2
IDD-K120□	DW / B / G	7.2	DC12V	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	2
IDD-K150R	R	10.8	DC12V	75	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	3
IDD-K150□	DW / B / G	13	DC12V	FF	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	3
IDU-C80R	R	5.1	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	4
IDU-C80□	DW / B / G	6.1	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	4
IDU-C120R	R	9	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	5
IDU-C120□	DW / B / G	10.3	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	5
IDU-C150R	R	15.6	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	6
IDU-C150□	DW / B / G	17.9	DC12V	—	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	6

*□ represents light color (DW=White, B=Blue, G=Green).
*The camera hole of IDD-K models can be customized to a circular hole instead of a square hole. This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*Models with a horizontal opposed ring light are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

1



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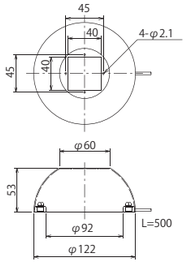

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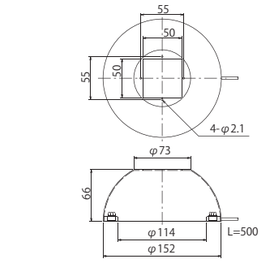

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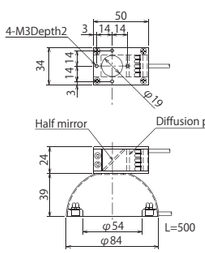

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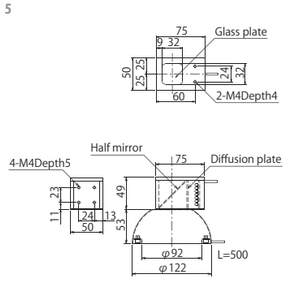
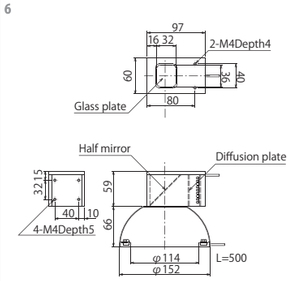


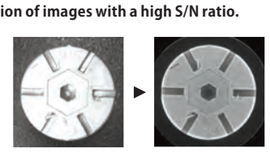
6



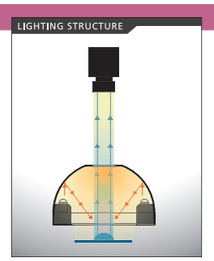
Effect

Uniform illumination from every direction reduces surface reflections, which enables the acquisition of images with a high S/N ratio.

Imaging Example with IDD-K

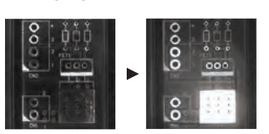


LIGHTING STRUCTURE

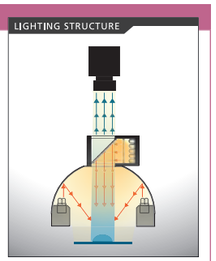


With the coaxial light's specular reflected light component and the dome effect, only the solders can be highlighted.

Imaging Example with IDU-C



LIGHTING STRUCTURE



Dome Light

Direct Dome Light

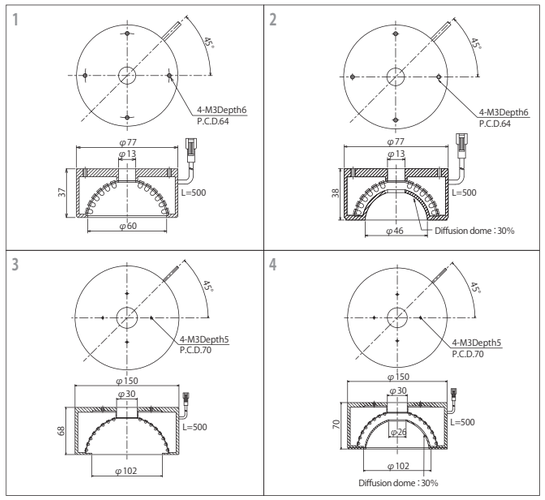
IDD series

Strong Illumination from All Directions

24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IDD-60/13□	R	2.7	DC12V	6F	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	4		FF		
IDD-60/13□S(30%)	R	2.7		6F		2
	DW B G	4		FF		
IDD-120/30□	R	12.5		76		3
	DW B G	18.8		FF		
IDD-120/30□S(30%)	R	12.5		76		4
	DW B G	18.8		FF		

*□ represents light color (R=Red, DW=White, B=Blue, G=Green).
*Diffusion dome with a transmissivity of 30%, 60%, 80%, or 90% can be attached.
This model has 12V DC input voltage, but 24V DC models are also available. Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Option (Diffusion dome can be attached)

Dome Light

Dome Light with 16ch-division

IDD-CB series

Even scratches and dents that are difficult to detect can be clearly captured with multi-channel illumination .

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IDD-CB60/13DW-16CH	DW	7.6	DC12V	FF	IDGB-30M8-TP/PI IJS-40M8-TP Requires two of each controller	1
IDD-CB120/30DW-16CH	DW	18		FF		2
IDD-CB120/50DW-16CH	DW	18.8		FF		3

*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

No need to select lighting according to object shape due to illumination from 16 directions

IDD-CB60/13DW-16CH has 3 steps, IDD-CB120 series have 4 steps.
One unit can handle from high- to low-angle illumination .

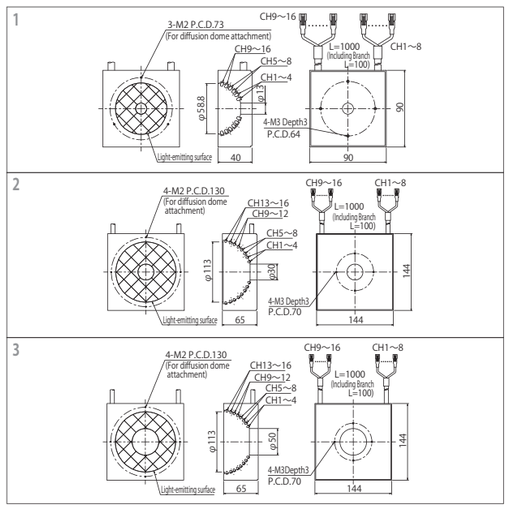
<IDD-CB120/50DW-16CH>
16 channel all lit state

CH1 lit state

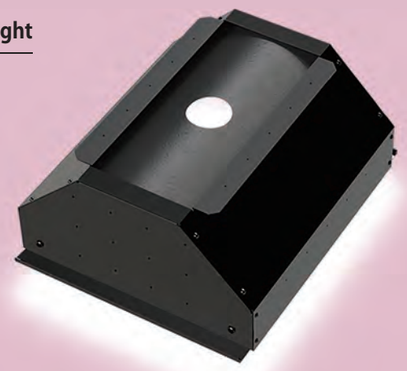
CH5 lit state

CH9 lit state

CH13 lit state



Dome Light



Half-pipe Light

IQD・IQDH series

Uniform illumination of spherical surfaces, irregular surfaces, and long objects.
The AW series is approx. 3 times brighter than the original W series by adopting a new LED.
Full-color RGB model also available

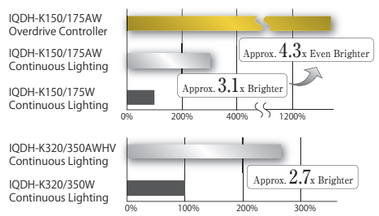
Power LEDs*

*Only for IQDH

Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IQD-K60/65DW	DW	Each channel 0.8W Total 1.6W	DC 12V	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IQDH-K150/175AW	AW	Each channel 19W Total 38W			2
IQDH-K320/350AWHV	AW	Each channel 35W Total 70W	DC 24V	ILP-60M2-24 (P.83) IDGB-24 series (P.91)	3
IQDH-K320/350RGB	R B G	Each channel R, B, G: 13W each Total 78W	DC 12V	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	4

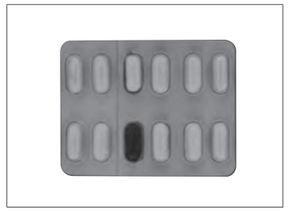
*24V DC models are also available for the models with 12V DC input voltage.
*Please refer to P.82 for 24V DC models.
*Sizes and shapes other than those above are also available.

Brightness Comparison of New AW and Old W (WD=50mm)

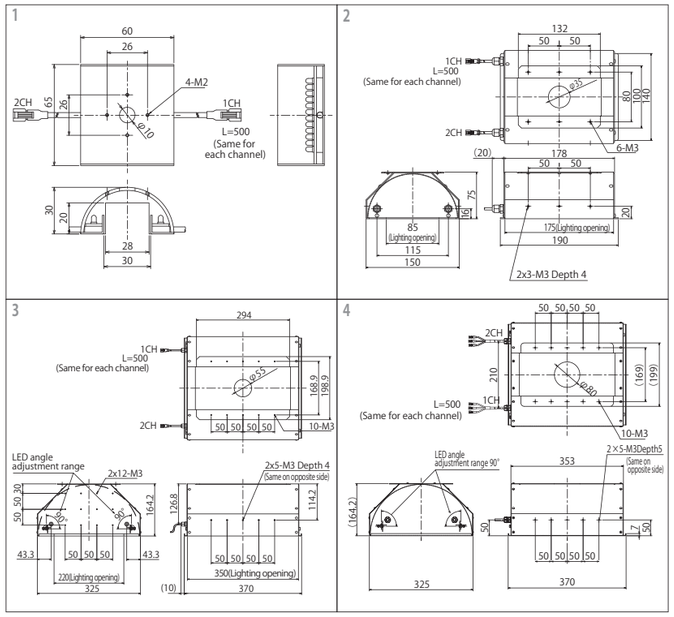


Uniform illumination from a close distance reduces surface reflections on a package

Ring Light with Diffusion Plate



IQDH-K320/350AWHV

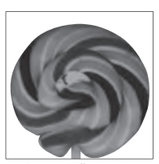


Effect

Image example of blended RGB color. Light Used : IQDH-K320/350RGB

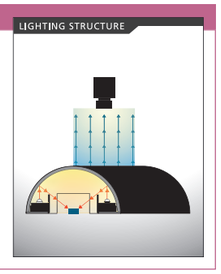
Red / Green / Blue LED Illumination

Red LED Illumination



Green LED Illumination

Blue LED Illumination

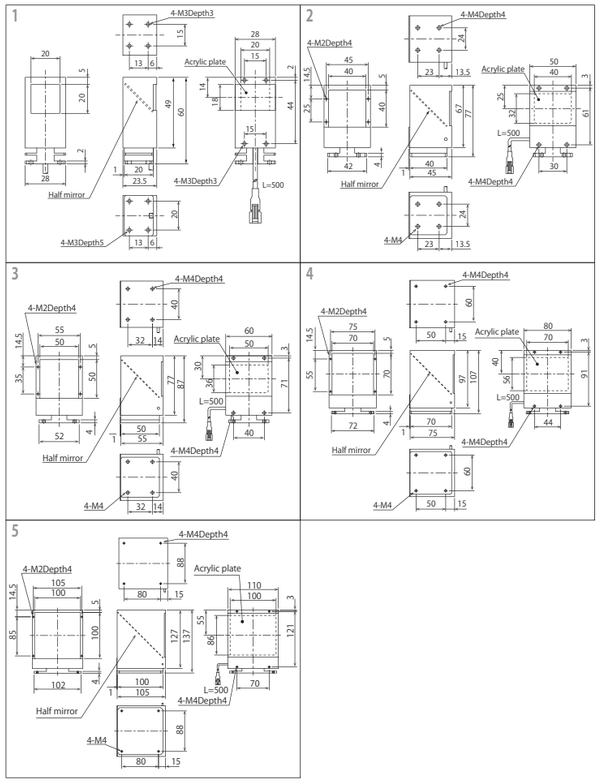


Narrow-angle Light Distribution Coaxial Light

IFVA series

High-intensity, High-uniformity, and Compact Coaxial Light

24V DC Models Available | Design Registered | NEW

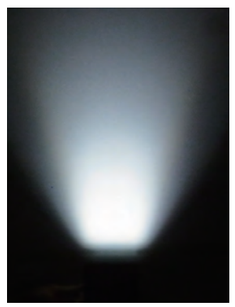


Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IFVA-20□	R	4.2	DC12V	FF	ILP-30M2(P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	W			FF		
	B			FF		
	IR-850	T.B.D		FF		
IFVA-40□	R	10.5		98		2
	W			AA		
	B			98		
	IR-850	T.B.D		FF		
IFVA-50□	R	14		A7		3
	W			B9		
	B			A7		
	IR-850	T.B.D		FF		
IFVA-70□	R	24		B9		4
	W			D9		
	B			B9		
	IR-850	T.B.D		FF		
IFVA-100□HV	R	32	DC24V	-	ILP-60M2-24(P.83) IDGB-24 series(P.91)	5
	W					
	B					

*□ represents light color (R=Red, W=White, B=Blue, IR-850=Infrared).
*24V DC models are also available for the models with 12V DC input voltage.
*An optional polarizing plate that can reduce glare and surface reflection of objects can be attached.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Narrow-angle light distribution characteristics

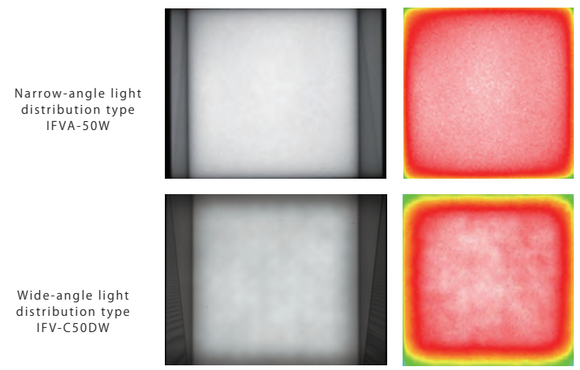
Wide-angle light distribution type
IFV series



Narrow-angle light distribution type
IFVA series

High-parallelism illumination can emphasize defects and features of objects clearly.

High Uniformity



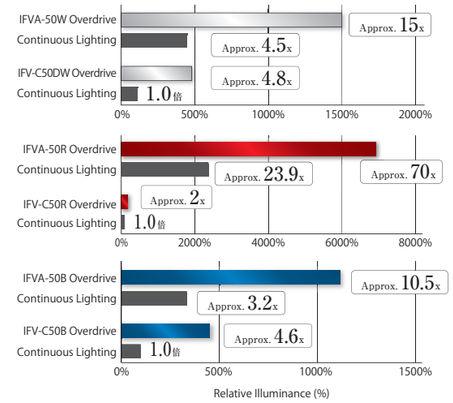
A wider illumination area can be used due to high-uniform illumination to the periphery.

Brightness Comparison

Wide-angle light distribution type
IFV-C50DW
Shutter speed: 1/10,000
Continuous lighting: 100%

Narrow-angle light distribution type
IFVA-50W
Shutter speed: 1/10,000
Continuous lighting: 100%

Brightness Comparison with the same size model: IFVA-50 (WD=50mm)

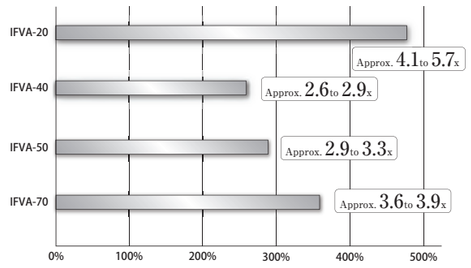


250% higher illuminance than continuous light with an overdrive controller.

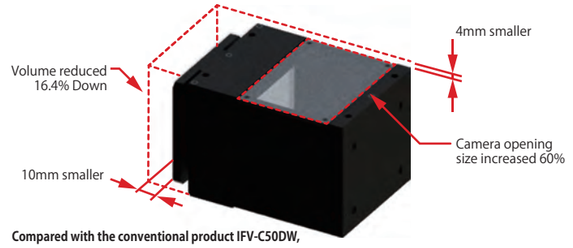
Overdrive Controller
IJS series

*Comparison at the same shutter speed

Brightness comparison of continuous light and overdrive (WD=50mm, Continuous light at 100%)



Significant improvement of the housing design with reduced size and higher

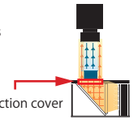


Compared with the conventional product IFV-C50DW,

①Decreased housing size by 16.4% by adopting an LED chip
②Maintains a wide field of view due to the opening size on the camera side being increased by 60%
③Easier installation by removing overhangs of screws on the camera side
④Higher heat dissipation due to the all-aluminum housing and its original heat sink design
***Please note that the housing gets hot.**

A wide range of options and various applications

①Dust-proof protection cover
For preventing dust and falling objects
Ideal for edge detection as backlight

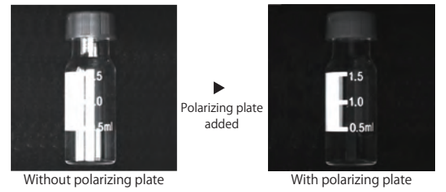


Model	Applicable Light
IKFVA-20-PRC	IFVA-20□
IKFVA-40-PRC	IFVA-40□
IKFVA-50-PRC	IFVA-50□
IKFVA-70-PRC	IFVA-70□
IKFVA-100-PRC	IFVA-100□HV

②Polarizing plate
Its high illuminance improves the effect of polarizing plates.The usage range will expand by using polarizing filter for the lens (IMPL series).

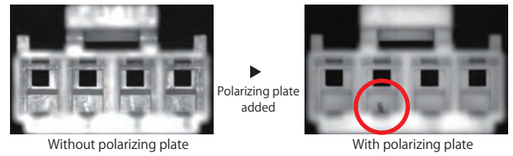
Model	Applicable Light
IKFVA-20-PL	IFVA-20□
IKFVA-40-PL	IFVA-40□
IKFVA-50-PL	IFVA-50□
IKFVA-70-PL	IFVA-70□
IKFVA-100-PL	IFVA-100□HV

Optional polarizing plate can remove reflections on a curved surface



Without polarizing plate
With polarizing plate

Halation occurs on the curved surface on the bottle without a polarizing plate, and it is difficult to distinguish the printed area. However, by adding a polarizing plate, it can remove halation, and the printed area can be easily distinguished.



Without polarizing plate
With polarizing plate

The contrast of reflection between the defect inside of the connecter and the other area is not clear without a polarizing plate. However, by adding a polarizing plate, the contrast becomes clear, and defect can be recognized easily.

Effect

Illuminance comparison at shutter speed 1/10,000 (100% light output)

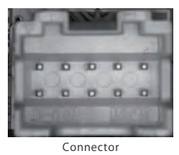
IFV-C50DW

IFVA-50W

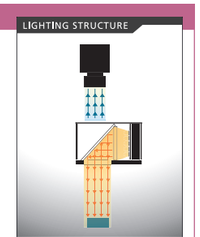
Image Example

Coin Cell Battery

Alignment Mark



Connector

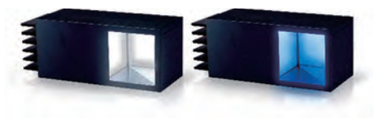


Ultra-high Luminance Coaxial Light

IFVH series

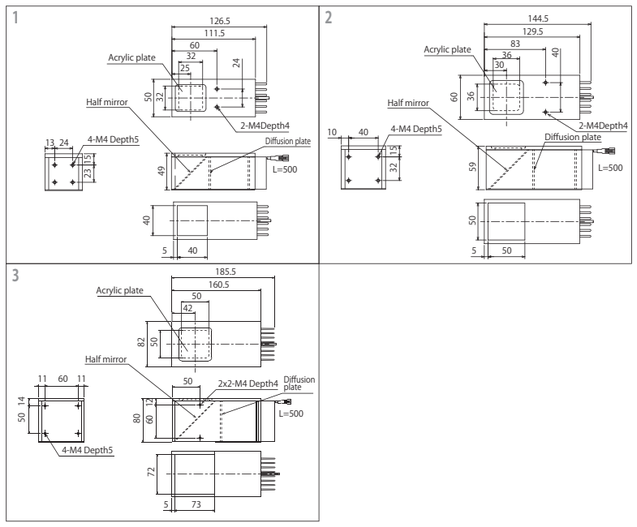
Able to inspect at high-speed

24V DC Models Available



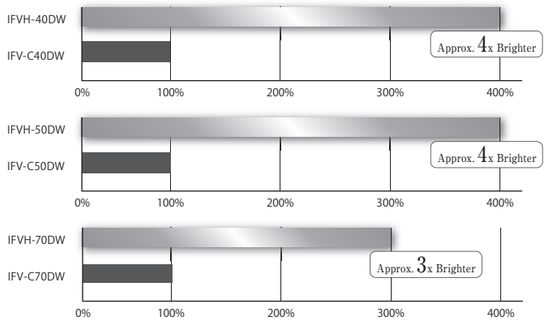
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFVH-40□	DW	7.2	DC12V	C8	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	B			C5		
IFVH-50□	DW	9.6		C9		2
	B			C7		
IFVH-70□	DW	23.1		D1		3
	B			CF		

*□ represents light color (DW=White, B=Blue).
This model is 12V DC input voltage, but also 24V DC models are available.
*Optional light control film that can increases the parallelism of the light can be attached.
Please refer to P.120 for more details.
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.

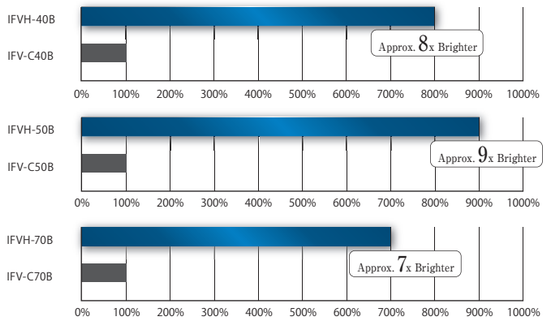


Brightness Comparison with Conventional Products (Reference Values)

White lighting (WD 150mm)

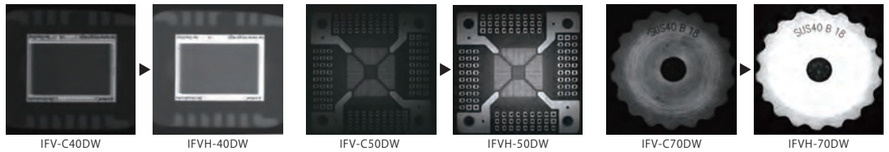


Blue lighting (WD 150mm)

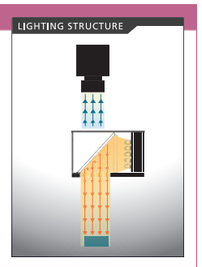


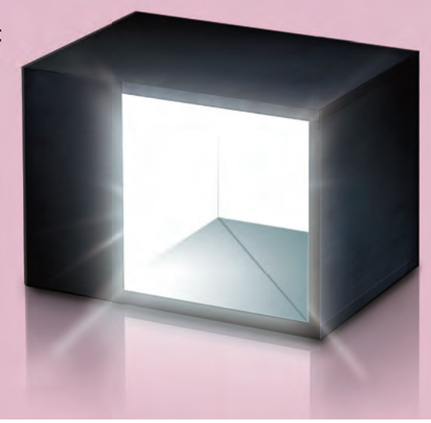
Effect

Image comparison at shutter speed 1/10,000 (100% light output)



IFV-C40DW / IFVH-40DW / IFV-C50DW / IFVH-50DW / IFV-C70DW / IFVH-70DW (With light control film)





Coaxial Light

IFV series

Ideal for objects with mirrored surfaces

Highly uniform illumination with coaxial and straight coaxial light

24V DC Models Available

Coaxial Models

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFV-C13□-HM	DR	0.3	DC12V	C5	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
	DW B G	0.6		FF		
IFV-C20□	DR	1.2		C6		2
	DW B G	1.7		FF		
IFV-C32□	DR	2.4		C6		3
	DW B G	2.6		FF		
IFV-C40□	DR	3.6		C7		4
	DW B G	3.1		FF		
IFV-C50□	DR	6		C9		5
	DW B G	4.9		FF		
IFV-C70□	DR	10.2		CC		6
	DW B G	10.1		FF		
IFV-C100□	DR	19.2		D2		7
	DW B G	19.5		FF		

Straight Coaxial with Beam Splitter Models

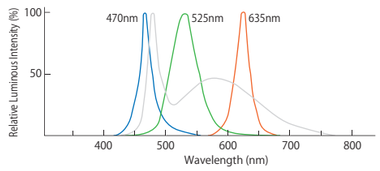
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFV-C18□-BS-C01	DR	1.2	DC12V	C6	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	8
	DW B G	1.3		FF		
IFV-C28□-BS-C01	DR	2.2		C7		9
	DW B G	3.5		FF		

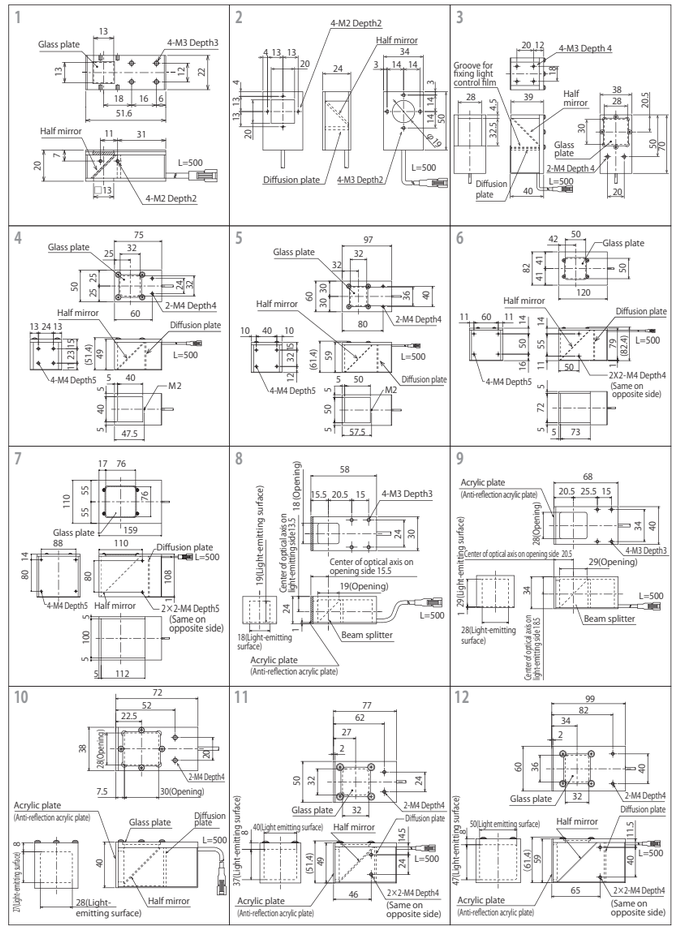
Straight Coaxial with Half Mirror Models

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (※)	Applicable Controllers	Drawing
IFV-C32□-C01	DR	2.4	DC12V	C6	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	10
	DW B G	2.6		FF		
IFV-C40□-C01	DR	3.6		C7		11
	DW B G	3.1		FF		
IFV-C50□-C01	DR	6		C8		12
	DW B G	4.9		FF		

*□ represents light color (DR=Red, DW=White, B=Blue, G=Green).
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please refer to P.82 for 24V DC models.
*Sizes other than those above are also available.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

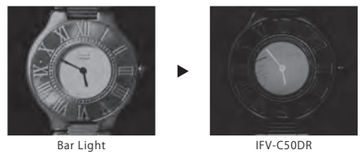
Wavelength Characteristics



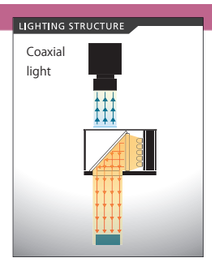


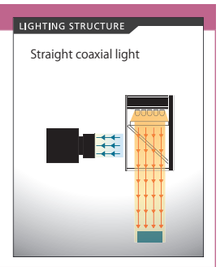
Effect

Defects can be easily detected by using specular reflection when irradiating the object from the optical axis.

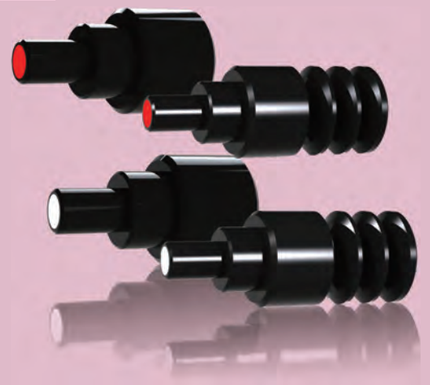


Bar Light / IFV-C50DR





Coaxial Light



Coaxial Spot Light

IV-14•IV-30•IHV-20•IHVE-21 series

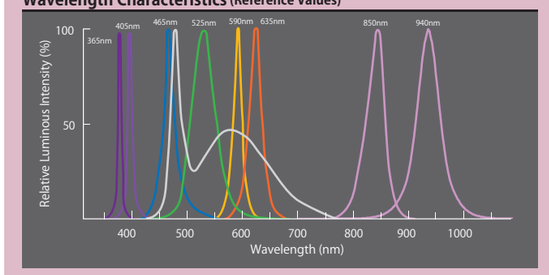
Ultra-high Luminance Coaxial Spot Light

Available with Infrared 850, 940nm and Ultraviolet 365 to 405nm

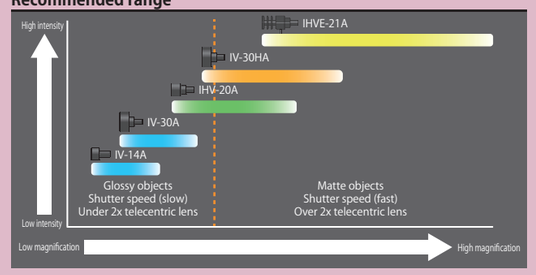
Design Registered※ **Power LEDs※**

※IHVE-21A ※Excluding IV-14mk II

Wavelength Characteristics (Reference Values)



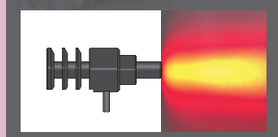
Recommended range

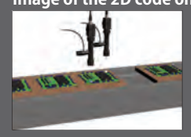


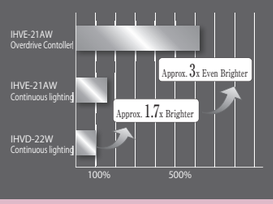
IHVE-21A

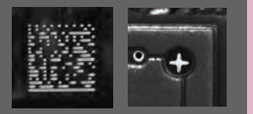
Achieved the highest class of brightness in the industry through our original optical design.
Ideal for high magnification lenses.

Image of the 2D code on PCB









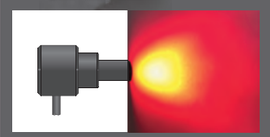
Light Used：IHVE-21AW

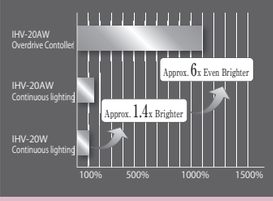
White color temperature: 6,500K (typ)

IHV-20A

Compact and high intensity.
Able to illuminate up to 8 times the brightness due to overdrive.
It can be widely used at low to high magnification.

Image of alignment marks on the LCD panel





Light Used：IHV-20AW

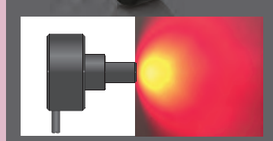
White color temperature: 6,500K (typ)

IV-30A

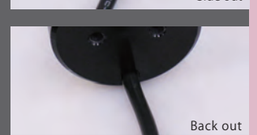
Achieved high intensity with 12V DC drive due to our original optical design.
Ideal for various applications.

Cable is movable to 90°

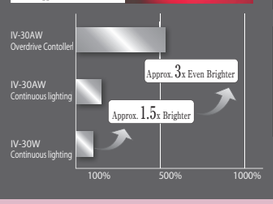
IV-30A series



Side out



Back out



White color temperature: 4,900K (typ)

IV-14A

Weight 15g

Achieved the smallest lighting with 12V DC drive in the industry due to our original optical design.

Smallest in the industry

IV-14A series

Space saving for installation

White color temperature: 4,900K (typ)

※White color temperature (typ) is a typical value. Please contact us for the details.

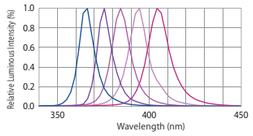
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IV-14□mk II	R DW B G	0.24W	DC12V	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IV-14A■	R W B G	1W			2
IV-30A■	R W B G	2W			3
IV-30HA▼	R W B G Y	2W			4

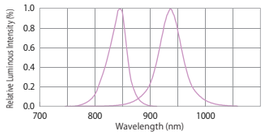
Model	Light Color	Power Consumption (W)	Applicable Controllers	Drawing
IHV-20A▼	R W B G Y	350mA	ILC-350M2-VI (P.84) IDCA series (P.97)	5
IHVE-21A▼	R W B G Y	700mA	ILC-700M2-VI (P.84) IDCA series (P.97)	6

*□ represents light color (R=Red, DW=White, B=Blue, G=Green).
*■ represents light color (R=Red, W=White, B=Blue, G=Green).
*▼ represents light color (R=Red, W=White, B=Blue, G=Green, Y=Yellow).

Infrared and Ultraviolet Coaxial Spot Light

Model	Light Color	Input Current	Applicable Controllers	Drawing
IHV-20AUV-365	UV(365)	350mA	ILC-350M2-VI(P.84) IDCA series (P.97)	5
IHV-20AUV-375	UV(375)			
IHV-20AUV-385	UV(385)			
IHV-20AUV-395	UV(395)			
IHV-20AUV-405	UV(405)			
IHV-20AIR-850	IR(850)			
IHV-20AIR-940	IR(940)			
IHVE-21AUV-365	UV(365)	700mA	ILC-700M2-VI(P.84) IDCA series (P.97)	6
IHVE-21AUV-375	UV(375)			
IHVE-21AUV-385	UV(385)			
IHVE-21AUV-395	UV(395)			
IHVE-21AUV-405	UV(405)			
IHVE-21AIR-850	IR(850)			
IHVE-21AIR-940	IR(940)			



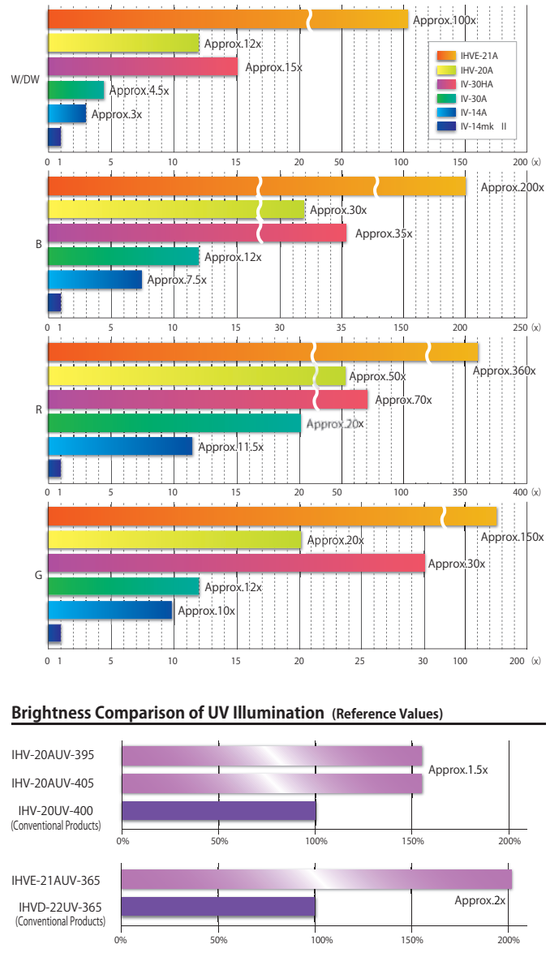


Optional resistance box for IHV and IHVE

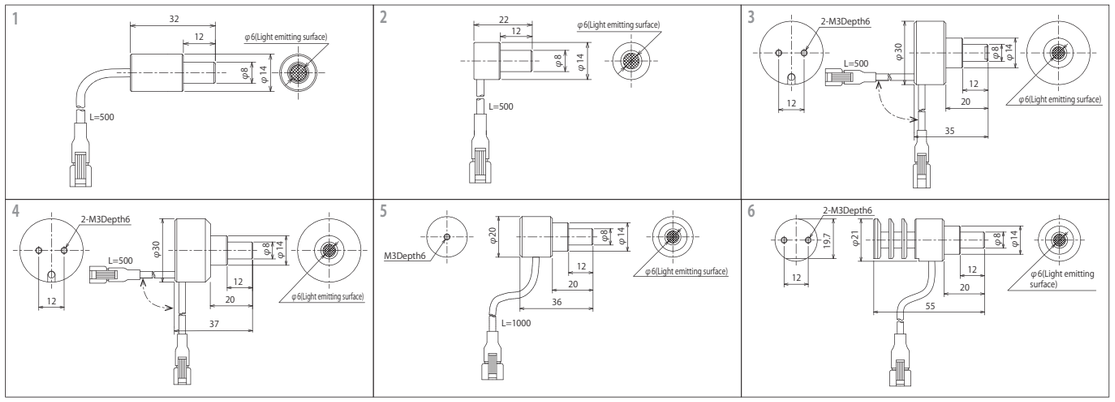
Required when using with 12V DC output controller.
A controller such as ILP and IDGB other than the applicable controller can be used via a resistance box.
It is also required when overdriving.

Please refer to P.73 for more details.

Brightness Comparison of Each Color (Reference Values) Relative brightness based on IV-14mkII Color

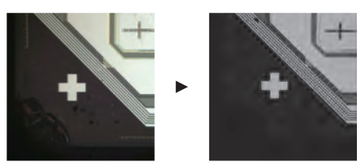


Brightness Comparison of UV Illumination (Reference Values)

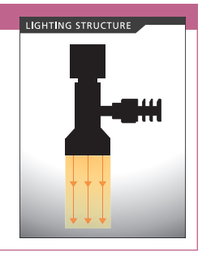


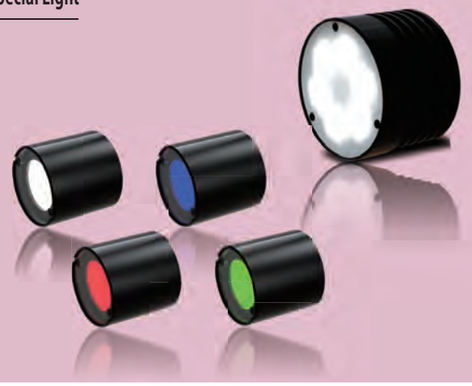
Effect

Able to capture images even at shutter speed 1/20,000. Light Used IHVE-21AW



Color camera image ▶ Monochrome camera image





Mini Spot Light

IHVA-SP series
IHSL-SP series

Small spot light that can be installed in various environments.

Special Optical Design | Power LEDs

Model	Light Color				Input Voltage	Input Current	SAG(※)	Applicable Controllers	Drawing
IHVA-SP30■-□	R	W	B	G	-	700mA	-	ILC-700M2-VI(P.84) IDCA series (P.97)	1
IHSL-SP50■-□	R	W	B	G	DC12V	Power Consumption 7 W	FF	ILP-30M2(P.83), etc.	2

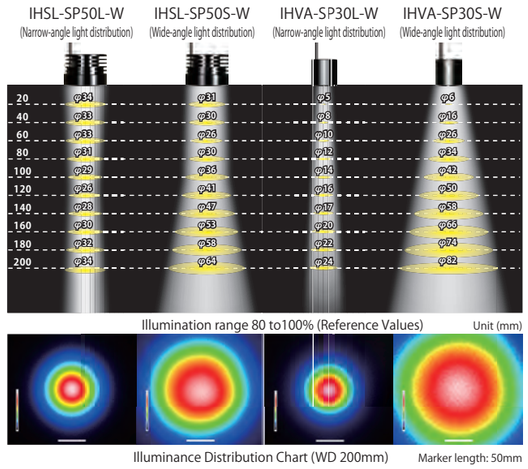
*IHVA-SP can be connected to a controller other than the applicable controller via a resistance box.
*■ represents S (wide-angle light distribution) or L (narrow-angle light distribution).
*□ represents light color (R=Red, W=White, B=Blue, G=Green).
*24V DC models are also available for the models with 12V DC input voltage.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Small and Lightweight Spot Lighting

- **IHVA-SP30**
  Compact and lightweight single-lamp spot lighting with a diameter of 30mm x 30mm and a weight of 60g.
  Ideal for applications that require small, lightweight, and high power lighting such as illumination for the tip of a robot arm.
- **IHSL-SP50**
  Compact and lightweight multi-lamp spot lighting with a diameter of 50mm x 35mm and a weight of 120g.
  Ideal for applications that have a limited space such as illumination to the tip of a robot arm from a medium to long distance.

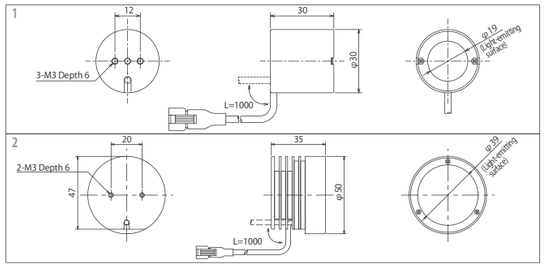
Available with wide-angle light distribution type and narrow-angle light distribution type.

- The IHVA-SP30 is available in two types: 1) the narrow-angle light distribution IHVA-SP30L type with the same light distribution angle as the conventional IHV-SP30 product, and 2) the wide-angle light distribution type IHVA-SP30S with a wider illumination range than the conventional IHV-SP30 product.



Illumination range 80 to100% (Reference Values) Unit (mm)

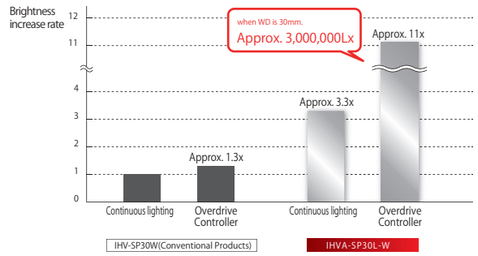
Illuminance Distribution Chart (WD 200mm) Marker length: 50mm



Able to illuminate even brighter due to overdrive. *Reference values

**IHVA-SP30 can be illuminated approx. 3.5 times brighter than the continuous light by using with a resistance box for overdrive, RBOX-SAG.
It can be used for high-speed inspection such as a Xenon lamp replacement.**

IHSL-SP50 can illuminate at continuous light approx.1.4 times brighter with the narrow-angle light distribution, L type, and 1.8 times or brighter with the wide-angle light distribution, S type, compared to IHVA-SP30. (Comparison WD=1,000mm) Approx. 4 times brighter than the continuous illumination when overdriving, which is ideal for situations requiring higher illumination from a long distance.



Optional Resistance Box (For overdrive and continuous lighting)

**A controller other than the applicable controller such as ILP and IDGB can be used via a resistance box.
With overdriving it is approx. 3.5 times brighter than the continuous light by using a resistance box for overdrive, RBOX-SAG.**
Please refer to P.73 for more details.

Extension Cable

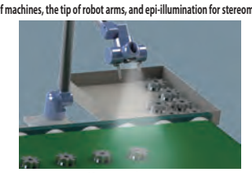
- **IHVA-SP30**
  Extendable with robot cables I-CB-S■-HV3W, and I-CB-S■R-HV3W-C02 (P.112).
- **IHSL-SP50**
  Extendable with a 12V DC extension cable (P.112).

*■ represents the length (m) of extension cables. (■=1, 2, 3, 4, 5, 10)

Effect

It can be installed in various environments such as the inside of machines, the tip of robot arms, and epi-illumination for stereomicroscopes.

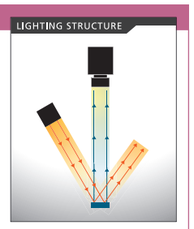
Print inspection of transparent containers.



Mount to robot arms

Ideal when requiring a long distance from the object

Use in robot picking environments



Collimate Light

IBF series

**LED Parallel light source
Approx. 1.5x brighter than the conventional
Capable of illuminating objects several dozen meters away**

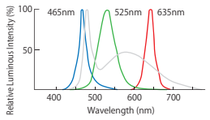
Special Optical Design | Power LEDs

Model	Light Color						Input Voltage	Input Current	Applicable Controllers	Drawing
IBF-LXS20A▼	R	W	B	G			-	350mA	ILC-350M2-VI(P.84)	1
IBF-LXS30A□	R	W	B	G	UV (405)	IR (850,940)	-	700mA	ILC-700M2-VI(P.84) IDCA series (P.97)	2
IBF-LX30A□	R	W	B	G	UV (405)	IR (850,940)	-	700mA	ILC-700M2-VI(P.84) IDCA series (P.97)	3
IBF-LX40A□	R	W	B	G	UV (405)	IR (850,940)	-	700mA	ILC-700M2-VI(P.84) IDCA series (P.97)	4
IBF-LX60A□	R	W	B	G	UV (405)	IR (850,940)	-	700mA	ILC-700M2-VI(P.84) IDCA series (P.97)	5
IBF-CB100■	R	W	B	G	IR (860,950)		DC12V	Power Consumption: 9.5W	ILP-30M2 (P.83), etc.	6

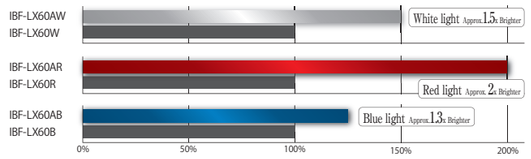
*IBF-LXS and IBF-LX can be connected to a controller other than the applicable controller via a resistance box.
*□ represents light color (R=Red, W=White, B=Blue, G=Green, UV-405=Ultra Violet, IR-850 or IR-940=Infrared),
■ represents light color (R=Red, W=White, B=Blue, IR-860 or IR-950=Infrared).
▼ represents light color (R=Red, W=White, B=Blue, G=Green).

Replacement of laser pointer (For visual inspection)

Wavelength Characteristics



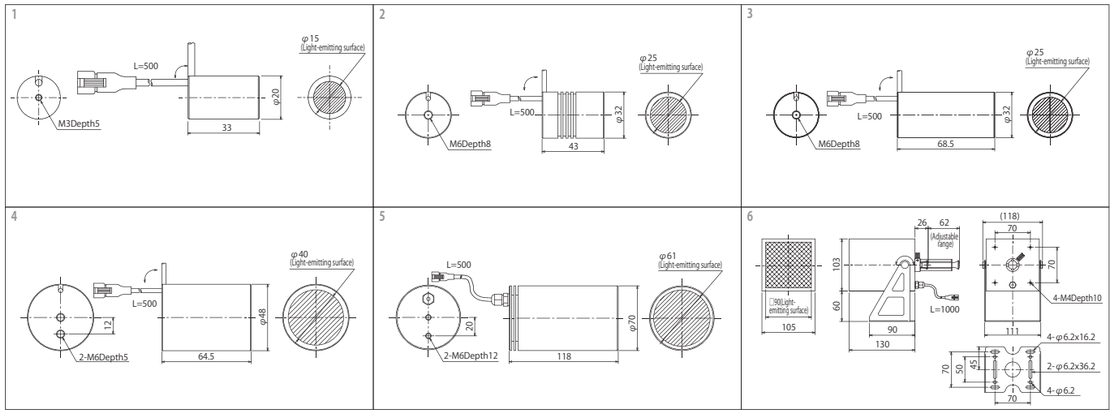
Brightness Comparison with Conventional Products (Reference Values)



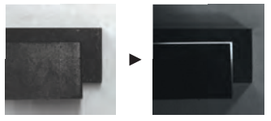
Optional Parts Resistance Box for IBF-LXS and IBF-LX

**Required when using with 12V DC output controller.
A controller other than the applicable controller such as ILP and IDGB can be used via a resistance box.
It is also required when overdriving.**

Please refer to P.73 for more details.

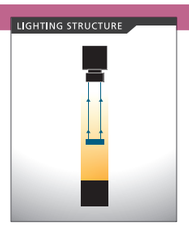


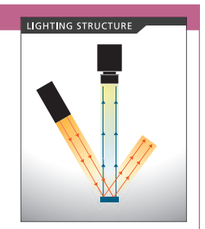
Effect



When illuminating parallel lighting to an edge of two irregular objects with some depth, only that edge can be emphasized.

When it is diffused light, light goes around the object and the silhouette cannot be recognized. However, that can be prevented by illuminating parallel light, and the dimensions can be measured accurately.





Special Light

Adjustable High-luminance Spot Light

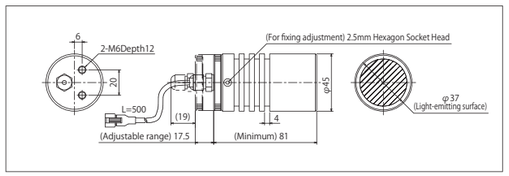
IHV-FX series

Illumination range can be adjustable from one-point focus illumination to long-distance illumination.
As bright as halogen Approx. 1.5x brighter than the conventional

Special Optical Design | Power LEDs

Model	Light Color	Input Current	Applicable Controllers
IHV-FX100A□	R W B G	700mA	ILC-700M2-VI (P.84) IDCA series (P.97)

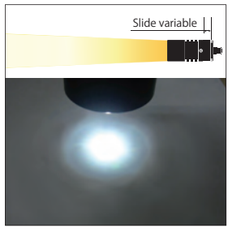
*A controller other than the applicable controller can be used via resistance box.
*□ represents light color (R=Red, W=White, B=Blue, G=Green).

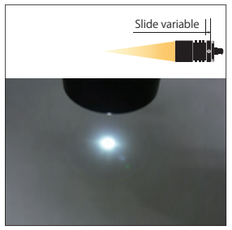


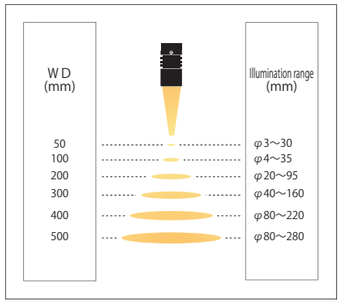
Optional Parts Resistance Box

**Required when using with 12V DC output controller.
A controller other than the applicable controller such as ILP and IDGB can be used via a resistance box.
It is also required when overdriving.**

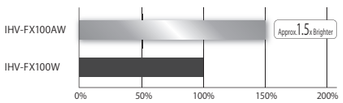
Illumination image







Brightness Comparison with Conventional Products (Reference Values)



Special Light

High Power Ultraviolet Light

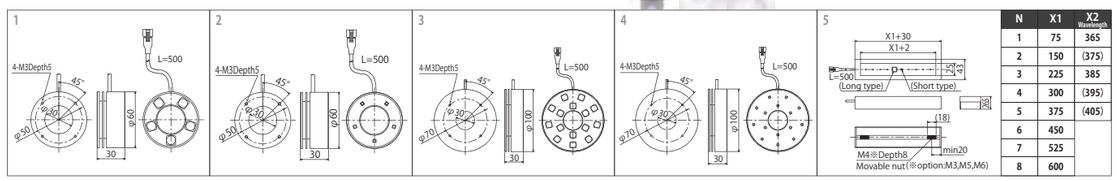
Ultraviolet series

Light with power UV LED for excitation of fluorescent material.

Power LEDs

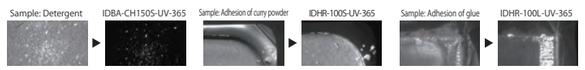
Model	Light Color	Power Consumption (W)	Input Voltage	Wavelength (nm)	Applicable Controllers	Drawing
IDHR-60L-UV-(X2)	UV	8	DC24V	365 (375)	ILP-60M2-24 (P.83) IDGB-24 series (P.91)	1
IDHR-60S-UV-(X2)	UV					2
IDHR-100L-UV-(X2)	UV	15.4		385 (395)		3
IDHR-100S-UV-(X2)	UV					4
IDBA-CH(X1)L-UV-(X2)	UV	7.5×N		(405)		5
IDBA-CH(X1)S-UV-(X2)	UV					

- The UV standard wevelength is 365 and 385nm. But also customizable to 375, 395, and 405nm.
- Selectable from Wide-angle light distribution, S type, or narrow-angle light distribution, L type.



N	X1	X2 Wavelength
1	75	365
2	150	(375)
3	225	385
4	300	(395)
5	375	(405)
6	450	
7	525	
8	600	

Image Example Effect: Ideal for excitation of fluorescent materials and inspection of fine scratches.



Precautions when using ultraviolet lighting
- Do not look into direct light or mirror-reflected light from The light source directly.
- When using a UV light source, be sure to wear protective goggles.
- Do not turn on the power of the light-emitting part while it is pointed at someone's eyes.
- Wear a long-sleeve shirt or gloves to protect your skin from direct contact with illumination.

Optional Lens Filter

1 Near-ultraviolet transmissive filter of 300 to 450nm

Model	Lens Filter Diameter
IM-UV-M255	M25.5×P0.5
IM-UV-M270	M27.0×P0.5
IM-UV-M305	M30.5×P0.5

2 Transmissive filter over 480nm

Model	Lens Filter Diameter
IM-Y48-M255	M25.5×P0.5
IM-Y48-M270	M27.0×P0.5
IM-Y48-M305	M30.5×P0.5

Optional Parts

Resistance Box

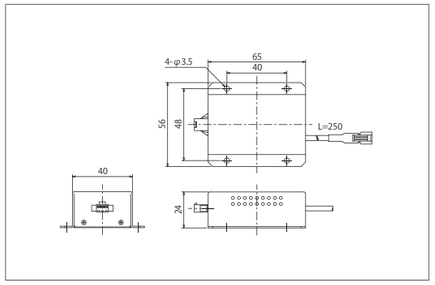
RBOX series

Required when connecting lights such as coaxial spot lights and collimate lights to a 12V DC controller.

Applicable Light	Light Color	Models for continuous light	Power Consumption (W) when the resistance box is connected	Models for Overdriving	SAG(※)
IHV-20A□ IBF-LXS20A□	R Y	RBOX-27R	4.5	RBOX-SAG	FF
	W B G UV IR	RBOX-24R		RBOX-24R	FF C6
IHVE-21A□	R Y	RBOX3W-15R	9	RBOX-SAG	FF
	W B G UV IR	RBOX3W-12R		RBOX3W-12R	FF CE C6
IHVA-SP30■-□	R	RBOX3W-15R	9	RBOX-SAG	FF
	W B G	RBOX3W-12R			FF
IBF-LX▼A□	R	RBOX3W-15R	9	RBOX-SAG	FF
	W B G UV IR	RBOX3W-12R		RBOX3W-12R	FF CE C6
IHV-FX100A□	R	RBOX3W-15R	9	RBOX-SAG	FF
	W B G	RBOX3W-12R			FF

*□ represents light color (R=Red, Y=Yellow, W=White, B=Blue, G=Green, UV=Ultra Violet, IR=Infrared).
■ represents S (wide-angle light distribution) or L (narrow-angle light distribution). ▼ represents size of light-emitting surface (S30:φ25, 30:φ25, 40:φ40, 60:φ61).
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

「RBOX-24R/27R」「RBOX3W-12R/15R」「RBOX-SAG」※



*Please use "RBOX-SAG" when connecting to the overdrive controller.
(RBOX-SAG cannot be used for overdriving for ultraviolet/infrared illumination.)

Connection Image

Special Light

Ultraviolet Light

UV-CAN series

**Enable to inspect clearly than visible lights.
The AUV series is twice higher intensity than previous model.**

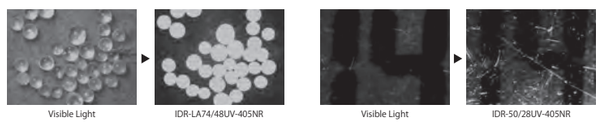
24V DC Models Available

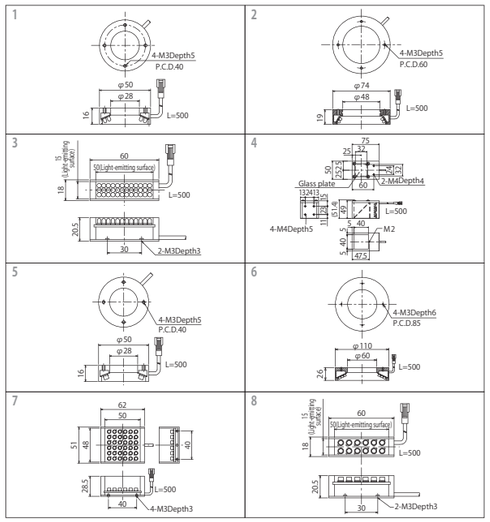
- Lights with the same shape as visible light can be produced at 405nm.

Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Wavelength (nm)	Applicable Controllers	Drawing
IDR-50/28UV-405NR	UV	2.9	DC12V	6A	405	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDR-LA74/48UV-405NR	UV	5.4		6E			2
IDBA-C50/15UV-405NR	UV	2.9		61			3
IFV-C40UV-405NR	UV	4.1		62			4
IDR-50/28AUV-365	UV	1.5		95	365		5
IDR-110/60AUV-365	UV	7.2		98			6
IDBA-C50/50AUV-365	UV	2.9		96			7
IDR-50/28AUV-375	UV	1.5		95	375		5
IDR-110/60AUV-375	UV	7.2		98			6
IDBA-C50/15AUV-375	UV	1		95			8

*Please contact us for inquiries of other shapes. *This model is 12V DC input voltage, but also 24V DC models are available.
*The SAG indicates the maximum voltage setting for SAG controllers.

Image Example Effect: Ideal for excitation of particles and inspection of fine scratches.





Special Light

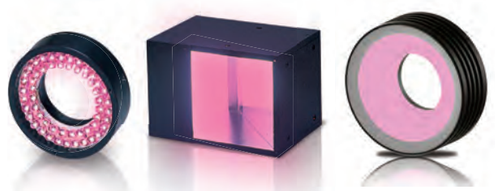
Infrared Light

Infrared series

Ideal for transmissive inspection of packages, liquids, and printing

Available in a wide range of peak wavelengths other than 850nm (780/810/890/940nm)

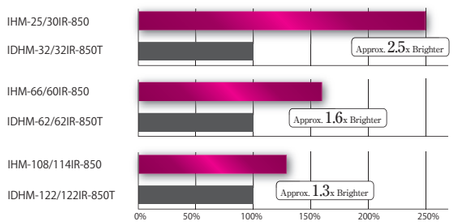
24V DC Models Available



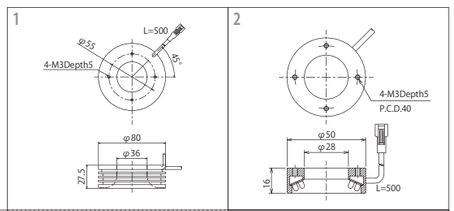
Model	Light Color	Power Consumption (W)	Input Voltage	SAG(※)	Applicable Controllers	Drawing
IMAR-80IR-850	IR	7	DC12V	BC	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IMAR-80IR-950	IR	7		DA		
IDR-50/28AIR-850	IR	2.2		FF		2
IDR-90/50AIR-850	IR	4.4		FF		3
IDBA-C50/15AIR-850	IR	1.5		FF		4
IDBA-C72/24AIR-850	IR	2.8		FF		5
IDBA-C132/15AIR-850	IR	3.9		FF		6
IFV-C40AIR-850	IR	2		FF		7
IHM-25/30IR-850	IR	2		E3		8
IHM-66/60IR-850	IR	7.5		FF		9
IHM-108/114IR-850	IR	14.7		FF		10
IHM-150/142IR-850	IR	24		E5		11
IHM-214/226IR-850HV	IR	47	DC24V	-	ILP-60M2-24 (P.83), etc.	12

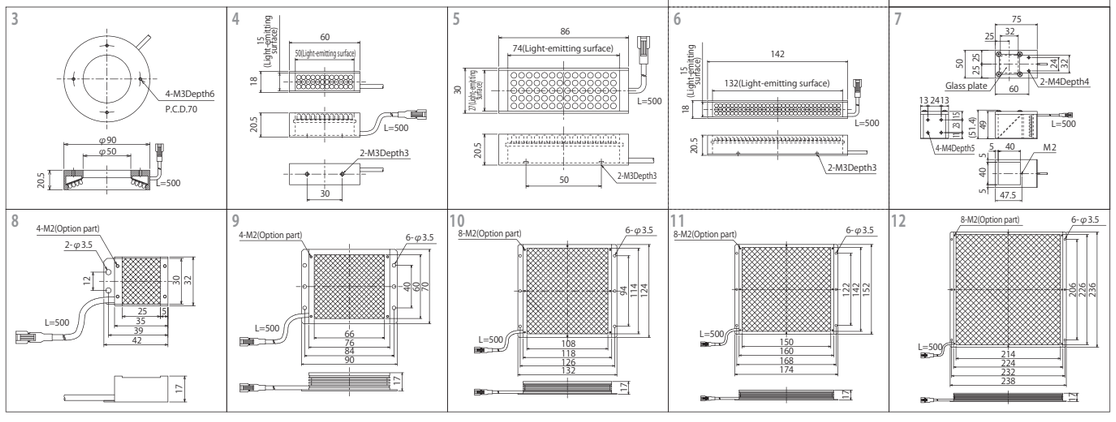
In addition to the above models, infrared models are also available in the same shapes as visible light ones.
*This model has 12V DC input voltage, but 24V DC models are also available.
*Please contact us for wavelengths other than above.
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.

Comparison with Conventional Products (Reference Value)



The longer the wavelength, the smaller the scattering rate, making it ideal for inspection applications as a backlight.
The scattering rate indicates how easy it is for light to change direction upon hitting the surface of an object.
The higher the scattering rate, the easier it is for light to scatter upon hitting a surface, so wavelengths with a higher scattering rate are ideal for surface inspections. If, on the other hand, the scattering rate is low, it is easier for light to pass through the surface of an object, therefore making it ideal for transmissive applications.





Effect

Liquid states can be recognized by IR transmission. Characters and patterns can also be transmitted to facilitate visual inspection.

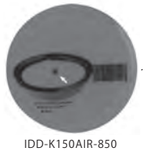

Visible Light


IHM-66/60IR-850


Visible Light


IDBA-C50/50AIR-850


Visible Light


IDD-K150AIR-850

Special Light

Infrared Light

Infrared series

Enables inspection that was conventionally difficult such as detection of contaminants in the object and moisture visualization.

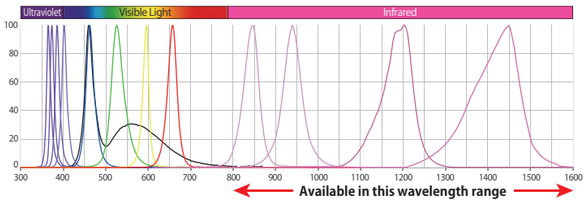
24V DC Models Available

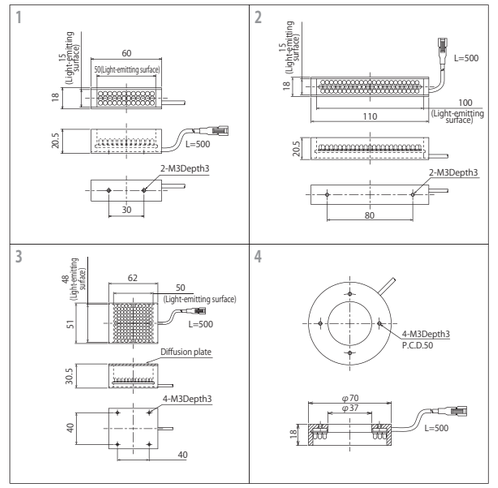
Model	Light Color	Power Consumption (W)	Input Voltage	Applicable Controllers	Drawing
IDBA-C50/15IR-1200	IR-1200	1.5	DC12V	ILP-30M2 (P.83) IDGB series (P.91) Overdrive controllers, etc.	1
IDBA-C100/15IR-1200	IR-1200	3.4			2
IDBA-C50/50IR-1200S	IR-1200	6.8			3
IDR-F70/37IR-1450	IR-1450	4			4
IDBA-C50/15IR-1450	IR-1450	1.5			1
IDBA-C100/15IR-1450	IR-1450	3.4			2
IDBA-C50/50IR-1450S-C1	IR-1450	6.8			3

*In addition to the above models, infrared models are also available in the same shapes as visible light ones.
*This model has 12V DC input voltage, but 24V DC models are also available.

Infrared Wavelength Band Characteristics

In comparison with ultraviolet light and visible light, infrared light has a high transmittance due to its very small scattering rate so it penetrates liquid and ink. In addition, because its wavelength range is limited, unlike halogen, photosensitive objects are not affected by it.
The IR-1200 series and IR-1450 series can handle objects that cannot be inspected with visible lighting by using them with an InGaAs camera that has a high sensitivity in the wavelength range of 900 to 1700nm.





Effect

IR transmission allows recognition of the state and species discrimination in the liquid. Characters and patterns can also be transmitted to facilitate visual inspection.

Water absorbs infrared light with a 1450nm wavelength and appears black. 850nm infrared light and visible light penetrate it.


Brown bottle
(Left: vegetable oil, Right: water)
Body: Borosilicate glass
Cap: Polypropylene


IHM-108/114AW
(Visible Light)

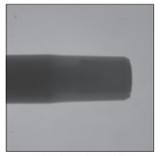

IFD-200/200IR-850
(850nm)


IDBA-C50/50IR-1450S-C1
(1450nm)

Visible light and 850nm infrared light cannnot penetrate the cap and the tip of pen is not visible. 1450nm infrared light penetrates even the cap and allows inspection of the tip of the pen.


Permanent marker
Body: Recycled resin
Cap: Polypropylene


IHM-108/114AW
(Visible Light)


IFD-200/200IR-850
(850nm)


IDBA-C50/50IR-1450S-C1
(1450nm)

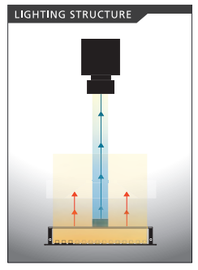
Visible light and 850nm infrared light can not penetrate the bottle, so the contents inside cannot be detected. 1450nm infrared light penetrates the bottle and does not penetrate the content (liquid), so it is easy to detect the presence and amount of the contents.

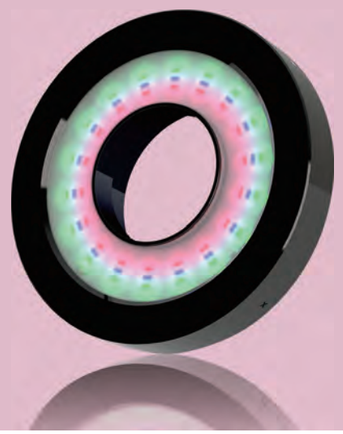

Handsoap
Bottle: Polyethylene


IHM-108/114AW
(Visible Light)


IFD-200/200IR-850
(850nm)


IDBA-C50/50IR-1450S-C1
(1450nm)





RGB Full-color Light

RGB 3-Color series

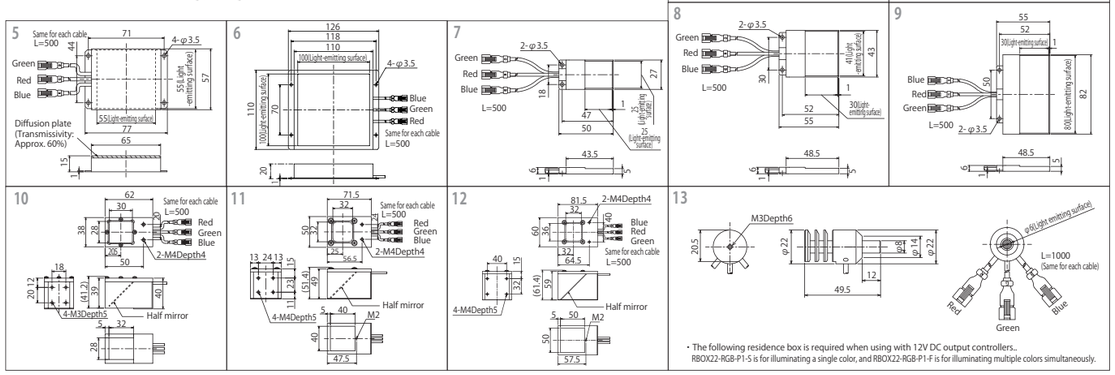
Able to blend colors for the ideal emission color depending on the inspection purpose

Power LEDs* | Design Registered | NEW

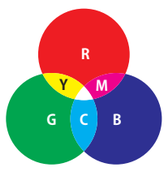
*Only on IHRGB

Model	Power Consumption (W)			Input Voltage	SAG(※)			Applicable Controllers	Drawing
	R	G	B		R	G	B		
IHRGB-100A	5	5	5	DC12V	7A	67	75	IDGB-30M4 Series (Continuous lighting) (P.91) IJS-40M4-TP (Overdrive) (P.103)	1
IHRGB-120A	5.7	5.7	5.7		7D	6A	79		2
IDHM-32/36RGB	1.2	1.2	1.2		FF	CB	AF		3
IDHM-45/45RGB	1.5	2	2		FF	E3	BF		4
IDHM-55/55RGB	2.2	2.9	2.9		FF	FF	E0		5
IDHM-100/100RGB	4.3	4.3	4.3		FF	FF	FF		6
IFLA-25/25RGB	0.3	0.3	0.3		FF	EB	E5		7
IFLA-30/41RGB	0.5	0.5	0.5		FF	E6	D3		8
IFLA-30/80RGB	1	1	1		FF	E3	D3		9
IFV-C32RGB-CP	1.2	1.2	1.2		FF	CB	AF		10
IFV-C40RGB-CP	1.5	2	2		FF	E3	BF		11
IFV-C50RGB-CP	2.2	2.9	2.9		FF	FF	E0		12
Model	**Input Current**				**Applicable Controllers**				**Drawing**
IHV-22RGB-P1	200mA				IDCA Series (P.97), etc.				13

*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



・The following residence box is required when using with 12V DC output controllers..
RBOX22-RGB-P1-S is for illuminating a single color, and RBOX22-RGB-P1-F is for illuminating multiple colors simultaneously.

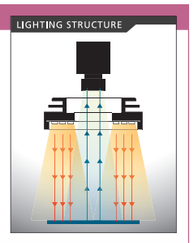


Yellow, magenta, cyan, etc., can be created by mixing red, green, and blue.
It can be used in a variety of applications, such as emphasizing color contrast by changing the emission color.

Effect

Image example of blended RGB color. Light Used: IHRGB-120A

Red / Green / Blue LED Illumination | Red LED Illumination | Green LED Illumination | Blue LED Illumination



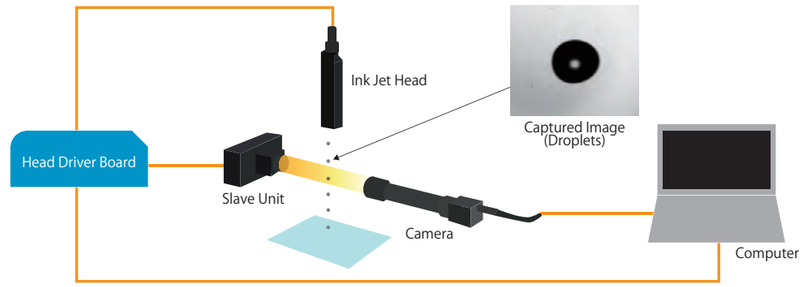
Nano Strobe Light

ISU series

Nano-second emission makes capturing an image of a single drop in flight from an inkjet possible.

Special Optical Design | Power LEDs

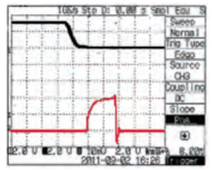
Structure



Supports one or multiple head nozzles. Up to 18 units can be controlled.

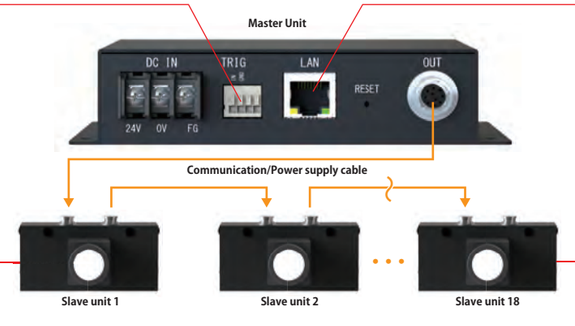
Trigger Signal

150ns response time until the light turns on
250ns response time until stabilization



Power LED adoption

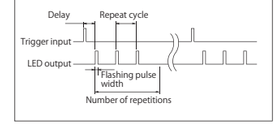
Light emits at min.100ns (max.1 μs) of high-speed overdrive lighting.
Images of a single liquid droplet can be captured.



Other function

The delay (0-5ms) and repeated lighting (1 to 100 times per trigger) functions are installed as standard, which enables observation for various occasions.

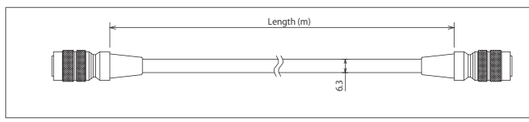
Light Control Image



Slave Unit

One master is capable of controlling 18unit slaves at maximum.

Master and Slave Connection Cable

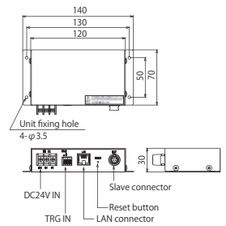


Model	Length (m)
IC-NSS4-1	1
IC-NSS4-2	2
IC-NSS4-3	3
IC-NSS4-4	4
IC-NSS4-5	5

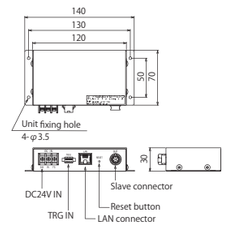
Item	Specification
Model	Master Part: ISU-NSMST-TP (TTL) Master Unit: ISU-NSMST-TP-OC (Open Collector) Slave Unit: ISU-NSSL-LX30AW
Output Control Method	Variable Strobe Voltage (256 levels)
Input Voltage	DC24V 4A (MAX)
Output Power	3A (MAX) per unit
Light Color	White
Number of Slave Units	MAX18 units per 1 master unit
External Trigger	TTL / Open Collector
External Trigger Interlock	Duty within 5%
Number of LED lighting	1 to 100 times per trigger
Lighting Cycle	2 to 20μs (1μs step)
Lighting Width	100ns to 1μs (100ns step)*
Delay	0-5ms (1μs step)

*Lighting may become unstable under 200ns.

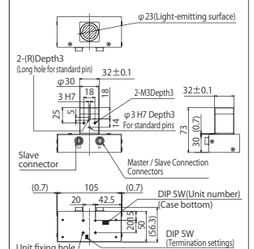
ISU-NSMST-TP(Master Unit)



ISU-NSMST-TP-OC(Master Unit)



ISU-NSSL-LX30AW(Slave Unit)



Special Light

Super Strobe Light

ISS series

Achieved the brightest class of 8 millionLx in the industry
(*ISSDBA-C90/20W at LWD=30mm)

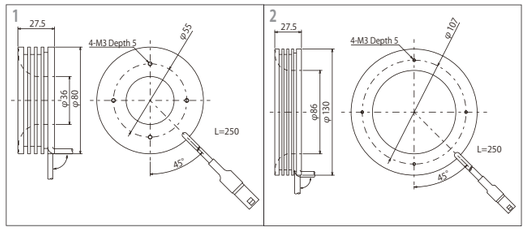
Great use at high-speed shutter

Power LEDs* **NEW** *Cannot be used for continuous lighting

Multi-Position Ring Type: ISSMAR series

Model	Light Color	Cable	Peak current (Ao-p)	Input Voltage	SAG(※)	Drawing
ISSMAR-80□	R W B	Single	9	DC36V	FF	1
ISSMAR-130□-2CH	R W B	For 2ch	18		FF	2

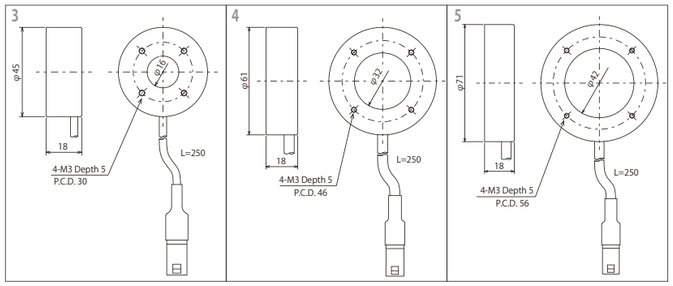
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



Ring Type: ISSDR series

Model	Light Color	Cable	Peak current (Ao-p)	Input Voltage	SAG(※)	Drawing
ISSDR-F45/16□	R W B	Single	9	DC36V	FF	3
ISSDR-F61/32□-2CH	R W B	For 2ch	14.4		FF	4
ISSDR-F71/42□-2CH	R W B	For 2ch	18		FF	5

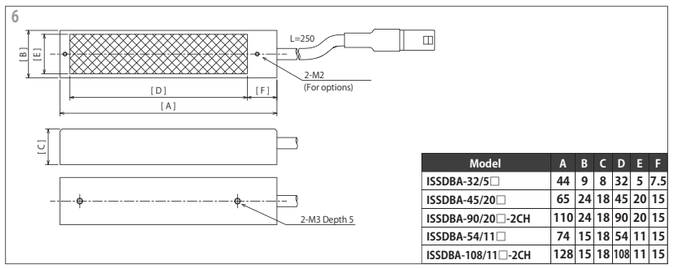
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



Bar Type: ISSDBA series

Model	Light Color	Cable	Peak current (Ao-p)	Input Voltage	SAG(※)	Drawing
ISSDBA-32/5□	R W B	Single	1.8	DC36V	FF	6
ISSDBA-45/20□	R W B	Single	9		FF	
ISSDBA-90/20□-2CH	R W B	For 2ch	18		FF	
ISSDBA-54/11□	R W B	Single	5.4		FF	
ISSDBA-108/11□-2CH	R W B	For 2ch	10.8		FF	

*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.

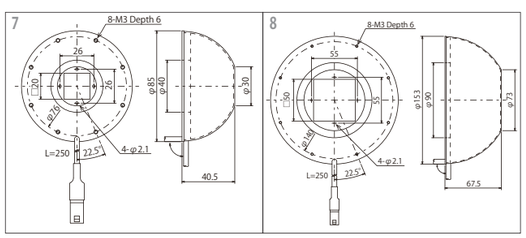


Model	A	B	C	D	E	F
ISSDBA-32/5□	44	9	8	32	5	7.5
ISSDBA-45/20□	65	24	18	45	20	15
ISSDBA-90/20□-2CH	110	24	18	90	20	15
ISSDBA-54/11□	74	15	18	54	11	15
ISSDBA-108/11□-2CH	128	15	18	108	11	15

Dome Type: ISSDDA series

Model	Light Color	Cable	Peak current (Ao-p)	Input Voltage	SAG(※)	Drawing
ISSDDA-KH80□	R W B	Single	9	DC36V	FF	7
ISSDDA-KH150□-2CH	R W B	For 2ch	18		FF	8

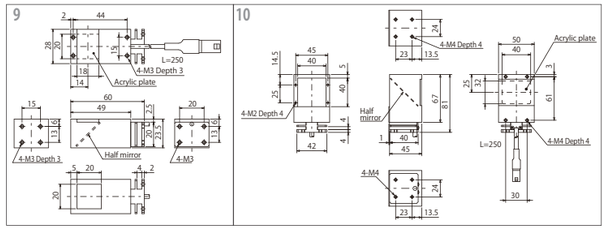
*The SAG indicates the maximum voltage setting for SAG controllers.
Please refer to P.107 for more details.



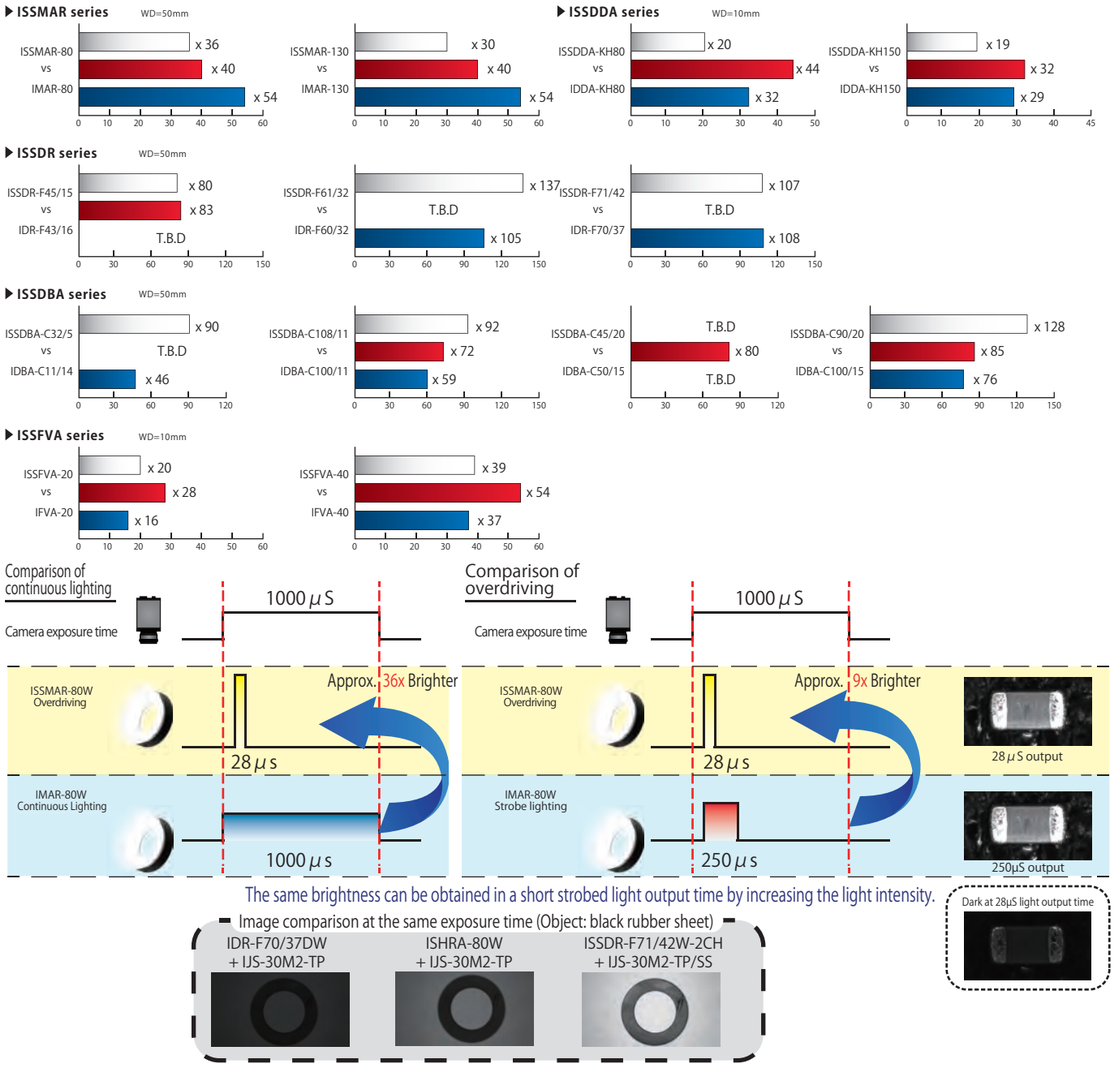
Coaxial type: ISSFVA series

Mode	Light Color	Cable	Peak current (Ao-p)	Input Voltage	SAG(※)	Drawing
ISSFVA-20□	R W B	Single	3.6	DC36V	FF	9
ISSFVA-40□-2CH	R W B	For 2ch	14.4	DC36V	FF	10

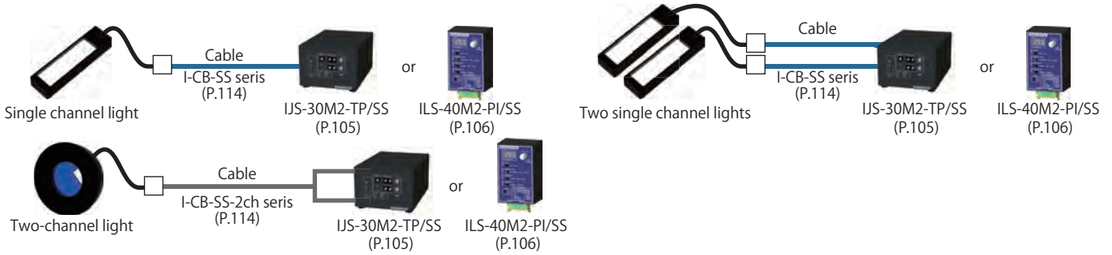
*The SAG indicates the maximum voltage setting for SAG controllers. Please refer to P.107 for more details.



Brightness Comparison



Connecting to a exclusive controller



Examples of Custom Products

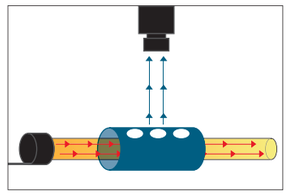
Introduction of Customization

Customization available according to the application.

Custom Multi-channel | Custom Size | Custom Shape | Custom Optical Simulation

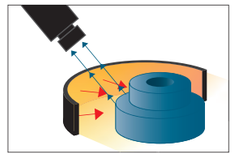
Cylindrical backlight

Ideal for hole diameter or burr inspection on cylindrical object.



Arc-shaped ring light

The shape of the arc facilitates cylindrical object side inspection.



Example: Marking inspection on the side of cylindrical object

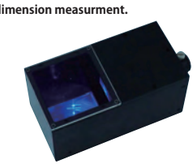
Yellow light

Yellow lights do not include wavelengths of under the 500nm. It is ideal for the inspection of photosensitive objects.

Collimated Coaxial Light

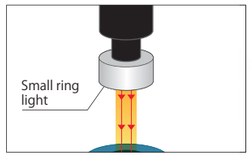
IFFV

It prevents light diffraction and enables high-accuracy dimension measurment.



Ultra small ring light

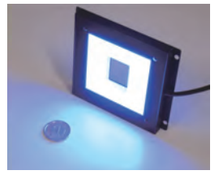
Abundant experience manufacturing ultra-small ring lights with outer diameters of 15mm and inner diameters of 9.4mm that can be used for endoscopic lighting as well as other applications. Light sizes can be customized by one mm increments according to the equipment and objects.



Example: Internal hole inspection for automobile parts

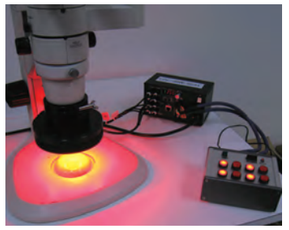
Light with a camera hole

It is space-saving and able to illuminate a wide area as reflected lighting by making a camera hole on the light for backlighting.



8 channel light for a stereoscopic microscope

IMAR-8ch can easily be attached to a stereoscopic microscope and controlled manually.
It is ideal for when conducting visual and defect inspections by spot check.



Extra Large Backlight

IFD-1900/900W-UNIT

This light has an extra large light-emitting surface size of 1,900mm × 900mm.
It is 2 channels specification: the top and bottom sides.
Customize stands for the lights are also available.

List of 24V DC Models

In some products, 24V DC models are also available in addition to the standard 12V DC models. Far more products are available other than the models listed below.
Please feel free to contact us even if desired model is not listed.

< Example Models >

Series	12V model	24V model	Light Color	Power Consumption (W)	Applicable Controllers
Multi-position Ring Light IMAR series	IMAR-55□	IMAR-55□HV	AR	4.5	
			W	4.5	
			B	4.5	
	IMAR-110□	IMAR-110□HV	AR	12	
			W	13.5	
			B	13.5	
B'C Ring Light IHR-LE series	IHR-LE90L-□	IHR-LE90L-□HV	R	10.5	
			AW	10.5	
			B	10.5	
			IR850	10.5	
	IHR-LE90S-□	IHR-LE90S-□HV	R	10.5	
			AW	10.5	
			B	10.5	
			IR850	10.5	
Flat Direct Ring Light IDR-F series	IDR-F60/32□	IDR-F60□HV	DR	3.6	ILP-60M2-24
			DW B G	3.6	
	IDR-F100/50□	IDR-F100□HV	DR	8.5	
			DW B G	6.5	
Direct Ring Light IDR series	IDR-38/15□	IDR-38□HV	DR	1.8	
			DW B G	2.2	
	IDR-42/18□	IDR-42/18□HV	DR	2.2	
			DW B G	2.6	
	IDR-70/39□	IDR-70□HV	DR	4.7	
			DW B G	5.8	
	IDR-140/95□	IDR-140□HV	DR	13.9	
			DW B G	10.8	
Low Angle Direct Ring Light IDR-LA series	IDR-LA50/24□-2-C01	IDR-LA50□HV	DR	2.7	
			DW B G	2.9	
	IDR-LA74/48□	IDR-LA74□HV	DR	5.4	
			DW B G	5.4	
	IDR-LA200/170□-3	IDR-LA200□HV	DR	18.4	
			DW B G	18.9	
Horizontal Opposed Ring Light IDRA-T series	IDRA-T78/46□-1	IDRA-T78□HV-1	DR	2.4	IDGB-24 series
			DW B G	2.9	
	IDRA-T122/92□-1	IDRA-T122□HV-1	DR	4.2	
			DW B G	4.7	
Shadow-less Ring Light IFR・IPR series	IFR-K100□	IFR-K100□HV	R	2.9	
			DW B G	4.4	
	IFR-K150□	IFR-K150□HV	R	4.1	
			DW B G	6.2	
	IPR-136/109□	IPR-136109□HV	R	7.2	
			DW B G	10.8	
	IPR-180/153□	IPR-180153□HV	R	10.4	
			DW B G	15.5	
Square Edge-Light IFLA・IFL series	IFLA-30/41□	IFLA-3041□HV	R	1.2	
			W	1.7	
			B	0.9	
	IFL-50/50□	IFL-50□HV	R	2	
			DW B G	2.9	
	IFL-135/180□	IFL-135180□HV	R	5.8	IWDV-100S-24
			DW B G	8.7	
Backlight with High Intensity Chip LED IDHM series	IDHM-32/32□T	IDHM-3232□HVT	R	1.5	
			DW B G	1.8	
	IDHM-62/122□T	IDHM-62122□HVT	R	11.6	
			DW B G	14.4	
Direct Bar Light IDBA series	IDBA-C50/15□	IDBA-C5015□HV	DR	1.8	
			DW B G	2.2	
	IDBA-C72/24□	IDBA-C7224□HV	DR	5.4	
			DW B G	5.1	
Square Dome Light IFHA series	IFHA-100□	IFHA-100□HV	R	22	
			W	22	
			B	22	
Direct Dome Light IDD series	IDD-60/13□	IDD-60□HV	R	2.9	
			DW B G	4	
	IDD-60/13□S(30%)	IDD-60□HVS30	R	2.9	
			DW B G	4	
Dome Light IDD-K・IDU-C series	IDD-K80□	IDD-K80□HV	R	3.9	
			DW B G	4.4	
	IDU-C120□	IDU-C120□HV	R	8.7	
			DW B G	10.1	
Coaxial Light IFV series	IFV-C20□	IFV-C20□HV	DR	1.2	
			DW B G	2.4	
	IFV-C50□	IFV-C50□HV	DR	6	
			DW B G	5.8	

*□ represents light color. Refer to each product page for available light colors.
Please note that white light color models with DW or AW change their white light color notation W as 24V DC models.
*Please refer to P.112 and P. 114 for 24V DC lighting extension cables.

PWM Controller

Compact 1000 Level Digital Controller

ILP series

Small and low cost digital controller

CE Low Cost

- This is our smallest 30W with 2channels controller that is designed to be 1/6 the size of a conventional equal product by densifying the mounted components and optimizing the design. PWM control is available at 1000 levels with a high-visibility digital display.
- Available from ILP-30M2 with output voltage 12V DC/total capacity of 30W and IL-60M2-24 of output voltage 24V DC/total capacity 60W. The input voltage of both controllers is 24V DC.

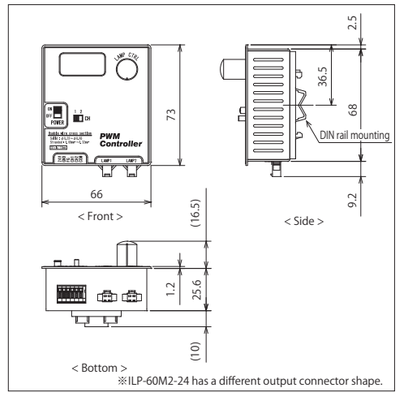
The smallest*1 in the industry of 30W/2 Channels

The standard price is JPY 19,800 (excluding tax)

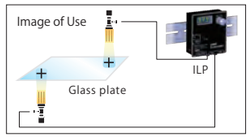
(*1) As of March 2018, according to our research.

Model	ILP-30M2	ILP-60M2-24
Input Voltage	DC24V±10%	
Input Current	1.5A(Max)	3.0A(Max)
Output Voltage	DC12V	DC24V
Channel Number	2CH	
Capacity	30W(2 channel total)	60W(2 channel total)
Control Method	PWM control (1000 levels) Approx. 80kHz	
External ON/OFF responsiveness	OFF→ON: 70μS or less, ON→OFF:20μS or less	

★Please refer to P.116 for optional parts.



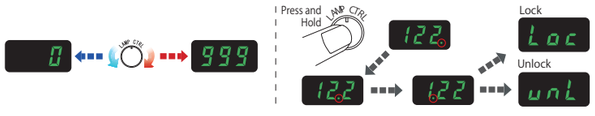
※ILP-60M2-24 has a different output connector shape.



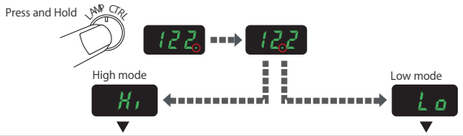
A set including a stand, AC adapter, AC cable along with the ILP controller is also available.

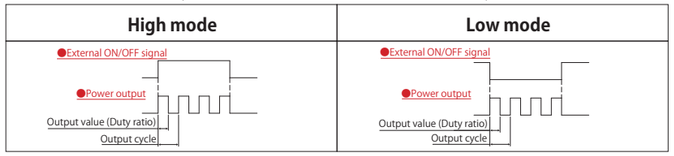
Easy to monitor the setting value with a high-visibility digital display

Controllable at 1000 levels with a high-visibility digital display
Since the variable speed of the output control changes according to the speed of the output control switch rotation, the output value will be quickly set to the desired value.
Also, by pressing and holding the output control switch, each channel can be locked.



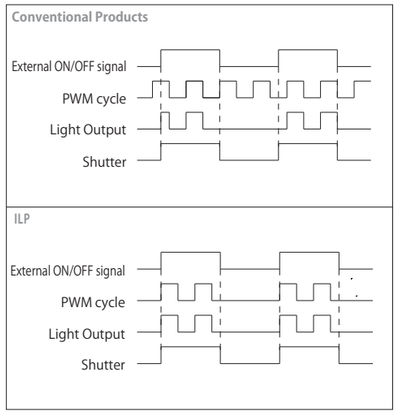
The external ON/OFF signal and inverting function of light output





Full synchronization of external ON/OFF signal and lighting output

Our conventional products had a lighting fluctuation due to an asynchronism of the external ON/OFF signal and inner PWM cycle. However, the PWM cycle of this product synchronizes with the external ON/OFF signal so it has no lighting fluctuation.



Constant Current Controller

Compact Constant Current Controller

ILC series

Constant-current controller with external 0-5V control function
The IHV, IHVE, and IBF series can be connected directly.

CE 0-5V

- It is a Constant current controller that IHV, IHVE, and IBF series can be connected to directly without a resistance box.

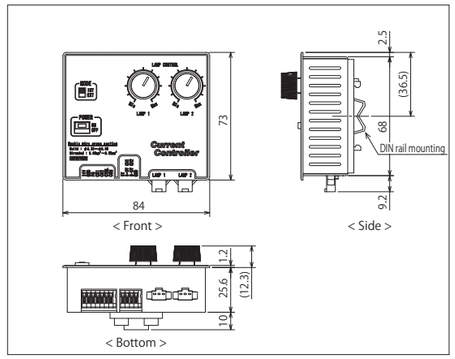
IHV, IHVE, IBF series, etc.

Controller specifications

Model	ILC-700M2-VI	ILC-350M2-VI
Input Voltage	DC24V	
Input Current	0.3A	0.15A
Rated Output	700mA/CH	350mA/CH
Channel Number	2CH	
Control Method	Variable Output Current Method	
External Control	0-5V input, External ON/OFF	
Connectable Light	IHVE, IBF series	IHV

★Please refer to P.116 for optional parts.
★A set including a stand, AC adapter, and AC cable along with the controller is also available.

Mountable on the DIN rail



Compact design

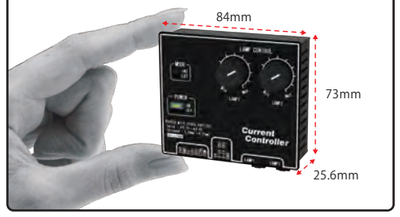
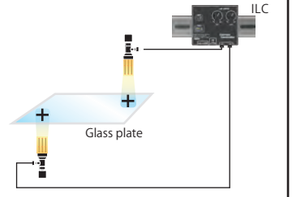
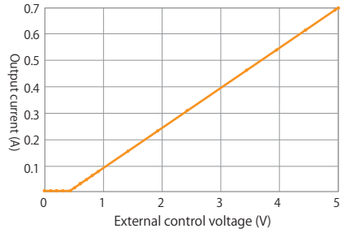


Image of Use



External 0-5V output control linearity

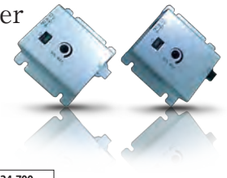
ILC-700M2-VI



Compact Controller ILC・IRC series

0-5V Analog

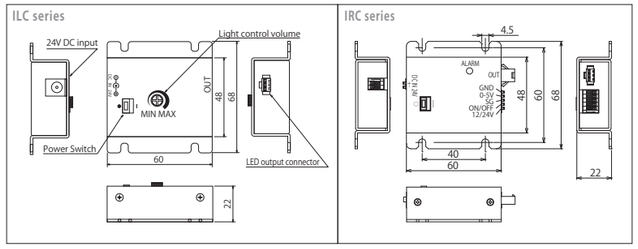
*IRC series only



Model	ILC-24-350 IRC-24-350	ILC-24-700 IRC-24-700
Applicable Lights	IHV	IHVE, IBF series

- Constant-current analog controller with single channel for IHV, IHVE, and IBF series
- The Compact design allows installation in small spaces
- Super lightweight model weighing only 74g
- Constant current control allows use with high-speed and line sensor cameras
- ILC series comes standard with an AC adapter.
- IRC has external output control function.

Connection Example of ILC



Controller specifications

Model	ILC-24-700	ILC-24-350	IRC-24-700	IRC-24-350
Drive Method	Constant Current MAX700mA	Constant Current MAX350mA	Constant Current MAX700mA	Constant Current MAX350mA
Channel Number	1CH			
Input Voltage	Included AC adapter DC24V 0.5A		24V DC 0.5A or more	
Operating Temperature	0~40℃			
Operating Humidity	20~70%			
Weight	Approx. 74g		Approx. 70g	
External Control	No external ON/OFF control and no external output control		External ON/OFF control and external output control	

Constant Voltage Controller

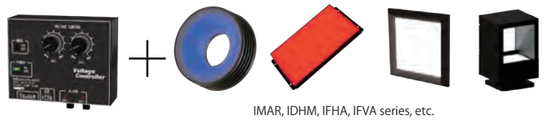
Compact Constant Voltage Controller

ILV series

Constant voltage controller with external 0-5V control function
Capable of external ON/OFF control and output control even with its small size

CE | 0-5V

- **This is a constant voltage controller that is replaceable with IWDV-10S-V.**



IMAR, IDHM, IFHA, IFVA series, etc.

Controller specifications

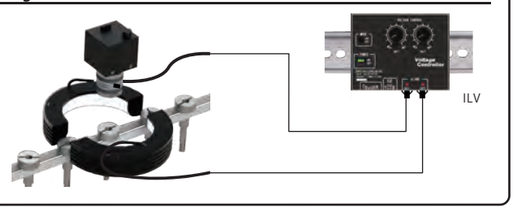
Model	ILV-60M2-VI
Input Voltage	DC24V
Output Voltage	DC 6～12V
Capacity	30Wx2 Total 60W
Output Channel	2CH
Control Method	Variable Output Voltage System
External Control	External ON/OFF control External output control (0-5V Analog)

★Please refer to P.116 for optional parts.
★For some lights, it still illuminates even if the output is set to 0.

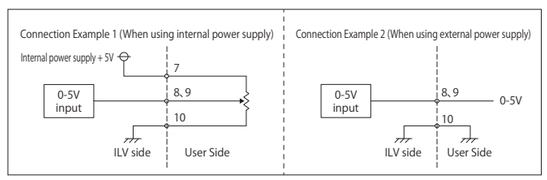
Compact design

Mountable on the DIN rail

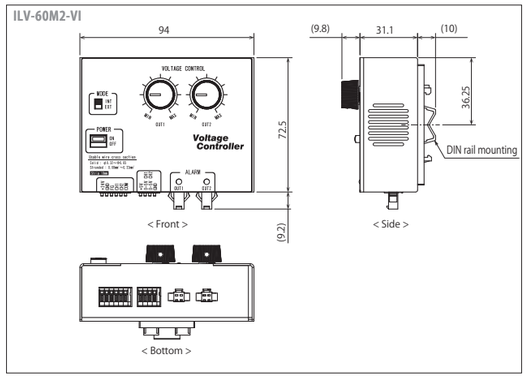
Image of Use



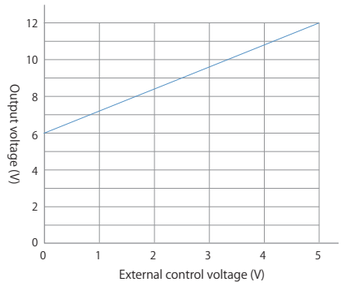
Circuit Example: External output control (0-5 V input)



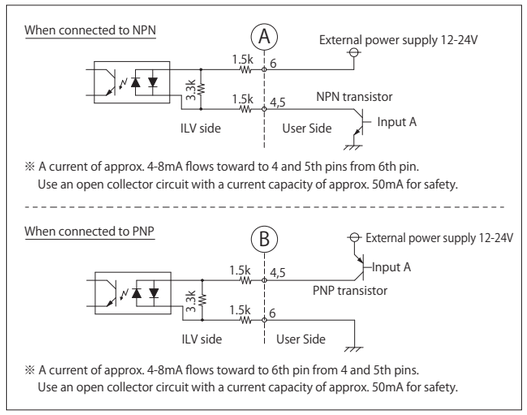
ILV-60M2-VI



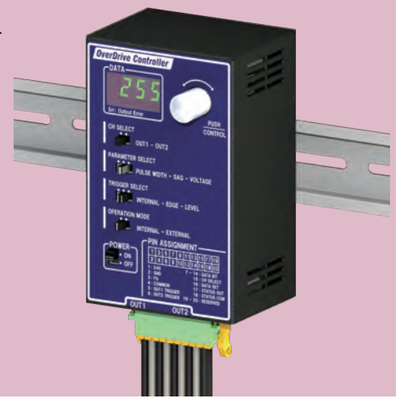
External 0-5V output control linearity



Circuit Example: External ON/OFF control



Overdrive Controller



Overdrive Controller

ILS series

Free set up range from 6V up to 36V
The compact design allows easy installation n the control cabinet

CE | 8bit

- **The minimum output voltage of the conventional SAG controller has been extended from 12V to 6V. It allows light intensity control from a lower level.**
- **Illumination time can be set in 1μs increments, which is shorter than the conventional product (edge mode).**
- **Push-in wire connectors for easy connection without tools**

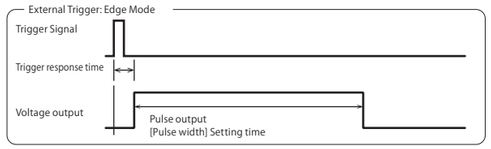
Controller specifications

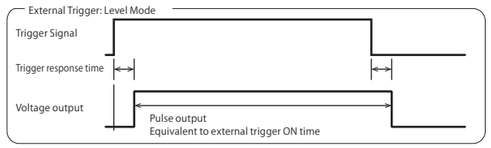
Model	ILS-40M2-PI
Channel Number	2CH
Connectable Light	Light of rated voltage 12V, max. 30W, or max. 20W/channel with a total of 40W
Input Voltage	24V DC±10% Current consumption 3A (Max)
Output Voltage	6～36V (Variable output voltage in 256 levels)
Output Current	11A (peak) / Channel
Pulse Width Setting	Internal trigger: fixed at 4kHz (12.5μs) External trigger: 0μs, 10μs to 999μs (within 5% duty)
Trigger Response Speed	Approx. 3μs
External Control	Parallel 8bit (Independent of 2 channels) Variable output voltage (6V to SAG value)
Protection Function	Overcurrent / Overvoltage protection DC trigger protection: More than 1ms will not output Continuous trigger protection (Interlock)

Various trigger functions

Trigger mode can be selected from 3 types. Light time can be set in units of 1μs (edge mode)

Trigger Type	Light Timing	Light Time
Internal trigger	Frequency at 4kHz	Off (pulse width 0) or 12.5μs
Edge mode	By external trigger	Pulse width setting time (0μs, 10μs - 999μs)
Level mode	By external trigger	ON signal input time of external trigger signal

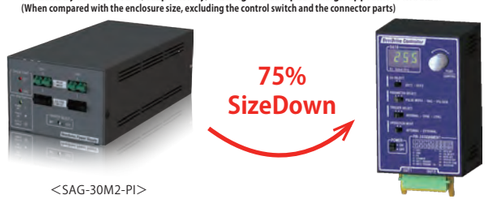




※ For trigger signal recognition, it requires 10μs or more.

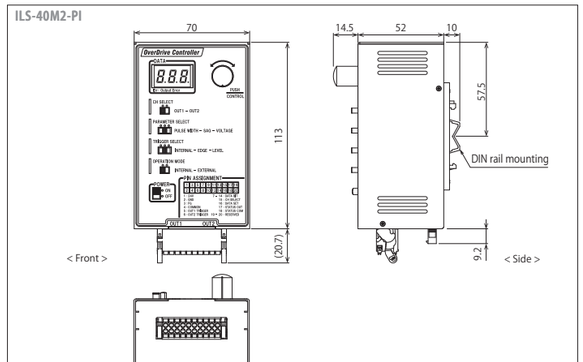
Compact Housing Design

◎ **Compared with the equivalent overdrive controller SAG-30M2-PI, the width and the depth are reduced by 37% and 75%, respectively, leading to a compact design approx.1/4 the size.**
(When compared with the enclosure size, excluding the control switch and the connector parts)



<SAG-30M2-PI>

ILS-40M2-PI



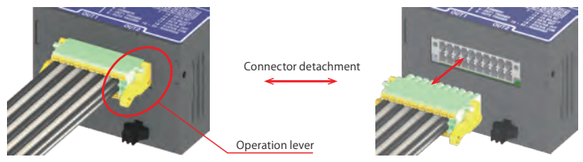
Overdriving

<Continuous lighting>

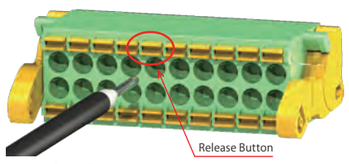
<Overdrive>

Compared to the light intensity of constant lighting (continuous lighting), it allows the intensity to increase several times instantaneously using a maximum 36V output.
Ideal for situations when high intensity lighting is required for camera imaging, especially for inspections of high-speed moving objects.

Connector detachment



◎ **Easy attachment and detachment of connector**
Easy attachment and detachment of connector by a lever on the side of the connector
Space saving even in narrow distribution boards due to simple connector wiring



◎ **Push-in wire connectors adopted**
Easy connection and disconnection with release button operation. The bar terminal can be connected by inserting without button operation.

PWM Power Controller

GENiCAM supporting controller

IPPA_G・IRPA_G series

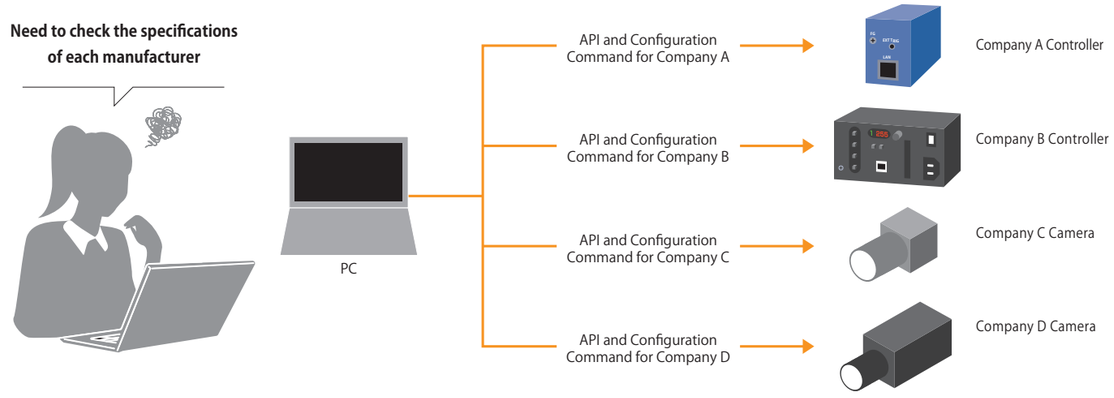
**The first manufactured by a Japanese manufacturer.
Easy installation and operation with the
GigE Vision Interface**

CE LAN GiGE VISION

Advantage of GenICam

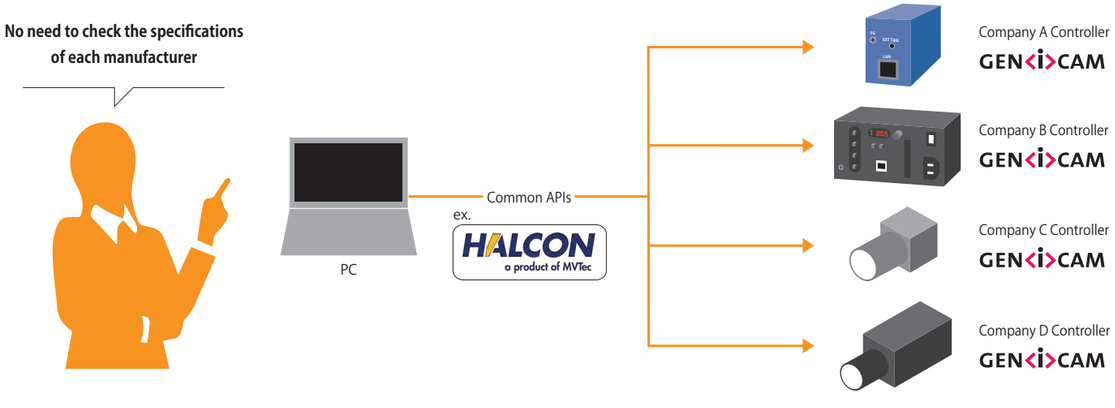
- Lighting equipment can be controlled from the application supporting GigE Vision / GenICam by the same commands (GVCP commands).
- Even if The IP address is not known, It can be searched for.
- The location of the controller can be specified even if multiple units are connected as well as cameras.
- It is possible to recover even if the network has a problem (when using Heart beat Time out, etc.).

GenICam non supporting devices



A GenICam supporting device and GigEVision / GenICam supporting applications can resolve this matter.

GenICam supporting devices



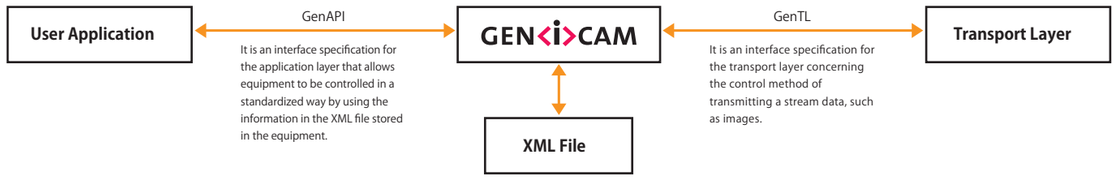
What is GenICam?

GENiCAM **GenICam is an abbreviation for** Generic Interface for Cameras.

**It is an abreviation for generic interface defined by the EMVA (European Machine Vision Association) that made it possible to control cameras for capturing images or controling with different interfaces (IEEE 1394, Camera Link, GigE Vision, etc.) by using a common API.
The first edition was formulated in 2006, and the revision scheduled in 2018 standardizes the interface of lighting controllers as machine vision peripheral equipment.**

Mechanism of GenICam

By providing the functions of the corresponding device as an XML file, the user can easily operate the device by just checking the functions with the feature property without examining the detailed specifications.

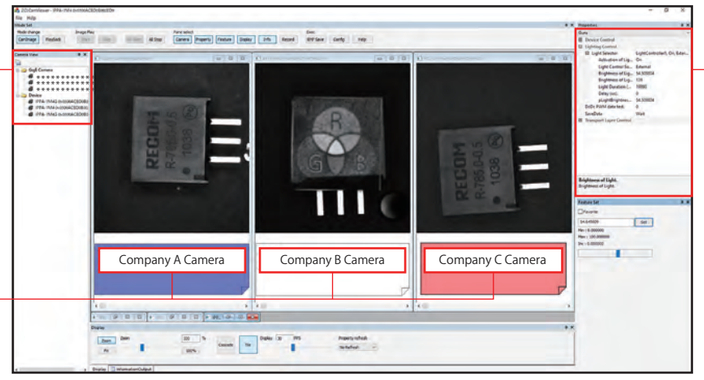


**Lights can be set from applications that conform to the GenICam standard, even without a exclusive application.
It allows lights to be set in the same way as setting a camera.**

An example in a compatible application

In addition to the supporting cameras (GigE Camera) connected, the supporting controllers are displayed in the [Device] field.

Three models of connected cameras (GigE Camera) are all from different manufacturers, but are similarly displayed on the same application by GenICam.



The setting parameters for the supporting controller selected (Device) are displayed.

In the lighting control setting, the followings can also be set with the supporting application:

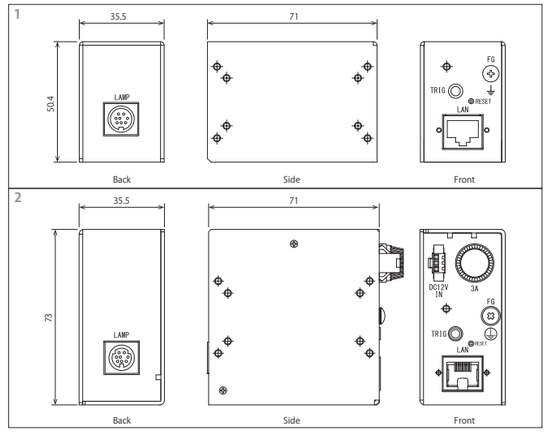
- Output control setting (Internal / External)
- Brightness setting (256 level display)
- Brightness setting (Percentage display)
- Lighting time setting
- Delay setting

the above parameters and etc. can be set by the supporting application.

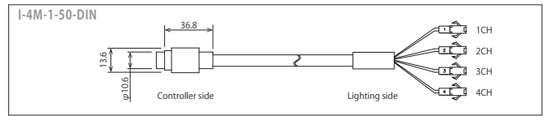
Controller specifications

Model	IPPA-7M4G	IRPA-30M4G
Drive Method	Constant Voltage	
Control Method	Approx. 80kHz PWM variable method 256 levels	
Number of Channels	4ch	
Connectable Light	A total of 30W or less for all channels (The output voltage decreases when lights of total 7.8W or more by 4 channels is connected)	A total of 30W or less for all channel (Up to 15W per channel)
Input power Supply	Input voltage 48V DC Input Current 320mA (MAX) According to PoE compliant standard IEEE 802.3af	Input voltage 12V DC Input Current 3A (MAX)
Output Voltage	12V	
Trigger Response Time	Approx. 1μs ※1	
Ambient Temperature	0～+40℃	
Ambient Humidity	20 to 70% RH (No condensation)	
Environmental Regulations	RoHS compliant	
Weight	less than 140g	less than 150g
Drawing	1	2

※1 In the external trigger mode, an error within 10μs occurs in the delay time.



Exclusive cable (accessories)



PWM Controller

PoE supporting Control Unit

IPSA IPPA series

Reduce overall system costs

CE LAN

High Function Controller

Evaluation-only Model

Intelligent Controller IMBH-60M4G

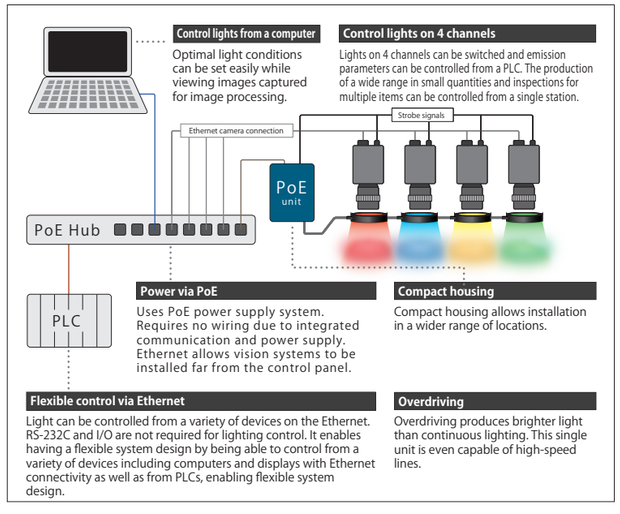
The first high-performance controller in the industry that supports IEEE 1588 Precision Time Protocol.

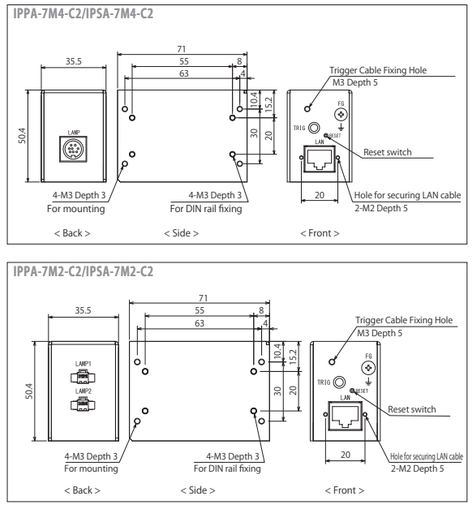
LAN IEEE1588 GiGE VISION GENICAM

Intelligent lighting with Power over Ethernet (PoE) via PWM conrol or overdrive

By integrating controls over Ethernet, the lighting system became more sophisticated. This does not only increase the flexibility of control, but also contributes to reducing total system costs through advanced image processing applications, wide range production in small quantities, and labor-saving initiatives in system development and manufacturing.

Connection example (Conceptual diagram)





Sample Software Examples

For IPSA

For IPPA

Controller specifications

Overdrive Specification IPSA-7M4-C2/IPSA-7M2-C2

Communication method	TCP/IP Protocol (100M / 10Mbps)
Input	Powered by PoE injector (PoE standard: IEEE 802.3af)
Output	Voltage: 12 to 36V (Variable)
	Capacity: Connection light / 30W or less ※1
	Current: 4A or less (Peak current)
	DUTY: 5% or less (With interlock protection circuit function)
	Lighting pulse width: 1ms or less (0 to 999μs)
	Output control: 10bit (1024 levels)
Trigger Response Speed	Approx. 1μs
Variable Voltage Response Time	Max. approx. 70ms
Delay Time	0 to Max. 5ms (With variable function)
Internal Light	Lighting cycle: 4kHz / light width: 12.5 μs (Fixed)

PWM continuous lighting specifications IPPA-7M4-C2 / IPPA-7M2-C2

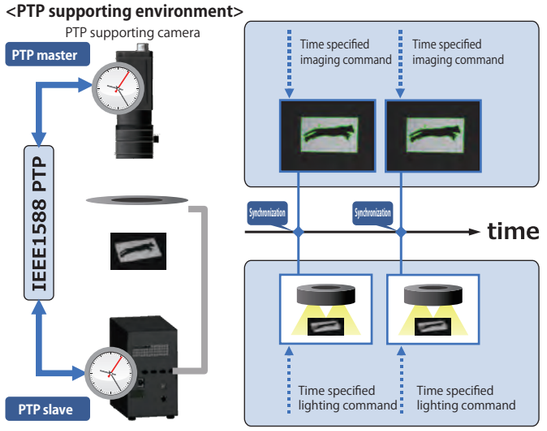
Communication method	TCP/IP Protocol (100M / 10Mbps)
Input	Powered by PoE injector (PoE standard: IEEE 802.3af)
Output	Voltage: 12V (Fixed)
	Capacity: Connection light / 30W or less ※2
	Current: 650mA
	PWM approx. 80kHz
	Output control: 8bit (256 levels)
Trigger Response Time	Approx. 1μs

※1 There are limits on light emission width and trigger frequency when using light with a total of 7.8W or more on 4 channels.
※2 Output voltage decreases when using light with a total of 7.8W or more on 4 channels.

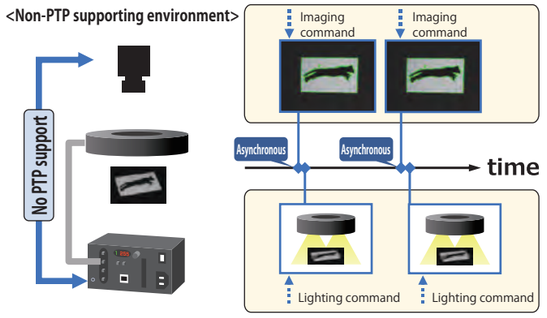
The first high-performance controller in the industry that supports IEEE 1588 Precision Time Protocol.

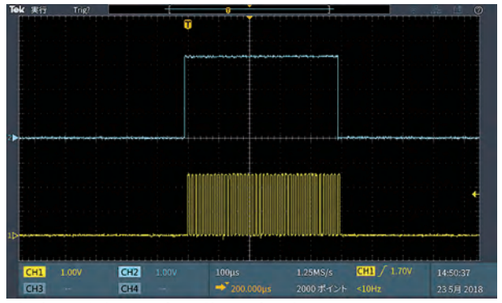
The IMBH-60M4G automatically determines the master-slave hierarchy when connected to a PTP device network. By synchronizing with the time counter, in principle it can synchronize with high precision in under a microsecond.
As it is equipped with a PTP synchronization function, it supports all types of control commands that utilize time counters synchronized with PTP equipped by GenICam and GigE Vision, such as "Scheduled Action Command".

<PTP supporting environment>

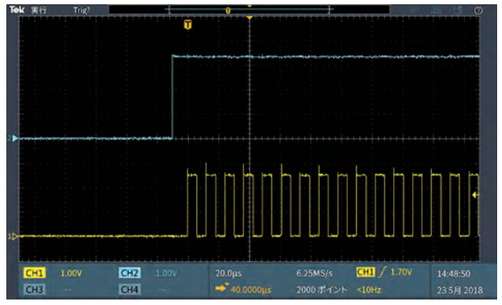


<Non-PTP supporting environment>





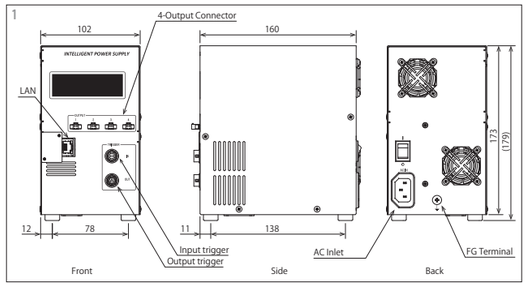
< Synchronous Lighting waveform > Blue waveform: Camera exposure
Yellow waveform: PWM lit



< Initial Rise Magnification >

Controller specification

Model		IMBH-60M4G
Input Voltage		AC100~240V
Input / Output function	Light Output	4CH
	Trigger Input	4CH
	Trigger Output	4CH
Light Output	Output Control Method	PWM, Overdrive, Constant Voltage, Constant Current
	Rated Output	60W (15W / CH) ※In the case of output voltage 12V, PWM method
	Output Voltage	6 to 24V (PWM), 6 to 36V (Overdrive)
	PWM Level	64 to 65536 Variable
	PWM Frequency	Variable (Max. approx. 2MHz / 64 levels)
Trigger Input	Response Time	300ns or less
Trigger Output		Trigger output to external devices such as cameras
Standard		IEEE 1588v2, GenICam, GigE Vision 2.0
Communication	Standards	10/100/1000BASE-T(IEEE 802.3)
	Function	Auto MDI/MDIX, Auto Negotiation
Drawing		1



NEW

PWM Controller

Digital PWM Controller

IDGB series

Multi-function controller with selectable interface

CE PSE ※ IDGB-400M2-24-TP/PI is currently pending approval

LAN | **8bit** | **232C** | **485** | **0-5V**

Selectable external control functions

Available in three types of external control: "LAN communication/8bit parallel communication switching", "RS-232C communication/8 bit parallel communication switching", and "RS-485 communication/analog 0-5V switching".

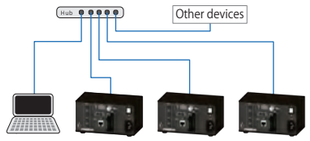
-TP/PI Spec

-S2/PI Spec

-S4/VI Spec

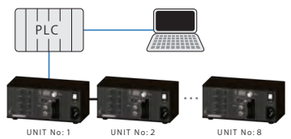
LAN Communication (TP)

A single computer can manage the devises on the network via ethernet communication. Several IDGB series can be managable individually by setting the IP address.



RS-485 Communication (S4)

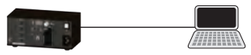
Up to eight units can be controlled individually by setting the unit No. of each controller. Up to 64 channels can be managed at once by combining an 8 channel controllers.



8bit Parallel Communication (PI)

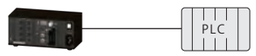
Parallel communication allows the switching of setting values at high-speed.

RS-232C Communication (S2)



An external control environment can be easily built even in an environment susceptible to the noise with RS-232C communication.

Analog 0-5V (VI)

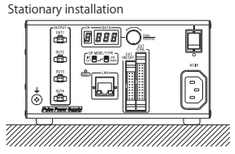


It can be controlled with an analog signal of 0-5V. An external control environment can be easily built with the analog signal of 0-5V because lights can be controlled by just varying the voltage.

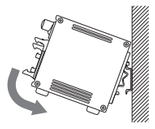
Easy to monitor the setting value with a high-visibility digital display

Mountable to DIN rail

Stationary installation

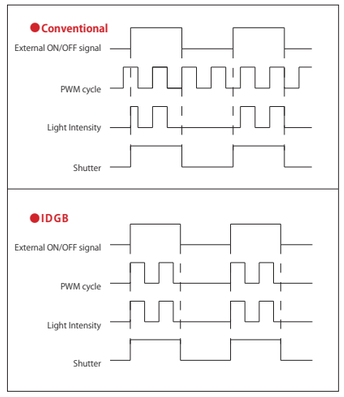


DIN rail installation



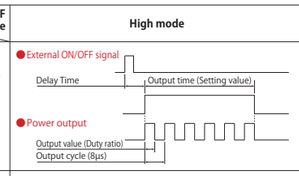
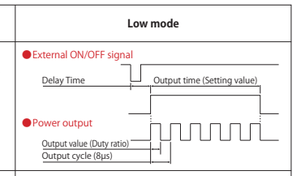
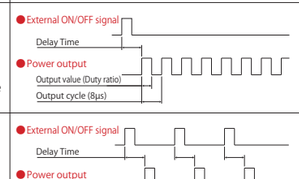
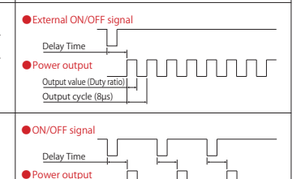
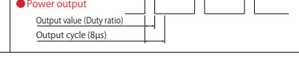
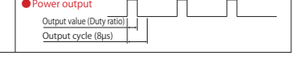
Fully synchronizes the external ON/OFF signal and the light output

**Our conventional products had a lighting fluctuation due to an asynchronism in the external ON/OFF signal and inner PWM cycle.
However, the PWM cycle of this product synchronizes with the external ON/OFF signal so it has no lighting fluctuation.**

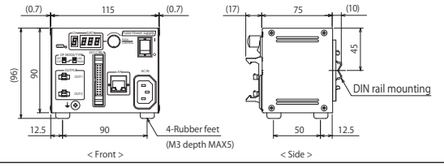


Various External ON/OFF Functions

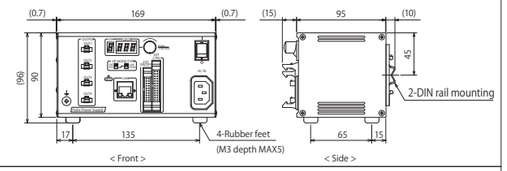
**It can be switched between "high mode" in which lighting is turned off by the signal input and "low mode" in which lighting is turned on.
As for the external ON/OFF type, there are the regular "Normal type", "Repeat type" that continues to light with 1 trigger, and "Single type" that lights only for 1 cycle per trigger, and "Edge type" that lights for a specified time with 1 trigger.**

External ON/OFF type \ mode	High mode	Low mode
Edge Type Output for the set output time per external ON signal. The output time will be confirmed after completion of the delay process. If output time is exceeded, output will be stopped even during output.		
Repeat Type Start the output with an external ON signal and continue to light up until operating one of the following: a. Switching external ON/OFF type b. Power off		
Single Type Output for only one cycle of the lighting cycle per external ON signal.		

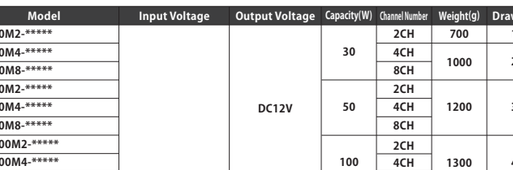
1 IDGB-30M2-TP/PI



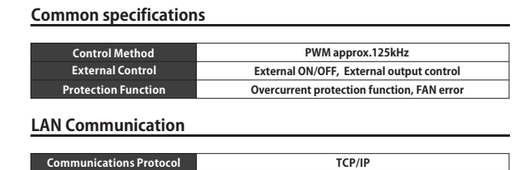
2 IDGB-30M4-TP/PI



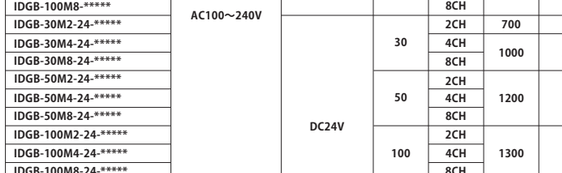
3 IDGB-50M4-TP/PI



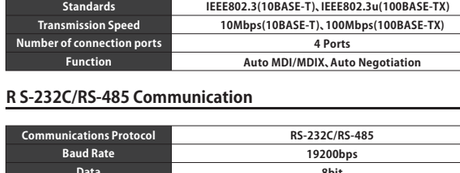
4 IDGB-100M8-TP/PI



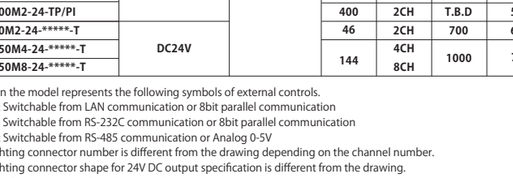
5 IDGB-400M2-24-TP/PI



6 IDGB-50M2-24-TP/PI-T

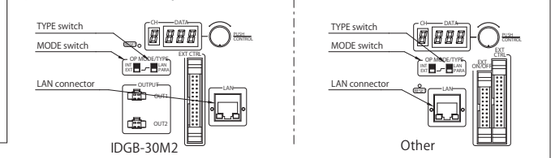


7 IDGB-150M4-24-TP/PI-T

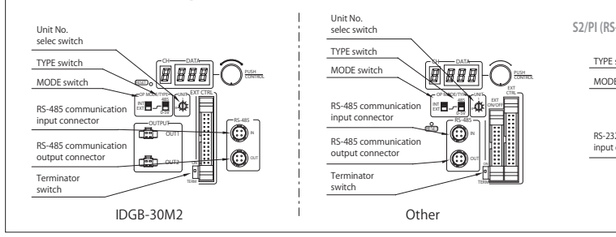


Front Panel Control Layout

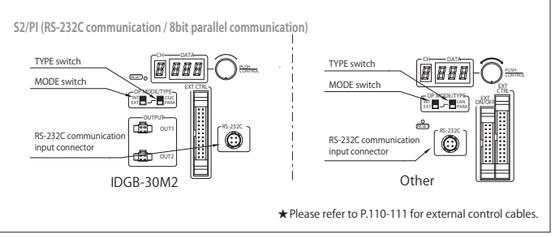
TP/PI (LAN communication / 8bit parallel communication)



S4/VI (RS-485 communication / Analog 0-5V)



S2/PI (RS-232C communication / 8bit parallel communication)



★Please refer to P.110-111 for external control cables.

Selectable from a wide range of 63 options

**Our diverse lineup of 63 models includes two types of input voltage 100-240V AC/24V DC, two types of output voltage 12V/24V DC, four capacities of 30W/50W/100W/400W(for 24V DC output specification, 2 types of 46W/144W), three channel choices of 2/4/8 channels, and three external control methods of [TP/PI], [S2/PI], and [S4/VI].
The ideal controller depending on light combination and environment can be selected.**

Model	Input Voltage	Output Voltage	Capacity(W)	Channel Number	Weight(g)	Drawing
IDGB-30M2-*****	AC100～240V	DC12V	30	2CH	700	1
IDGB-30M4-*****				4CH	1000	2
IDGB-30M8-*****				8CH		
IDGB-50M2-*****			50	2CH	1200	3
IDGB-50M4-*****				4CH		
IDGB-50M8-*****				8CH		
IDGB-100M2-*****			100	2CH	1300	4
IDGB-100M4-*****				4CH		
IDGB-100M8-*****				8CH		
IDGB-30M2-24-*****		DC24V	30	2CH	700	1
IDGB-30M4-24-*****				4CH	1000	2
IDGB-30M8-24-*****				8CH		
IDGB-50M2-24-*****			50	2CH	1200	3
IDGB-50M4-24-*****				4CH		
IDGB-50M8-24-*****				8CH		
IDGB-100M2-24-*****			100	2CH	1300	4
IDGB-100M4-24-*****				4CH		
IDGB-100M8-24-*****				8CH		
IDGB-400M2-24-TP/PI			400	2CH	T.B.D	5
IDGB-50M2-24-*****-T	DC24V		46	2CH	700	6
IDGB-150M4-24-*****-T			144	4CH	1000	7
IDGB-150M8-24-*****-T				8CH		

★***** on the model represents the following symbols of external controls.
・TP/PI: Switchable from LAN communication or 8bit parallel communication
・S2/PI: Switchable from RS-232C communication or 8bit parallel communication
・S4/VI: Switchable from RS-485 communication or Analog 0-5V
★The lighting connector number is different from the drawing depending on the channel number.
★The lighting connector shape for 24V DC output specification is different from the drawing.
★Please refer to P.110-111 for external control cables.

Common specifications

Control Method	PWM approx.125kHz
External Control	External ON/OFF, External output control
Protection Function	Overcurrent protection function, FAN error

LAN Communication

Communications Protocol	TCP/IP
Standards	IEEE802.3(10BASE-T)、IEEE802.3u(100BASE-TX)
Transmission Speed	10Mbps(10BASE-T)、100Mbps(100BASE-TX)
Number of connection ports	4 Ports
Function	Auto MDI/MDIX、Auto Negotiation

R S-232C/RS-485 Communication

Communications Protocol	RS-232C/RS-485
Baud Rate	19200bps
Data	8bit
Parity Bit	Even Parity
Stop Bit	1bit

PWM Controller

Programable Digital PWM Controller

with Multi-channel Control Function Supports LAN Communication

IDGB-PG series

Seamless controller that has programming mode function that does not require PLC

CE PSE LAN 8bit

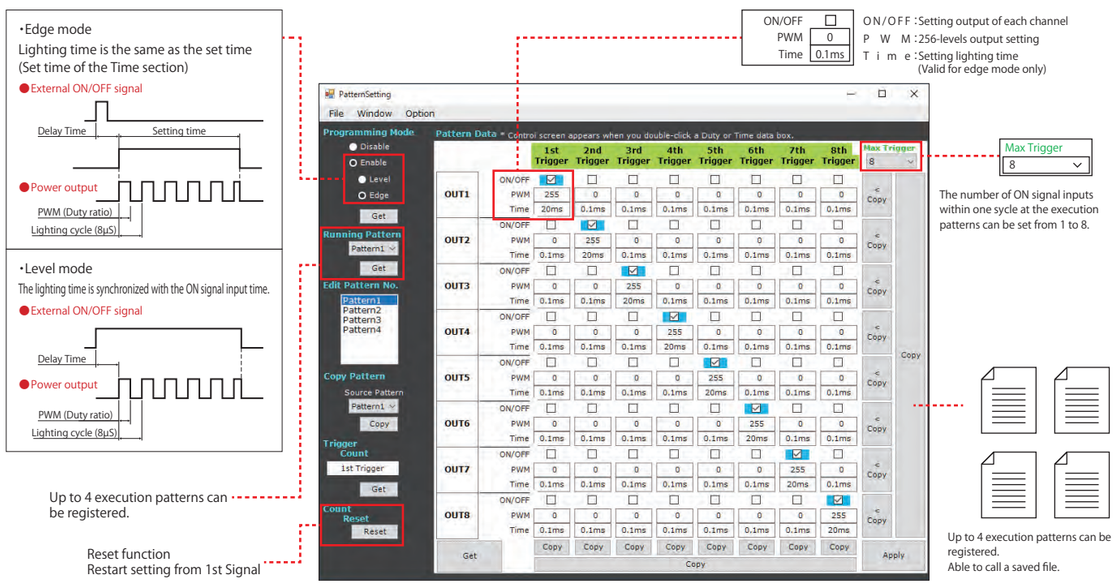
PG-SERIES

A new Programming Mode function is added

- A single ON signal controls the number of outputs and the order
- Lighting mode: Level mode or Edge mode
- Up to 8 channels x 4 patterns lighting order, output control, lighting time can be set and saved.

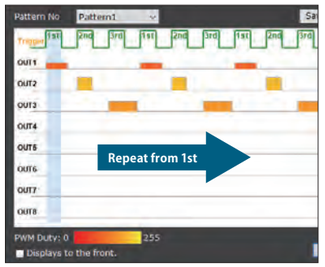
Easy pattern setting with LAN

Provides sample applications to support configuration

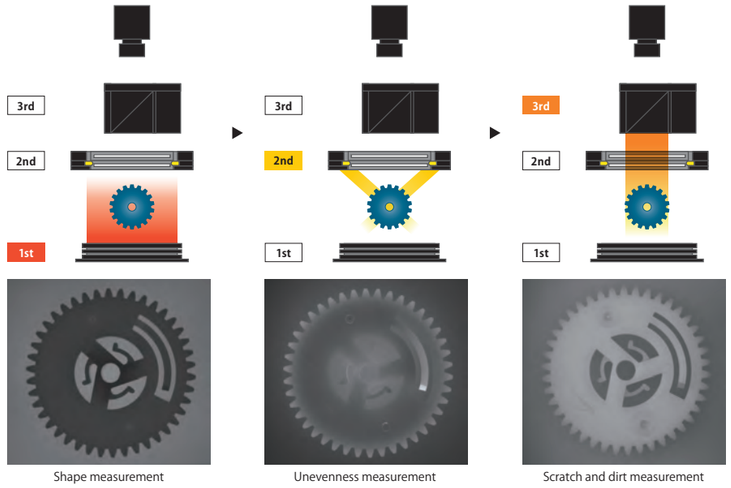


Application programming example: Multiple lights (backlight → horizontal ring light → coaxial light)

- No expertise of PLC control is needed, and The setting status can be checked at a glance.



		1st Trigger	2nd Trigger	3rd Trigger	4th Trigger	5th Trigger
OUT1	ON/OFF	☑	☐	☐	☐	☐
	PWM	100	0	0	0	0
	Time	15ms	0.1ms	0.1ms	0.1ms	0.1ms
OUT2	ON/OFF	☐	☑	☐	☐	☐
	PWM	0	200	0	0	0
	Time	0.1ms	10ms	0.1ms	0.1ms	0.1ms
OUT3	ON/OFF	☐	☐	☑	☐	☐
	PWM	0	0	160	0	0
	Time	0.1ms	0.1ms	20ms	0.1ms	0.1ms
OUT4	ON/OFF	☐	☐	☐	☐	☐
	PWM	0	0	0	0	0



Shape measurement | Unevenness measurement | Scratch and dirt measurement

Selectable from a wide range of 21 options

Our diverse lineup of 21 models includes two kinds input voltage of 100-240V AC and 24V DC, two kinds of output voltage of 12V/24V DC, three capacities of 30W/50W/100W, and three channnel choices of 2/4/8 each.
The ideal controller depending on light combination and environment can be selected.

Model	Input Voltage	Output Voltage	Capacity(W)	Channel Number	Weight(g)	Drawing
IDGB-30M2PG-TP	AC100～240V	DC12V	30	2CH	700	1
IDGB-30M4PG-TP				4CH	1000	2
IDGB-30M8PG-TP				8CH		
IDGB-50M2PG-TP			50	2CH	1200	3
IDGB-50M4PG-TP				4CH		
IDGB-50M8PG-TP				8CH		
IDGB-100M2PG-TP			100	2CH	1300	4
IDGB-100M4PG-TP				4CH		
IDGB-100M8PG-TP				8CH		
IDGB-30M2PG-24-TP		DC24V	30	2CH	700	1
IDGB-30M4PG-24-TP				4CH	1000	2
IDGB-30M8PG-24-TP				8CH		
IDGB-50M2PG-24-TP			50	2CH	1200	3
IDGB-50M4PG-24-TP				4CH		
IDGB-50M8PG-24-TP				8CH		
IDGB-100M2PG-24-TP			100	2CH	1300	4
IDGB-100M4PG-24-TP				4CH		
IDGB-100M8PG-24-TP				8CH		
IDGB-50M2PG-24-TP-T	DC24V		46	2CH	700	5
IDGB-150M4PG-24-TP-T			144	4CH	1000	6
IDGB-150M8PG-24-TP-T				8CH		

Common specifications

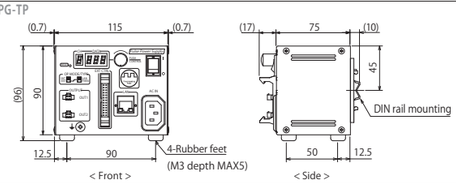
Control Method	PWM approx.125kHz
External Control	External ON/OFF, External output control
Protection Function	Overcurrent protection function, FAN error

LAN Communication

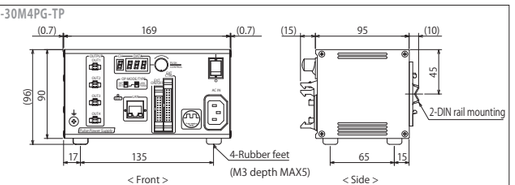
Communications Protocol	TCP/IP
Standards	IEEE802.3(10BASE-T)、IEEE802.3u(100BASE-TX)
Transmission Speed	10Mbps(10BASE-T)、100Mbps(100BASE-TX)
Number of connection ports	4 Ports
Function	Auto MDI/MDIX、Auto Negotiation

★The lighting connector number is different from the drawing depending on the channel number.
★The lighting connector shape for 24V DC output specification is different from the drawing.
★Please refer to P.111 for external control cables.

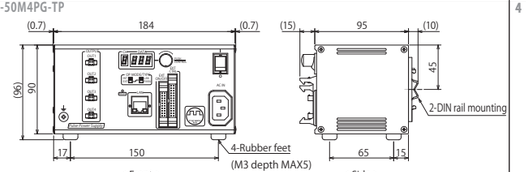
1 IDGB-30M2PG-TP



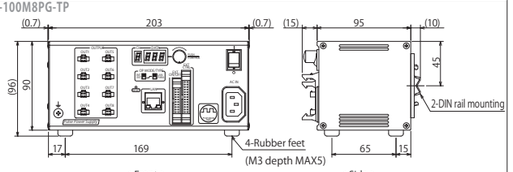
2 IDGB-30M4PG-TP



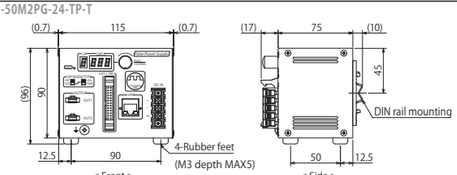
3 IDGB-50M4PG-TP



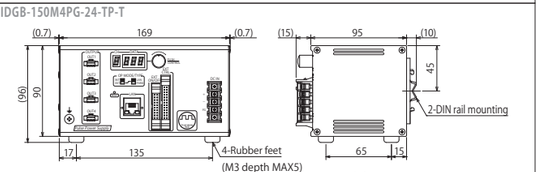
4 IDGB-100M8PG-TP



5 IDGB-50M2PG-24-TP-T



6 IDGB-150M4PG-24-TP-T



PWM Controller

Digital PWM Controller

IDGC series

GenICam Compatible Multi-function Controller
The external trigger output function allows external synchronization.

CE PSE LAN Under Development

- The external trigger output function enables external synchronization
- Compatible with GenICam (SFNC v2.4) and conventional command control
- Equipped with The same programming functions as IDGB-PG

※ Specifications are subject to change due to being under development.

Model		IDGC-50M2-TP
Input Voltage		AC100～240V
Output Voltage		DC12V
Channel Number		2CH
Capacity		50W (25Wx2CH)
Control Method		PWM approx.125kHz (256 levels)
External Control		Trigger input, trigger output, external output control (LAN communication)
Communication Specifications	Communications Protocol	TCP/IP、GigE Vision
	Standards	10/100 BASE-T(IEEE802.3)
	Function	Auto Negotiation
Standard		GenICam、GigE Vision

External trigger output function enables external synchronization.

Equipped with an external trigger output function, it can be externally synchronized with devices such as cameras.
It enables imaging capturing and operation in conjunction with the lighting connected to the IDGC without having to prepare an external PLC device by combining it with the programming function.

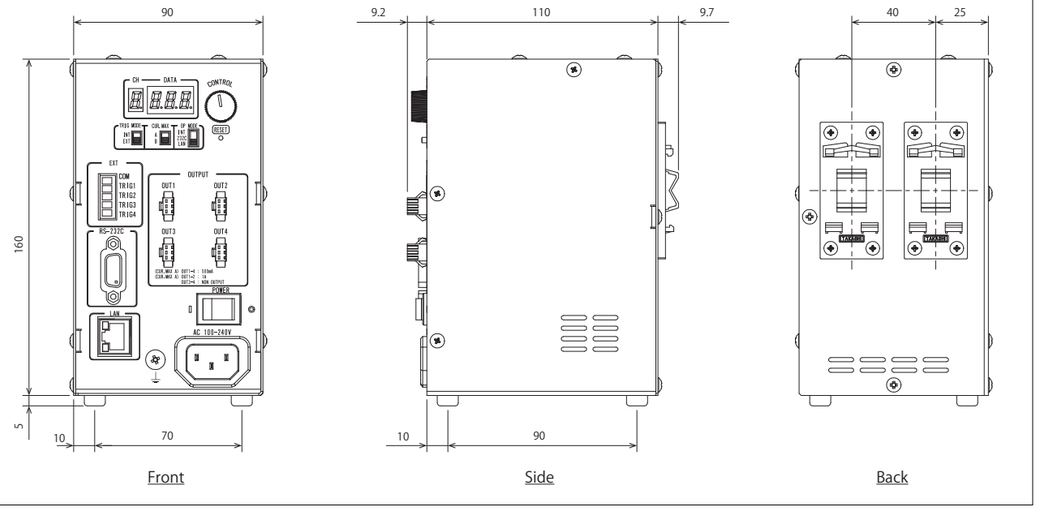
Compatible with GenICam and conventional command control

Supports control via GenICam (SFNC v2.4)
By supporting GenICam, it is possible to reduce the constraints caused by the environment platform at the time of deployment and operation, simplifying the operation.
It also supports operations with conventional commands.

Programming functions enable various actions by 1 trigger

Equipped with programming functions that were popular in the IDGB-PG series.
1 trigger signal can to turn on multiple lights in order.
In the programmable settings, not only the order, but also the control of the output, the lighting time, the delay time, the output pattern, etc., can be set, and various actions can be operated.

IDGC-50M2-TP (Reference)



Analog Controller

Analog PWM Controller

IDPA series

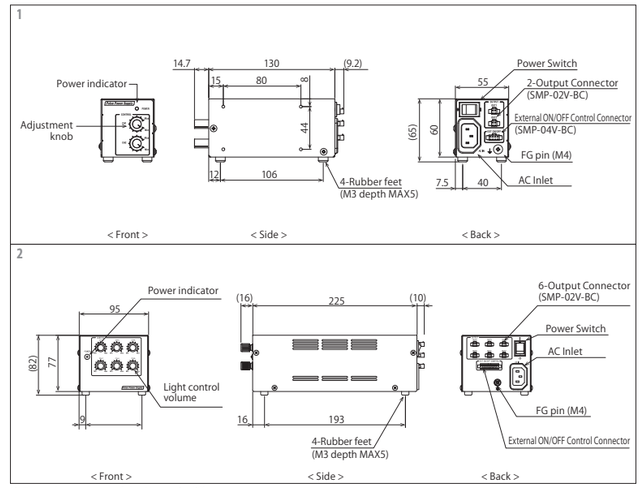
Simple analog controller
Compact 30W (IDPA-30M2)

CE PSE

- Incorporates an external ON/OFF control terminal as standard equipment
- Input voltage of 100-240V AC
  (The standard power cable included is for 100V AC)
- Approx. 80kHz PWM control allows 0-100% output control
  (Semi-fixed volume H is also available)

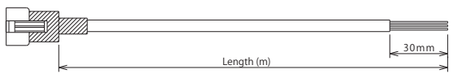
Model	IDPA-30M2	IDPA-50M6	IDPA-100M6
Input Voltage	AC100～240V		
Operating Frequency	50/60Hz		
Rated Output	DC12V		
Capacity	30W	50W	100W
Channel Number	2CH	6CH	6CH
Control Method	PWM approx. 80kHz		
External Control	External ON/OFF Control		
Drawing	1	2	

★The above model has a volume control knob. Also available with a semi-fixed volume that requires a driver to adjust. The model of a semi-fixed volume is marked with H at the end.
★Please refer to P.110 for external control cables.



※The volume shape of the H type is different.

External ON/OFF control cable, IC-CB-D ※(IDPA-30M2)

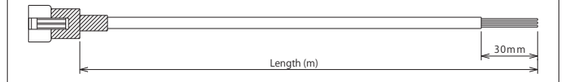


Pin number	Green
1	White
2	Green
3	Red
4	Black

Model	Length (m)	Model	Length (m)
IC-CB-D1	1	IC-CB-D5	5
IC-CB-D2	2	IC-CB-D7	7
IC-CB-D3	3	IC-CB-D10	10
IC-CB-D4	4		

★Sizes other than those above are also available.

External ON/OFF control cable, IC-CB-8CH ※(50M6 / 100M6)

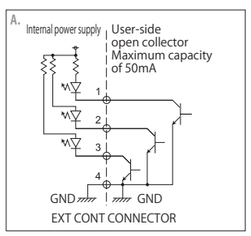


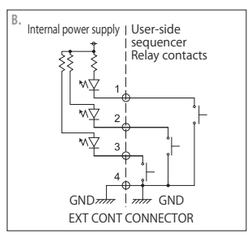
Pin number	Green	Pin number	Green
1	White	6	Gray
2	Yellow	7	Orange
3	Brown	8	Light Blue
4	Green	9	Red
5	Blue	10	Black

Model	Length (m)	Model	Length (m)
IC-CB-8CH-1	1	IC-CB-8CH-5	5
IC-CB-8CH-2	2	IC-CB-8CH-7	7
IC-CB-8CH-3	3	IC-CB-8CH-10	10
IC-CB-8CH-4	4		

★Sizes other than those above are also available.

External ON/OFF connection example (IDPA-30M2)





- A current of approx. 10mA flows toward the 4th pin from the 1st, 2nd, and 3rd pins. Use an open-collector circuit with a capacity of approx. 50mA as a margin.
- When short-circuiting the 3rd and 4th pins of the external light control connector, it will be switched to the external control. (The LED light connected to the 2 channels will be turned off.)
- When short-circuiting the 1st and 4th pins in addition to the above status, the LED light connected to LAMP 1 will be turned on. In the same way, when short circuiting the 2nd and 4th pins, the LED light connected to LAMP 2 will be turned on. (Switching of the external lighting control becomes effective at 2 channels at the same time.)

Constant Current Controller

Multi-Channel Constant Current Controller

IDCA series

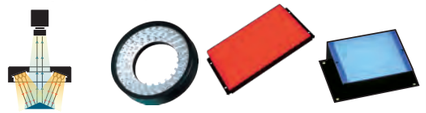
Constant-current controller capable of running a wide range of lights

CE PSE LAN 8bit 232C 485 0-5V

Allows simultaneous connections of DC 12V lights and spot lights

Applicable Lights

12V DC lighs (IDR series, etc.) ※There are limits on lights that can be connected.



Applicable Lights

IHV, IHVE, and IBF series

The upper row of each channel allows direct connection of 12V DC lights, while the lower row allows direct connection of current-control lights such as the IHV, IHVE, and IBF series.

When lights are connected to both the upper and lower rows at the same time, priority is given to lower row output.

Common specifications

Control Method	Variable Output Current Method
Input Voltage	100-240V AC
Output Voltage	Max. 12V DC
Output Current	0mA to maximum output current
Maximum output current	100 to 1000mA (Variable in 10mA increments per channel)
External ON/OFF Control	Independent control per channel
Protection Function	Output open, short-circuit detection, overcurrent, no load, FAN error

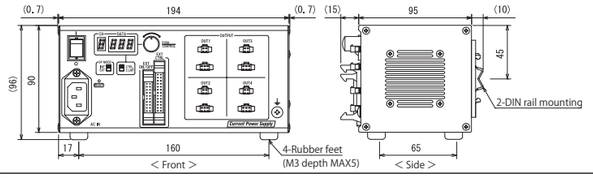
When selecting an extension cable, please check the instruction manual.
★Please refer to P.110-111 for external control cables.

The IHV, IHVE, and IBF series can be connected simultaneously by configuring the maximum output current

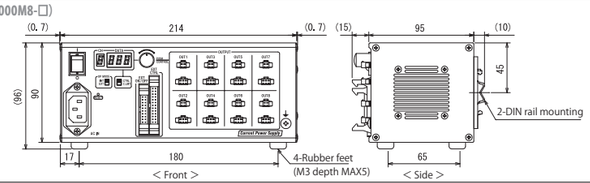
Model	Channel Number	External Control	Drawing
IDCA-1000M4-VI	4CH	0-5V Analog	1
IDCA-1000M4-PI		8bit parallel	
IDCA-1000M4-S2		RS-232C communication	
IDCA-1000M4-S4		RS-485 communication	
IDCA-1000M4-TP		LAN communication	
IDCA-1000M8-VI	8CH	0-5V Analog	2
IDCA-1000M8-PI		8bit parallel	
IDCA-1000M8-S2		RS-232C communication	
IDCA-1000M8-S4		RS-485 communication	
IDCA-1000M8-TP		LAN communication	

As the maximum output current can be set independently for each channel in the range of 100 to 1,000mA, it allows the IHV series to simultaneously run at 350mA and the IHVE and IBF series to do so at 700mA. The output control range can be varied in 256 levels from 0mA to the set maximum output current.

1 (IDCA-1000M4-□)

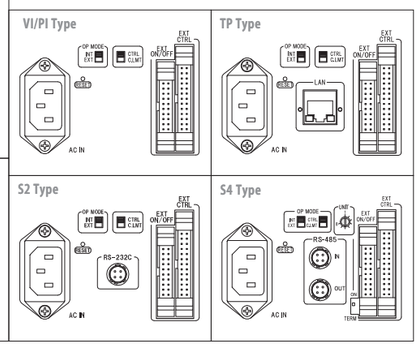


2 (IDCA-1000M8-□)



※□represents the following symbol for the type of external control.
VI: Analog 0-5V, PI: 8bit parallel, S2: RS-232C communication, S4: RS-485 communication, TP: LAN communication.

Control Panel Layout



Constant Current Controller

Constant Current Controller for IDBB-LSRH

IMC series

Capable of controlling output at 1,000 levels of 100mm
Uniformity can be adjusted on the lighting side.

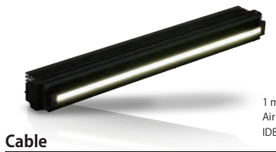
CE PSE LAN

- **This is a exclusive controller for the line sensor lighting IDBB-LSRH.**
- **Ideal for The use with a line sensor camera due to its Constant current output control.**

Model	IMC-300M10-TP	IMC-600M20-TP	IMC-1000M30-TP
Input Voltage	AC100～240V		
Operating Frequency	50/60Hz		
Capacity	30W/CH		
Output Channel	10CH	20CH	30CH
Control Method	Variable Output Current Method		
External Control	External output control (LAN communication)		External ON/OFF control
Lighting Sizes	100～1000	1100～2000	2100～3000
Drawing	1	2	3

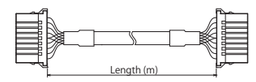
★ Please refer to P.111 for external ON/OFF control cables.

Connectable Light



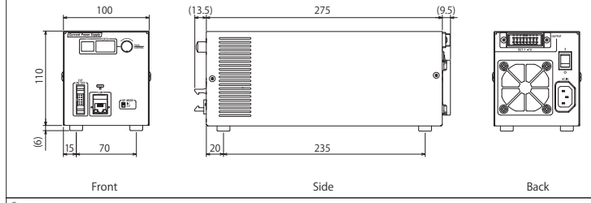
1 millionLx Line Light with Natural Air Cooling
IDBB-LSRH series (P.14)

Cable

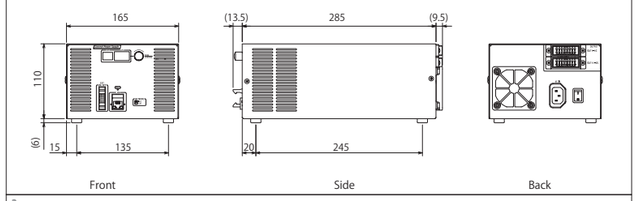


Model	Length (m)
I-CB-S1-HDN	1
I-CB-S2-HDN	2
I-CB-S3-HDN	3
I-CB-S5-HDN	5
I-CB-S7-HDN	7
I-CB-S10-HDN	10

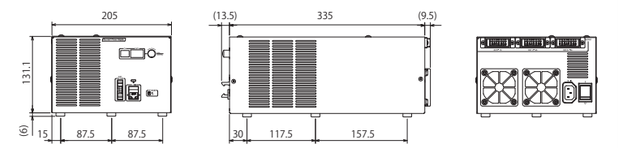
1



2



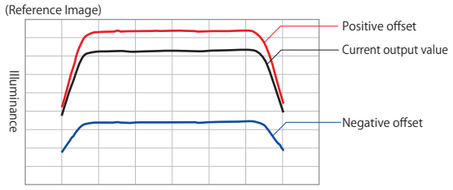
3



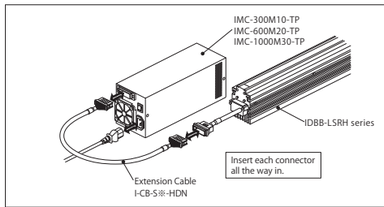
Offset Output

Offset means to increase or decrease the output control value while maintaining the light control balance at the current setting of each channel.
It allows output control while holding the light control balance by using this function.

(Reference Image)



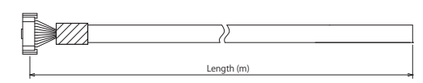
Configuration example



External ON/OFF control cable

Control cable for outputting the external ON/OFF signal and error status signal.

IC-MIL-10 series



Model	Length (m)
IC-MIL-10-1	1
IC-MIL-10-2	2
IC-MIL-10-3	3
IC-MIL-10-5	5
IC-MIL-10-10	10

NEW

24 V DC Constant Voltage Controller

High-performance Constant Voltage Controller

IWDV-24 series

Ideal high capacity controller for line sensor and large flat-surface lights
Able to control lights up to 4 channels with a release of two channel controllery

DC24V | CE | PSE | LAN | 10bit

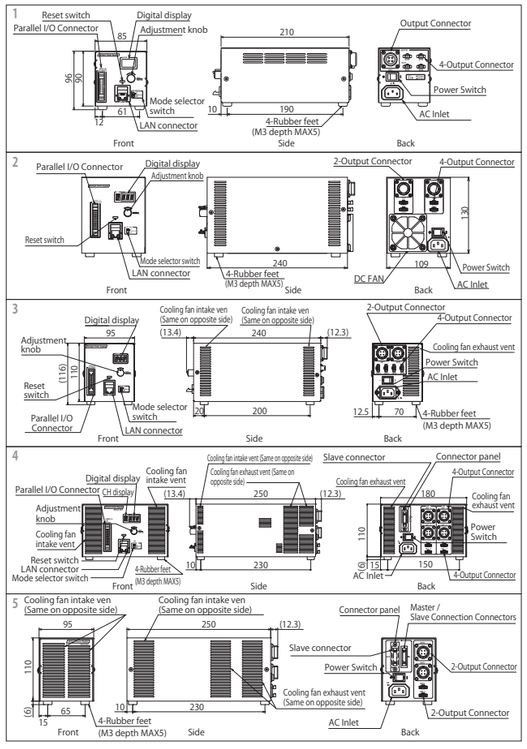
※ IWDV-240M2-24 is currently pending approval

- Ideal for use with a line-sensor camera or high-speed shutter camera due to its variable output voltage
- Various 24V DC lights can be used with capacity variation selectable from 100W, 240W, 300W and 600W.
- Switchable from LAN communication to parallel communication by external output control.

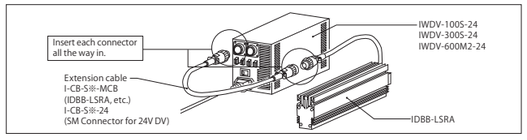
Model	IWDV-100S-24	IWDV-240M2-24	IWDV-300S-24
Input Voltage	AC100～240V		
Operating Frequency	50/60Hz		
Rated Output	DC24V		
Capacity	100W	Total 240W (120W/channel)	300W
Channel Number	Single channel with 5 connectors (1 metal connector/ 4 SM connectors)	2 channel with 3 connectors (1 metal connector/ 2 SM connectors)	Single channel with 6 connectors (2 metal connectors /4 SM connectors)
Control Method	Variable Output Voltage Method		
External Control	External ON/OFF control External output control (10bit parallel communication / LAN communication)		
Drawing	1	2	3

Model	IWDV-600M2-24 (Master)	IWDV-300M1-24 (Slave)
Input Voltage	AC100～240V	
Operating Frequency	50/60Hz	
Rated Output	DC24V	
Capacity	Total 600W (300W/Channel)	300W
Channel Number	2 channel with 4 connectors (2 metal connectors / 2 SM connectors)	1 channel with 4 connectors (2 metal connectors / 2 SM connectors)
Control Method	Variable Output Voltage Method	
External Control	External ON/OFF control External output control (10bit parallel communication / LAN communication)	
Drawing	4	5

★ Please refer to P.111 for external ON/OFF control cables and output control cables.

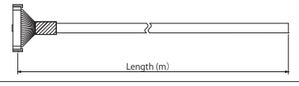


Configuration example



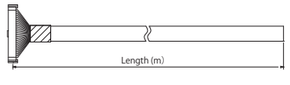
Control cable for External ON/OFF and 10bit parallel communication

For IWDV-100S-24 / IWDV-300S-24



Model	Length (m)
IC-MIL-20-1	1
IC-MIL-20-2	2
IC-MIL-20-3	3
IC-MIL-20-5	5
IC-MIL-20-10	10

For IWDV-240M2-24 / IWDV-600M2-24



Model	Length (m)
IC-MIL-26-1	1
IC-MIL-26-2	2
IC-MIL-26-3	3
IC-MIL-26-5	5
IC-MIL-26-10	10

Connection method for IWDV-600M2-24 (Master) with 2 to 4 channel and IWDV-300M1-24 (Slave)

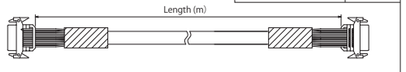
IWDV-600M2-24 (Master) 2 Channel Specification

IWDV-300M1-24 (Slave) 3 Channel Specification

IWDV-300M1-24 (Slave) 4 Channel Specification

★IWDV-600M2 series use IC-MIL-26-□(Cable length) for 10bit parallel communication and external ON/OFF control.

IC-FX2-20



Model	Length (m)
IC-FX2-20-0.5	0.5
IC-FX2-20-1	1
IC-FX2-20-2	2

NEW

48V DC Constant Voltage Controller

Constant Voltage Controller with High Capacities of 120W, 300W, and 600W

IWDV(S)-48 series

IIdeal high capacity controller for line sensor and large flat-surface lights
Capable of controlling output at 1,000 levels

DC48V | CE | PSE | LAN | 10bit

- Ideal for use with a line-sensor camera or high-speed shutter camera due to its variable output voltage
- Supporting large-scale lighting with 48V DC power consumption of up to 600W, and the selection of an optimum variable range according to the lighting by the output lower limit voltage setting.
- Switchable from LAN communication to parallel communication by external output control.

Model	IWDV-120S-48	IWDV-300S-48-C1	IWDV-600S-48-C1
Input Voltage	AC100～240V		
Operating Frequency	50/60Hz		
Rated Output	DC48V		
Capacity	120W	300W	600W
Output Channel	Single channel with 1 connector	Single channel with 2 connectors	
Control Method	Variable Output Voltage System		
External Control	External ON/OFF control External output control (Switchable from 10bit parallel communication or LAN communication)		

★ Depending on the power consumption, two lights can be connected per connector.
★ Please refer to P.111 for external control cables.

Connectable Light

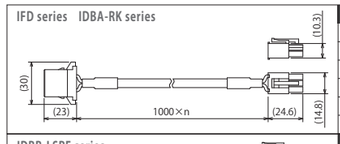
1,300,000Lx Line Light with Forced Air Cooling
IDBB-LSRF series (P.13)

Large Sized Backlight (White)
IFD series (P.53)

Line light replaceable from fluorescent light
IDBA-RK series (P.18)

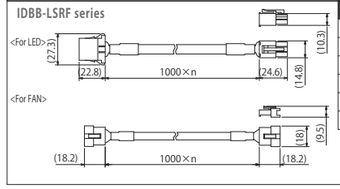
Cable

IFD series IDBA-RK series

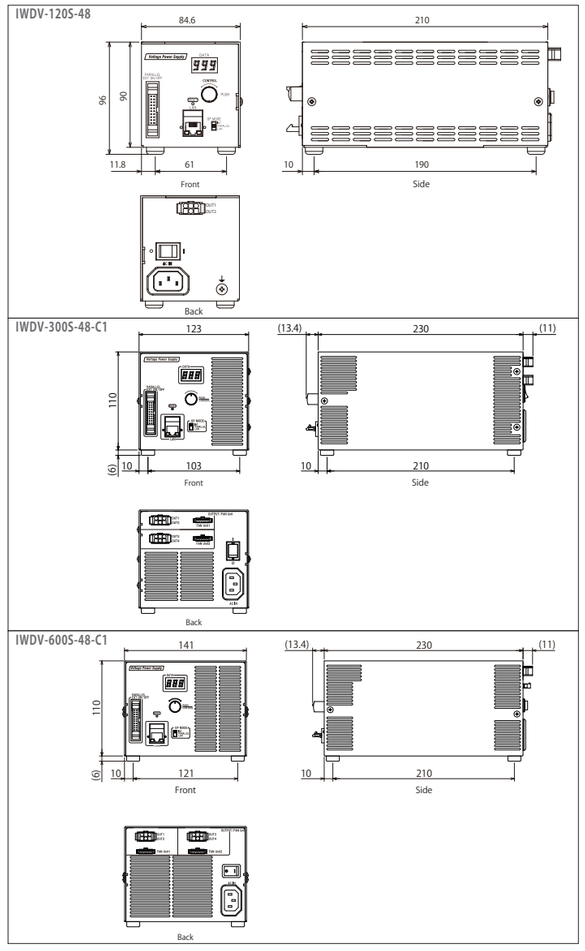


Model	Length (m)
I-CB-S1-DNEL	1
I-CB-S2-DNEL	2
I-CB-S3-DNEL	3
I-CB-S5-DNEL	5
I-CB-S7-DNEL	7
I-CB-S10-DNEL	10

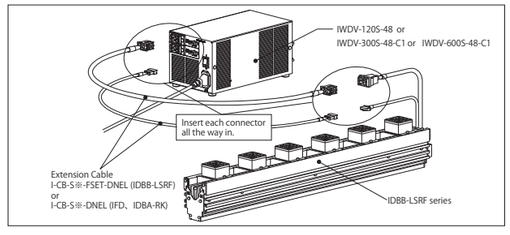
IDBB-LSRF series



Model	Length (m)
I-CB-S1-FSET-DNEL	1
I-CB-S2-FSET-DNEL	2
I-CB-S3-FSET-DNEL	3
I-CB-S5-FSET-DNEL	5
I-CB-S7-FSET-DNEL	7
I-CB-S10-FSET-DNEL	10

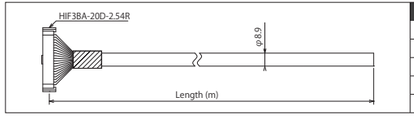


Configuration example



Control cable for External ON/OFF and 10bit parallel communication

IC-MIL-20 series
Control cable for inputing the external ON/OFF signal and external output control signal (10bit parallel communication mode), and outputting the error status signal.



Model	Length (m)
IC-MIL-20-1	1
IC-MIL-20-2	2
IC-MIL-20-3	3
IC-MIL-20-5	5
IC-MIL-20-10	10

NEW

48V DC Constant Voltage Controller

Constant Voltage Controller with High Capacities of 300W and 600W

IWDV(SL)-48 series analog

Ideal high capacity controller for line sensor and large flat-surface lights
Controller with simple output control and low cost

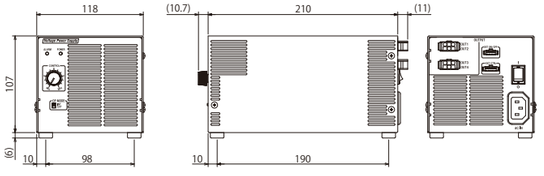
DC48V | CE | PSE | 0-5V

- Ideal for use with a line-sensor camera or high-speed shutter camera due to its variable output voltage
- Supporting large-scale lighting with 48V DC power consumption of up to 600W.
- Simple control by stepless volume.

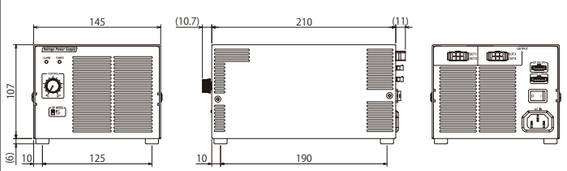
Model	IWDV-300SL-48-C1	IWDV-600SL-48-C1
Input Voltage	AC100～240V	
Operating Frequency	50/60Hz	
Rated Output	DC48V	
Capacity	300W	600W
Output Channel	Single channel (Depending on the power consumption, two lights can be connected per connector)	
Control Method	Variable Output Voltage System	
External Control	External ON/OFF control External output control (Analog 0-5V)	

★ Please refer to P.110 for external control cables.

IWDV-300SL-48-C1



IWDV-600SL-48-C1

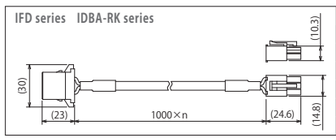


Connectable Light

Large Sized Backlight (White)
IFD series (P.53)

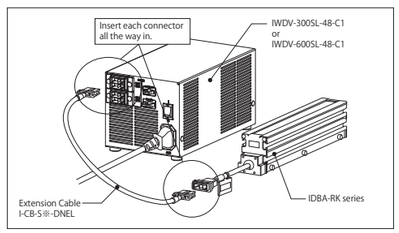
Line light replaceable from fluorescent light
IIDBA-RK series (P.18)

Cable



Model	Length (m)
I-CB-S1-DNEL	1
I-CB-S2-DNEL	2
I-CB-S3-DNEL	3
I-CB-S5-DNEL	5
I-CB-S7-DNEL	7
I-CB-S10-DNEL	10

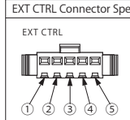
Configuration example



Output Connector

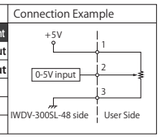
By inputting an analog 0-5V signal in the EXT CTRL connector on the back of the body, the brightness of LED lights can be controlled from 0% to 100%.

EXT CTRL Connector Specification



Pin number	Signal content
1	+5V output
2	0-5V input
3	GND
4	NC
5	NC

Connection Example



External ON/OFF control cable

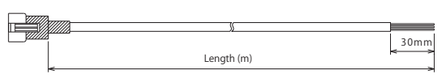
Pin number	Green
1	White
2	Green
3	Red
4	Black

Model	Length (m)
IC-CB-D1	1
IC-CB-D2	2
IC-CB-D3	3
IC-CB-D4	4
IC-CB-D5	5
IC-CB-D7	7
IC-CB-D10	10

★Sizes other than those above are also available.

Analog 0-5V output Control Cable

Pin number	Green
1	White
2	Red
3	Black
4	N/A
5	N/A



Model	Length (m)
IC-TH-S1	1
IC-TH-S2	2
IC-TH-S3	3
IC-TH-S4	4
IC-TH-S5	5
IC-TH-S10	10

★Sizes other than those above are also available.

24 V DC Constant Voltage Controller

Line Strobe Controller

ISC series

It is a high-speed ON/OFF controller that is ideal for switching lighting at high speed for line scans. Two trigger control units can be connected, and lighting in the order of μs is possible.

DC24V | CE | PSE ※Pending approval
LAN

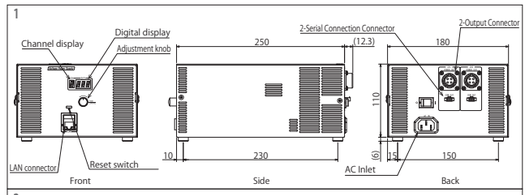
- High-capacity and supports high-speed ON/OFF at 3μs or less
- deal for use with a line-sensor camera or high-speed shutter camera due to its variable output voltage
- High-speed lighting with lighting cycle maximum of 50kHz
- External ON/OFF control supports Edge mode / Level mode.

★The expression"Strobe" here does not refer to "Overdrive".

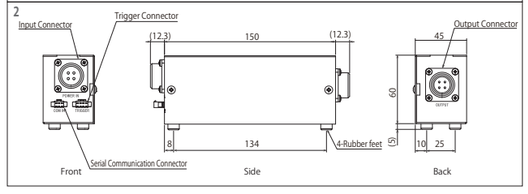
Type	Power supply unit	Trigger control unit
Model	IWDV-600M2-24-SC	ISC-300S-24
Input Voltage	AC100～240V 820VA	Powered by IWDV-600M2-24-SC
Operating Frequency	50/60Hz	-
Rated Output	DC24V	DC24V
Capacity	Total 600W (300W/CH)	300W
Output Voltage Variable Range	DC13 to 24V 1000 gradation	-
Channel Number	2CH	1CH
Control Method	Variable Output Voltage System	-
External Control	External output control (LAN communication)	External output control (Controlled by IWDV-600M2-24-SC) External ON/OFF control
Trigger Mode	-	External Trigger Mode: Edge mode External Trigger Mode: Level mode
Output Lighting Width Variable Range	-	Edge mode: 1 to 20μs Level mode: ON signal input time and sync
Delay Setting Range	-	0～5000μs
External trigger response time	-	OFF → ON: 3μs or less ON → OFF: 1μs or less
Drawing	1	2

★ External trigger response time varies with cable length.
★ Two types of extension cables (I-CB-S■R-MCB / I-CB-S0.5R-MCB) and communication extension cable (IC-SC-COM-▼) are required for use.
★ When using with an external trigger input, a trigger cable (IC-SC-TR ▲) is required.
★ ■,▼,▲ represents the length (m) of extension cables.
※ Specifications are subject to change due to being under development.

1



2

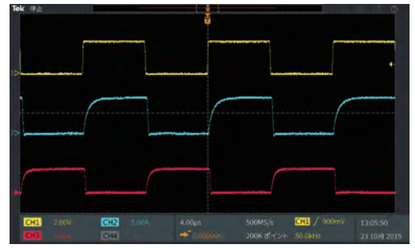


About response time

Trigger signal:(50kHz)

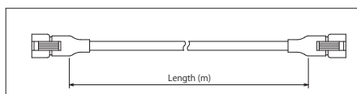
CH1:Level-High
IDBB-LSRA1500W-S
(300W)

CH2:Level-Low
IDBB-LSRA1000B-S
(200W)



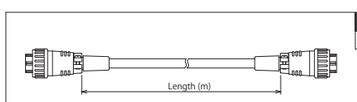
It is responding at high speed even at 50kHz.

Communication extension cable



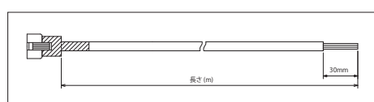
Model	Length (m)
IC-SC-COM-10	10
IC-SC-COM-15	15

Extension cable (Between ISC-300S-24 and lighting)



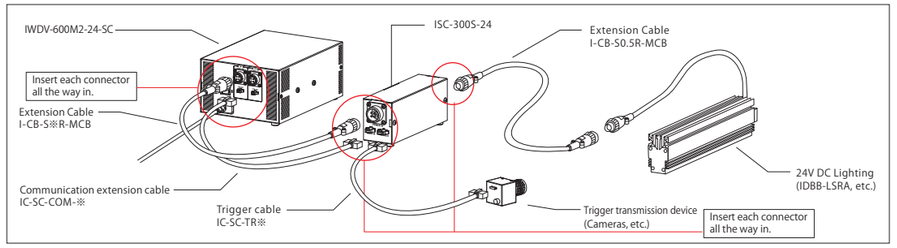
Model	Length (m)
I-CB-S0.5R-MCB	0.5

Trigger cable



Model	Length (m)
IC-SC-TR1	1
IC-SC-TR2	2

Configuration example



Overdrive Controller

Small Multi-channel Overdrive Controller with LAN communication

IJS series

Approx. more than 4 times brighter than continuous lighting by overdriving with a maximum voltage of 36V.

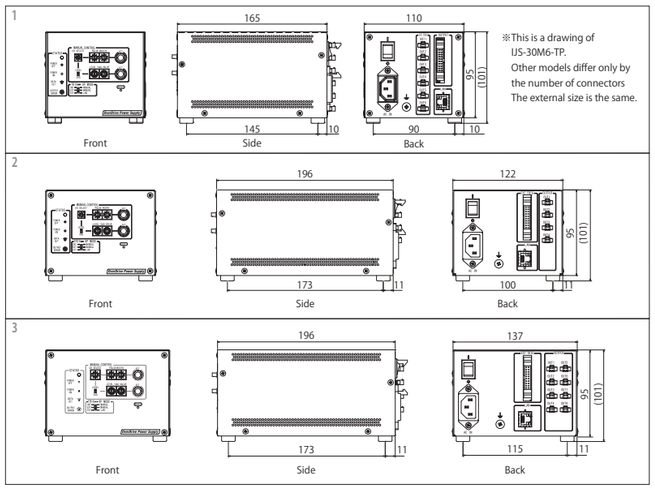
CE LAN

- It is More Compact than The conventional SAG controller.
- The output control is adjustable in 256 levels from 6V to the set SAG value.
- There are Four connection ports that can also be controlled from Four computers.
- The housing size remains Compact even with multiple channels.

Model	Channel Number	Capacity	Drawing
IJS-30M2-TP	2CH	15W×2　Total 30W	1
IJS-30M3-TP	3CH	10W×3　Total 30W	
IJS-30M4-TP	4CH	10W×2、5W×2　Total 30W	
IJS-30M6-TP	6CH	5W×6　Total 30W	
IJS-40M4-TP	4CH	10W×4　Total 40W	2
IJS-40M8-TP	8CH	5W×8　Total 40W	3

Input Voltage	AC100～240V
Operating Frequency	50/60Hz
Output Voltage	6 to 36V DC (256 levels output voltage adjustable)
Pulse Width Setting	0μs～990μs(10μs step) (Duty: 5% or less)
Trigger Signal	Synchronous lighting function (internal / external switching)
Trigger Response Time	Within approx. 2.5μs
Trigger Response Speed	"00" → "FF": within 200ms, " FF " → "00": within 1s (※)
Internal Light	50Hz fixed
External Control Function	LAN Communication (TCP / IP)
Variable Delay	Interval of 1 μs in the range of 0 to 5,000 μs (Only for the external control mode)
Other	Interlock function, Overcurrent protection function

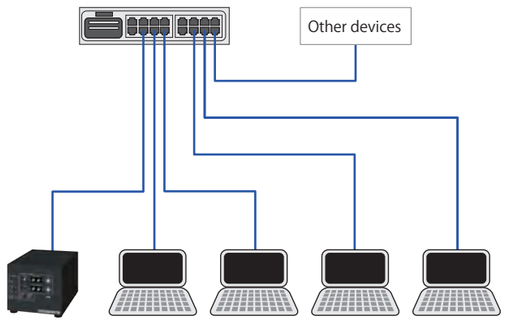
※Measured with IJS-30M6-TP connected with rated load (Equivalent to 12V / 5W).



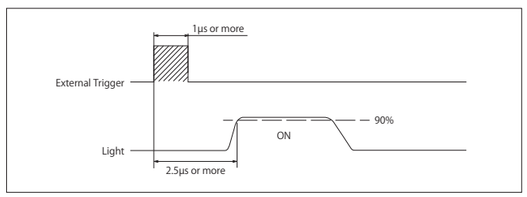
★Please refer to P.111 for external control cables.

Able to control from up to 4 computers

- There are Four connection ports that can be controlled from Four computers

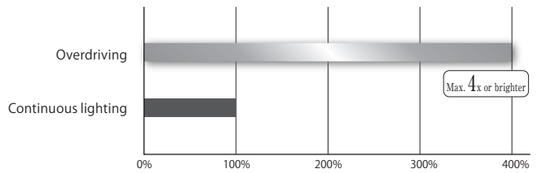


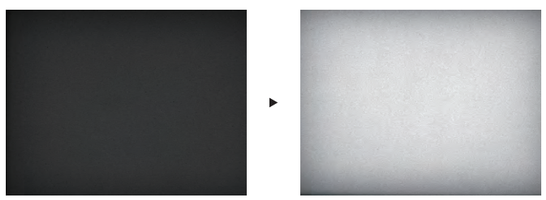
Trigger Response Speed



Overdrive effects

- The brightness of LED light with 12V DC can be approx. more than 4 times brighter than continuous lighting by overdriving with maximum voltage of 36V.
- Able to quickly capture images of moving objects at high speed due to an increase in light intensity
- It can cover a minor focus shift caused by device vibration by widening The depth of field and increasing The aperture value of The lens.





【Continuous lighting】

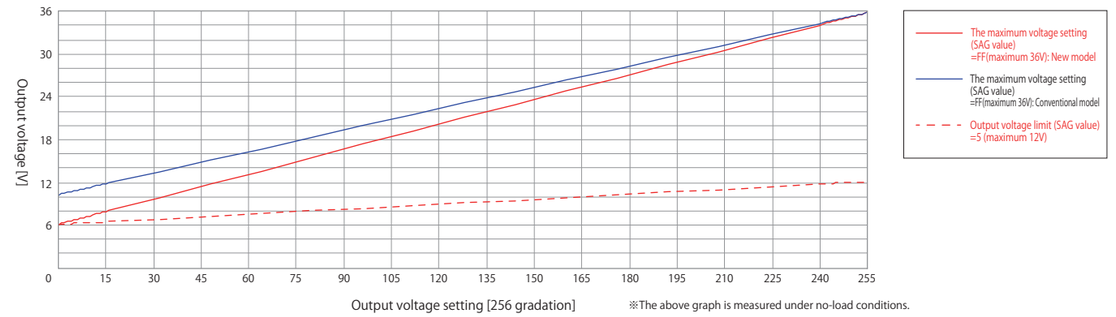
- Controller : ILP-30M2
- Grey-scale Value: 53/255
- Light: IHM-66 / 60R
- hutter speed:1/40,000

【Overdriving】

- Controller: IJS-30M2-TP
- Grey-scale Value: 230/255
- Light: IHM-66 / 60R
- Shutter speed:1/40,000

Improved output lower limit voltage value compared to conventional products

- The output lower limit voltage value has been improved from 10.5V to 6V, and the output control range on the lower output side has been expanded.



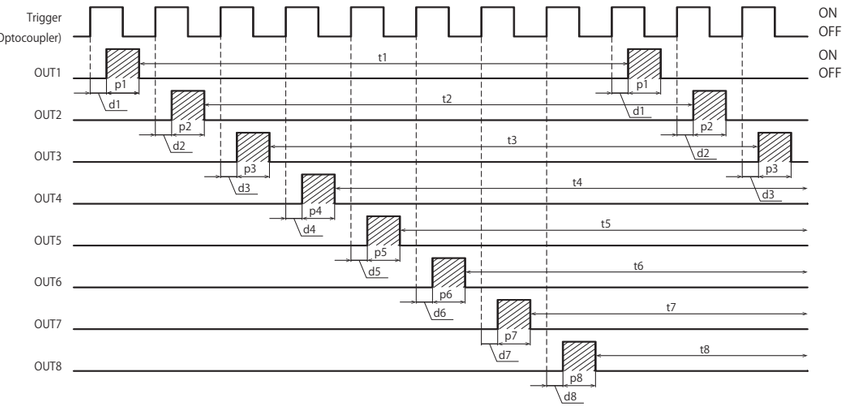
※The above graph is measured under no-load conditions.

Sequential output mode installed

Operating specification: Only one channel is sequentially output in a fixed order. The output pattern can be selected from three patterns.

- Output pattern 1: All channels are output in ascending order. (OUT1→2→3→4→5→6→7→8→1→2•••••)
- Output pattern 2: Odd channels are output in ascending order. OUT1→3→5→7→1→3→5→7→1→3•••••)
- Output pattern 3: Even channels are output in ascending order. (OUT2→4→6→8→2→4→6→8→2→4•••••)

・Output Image (Output pattern 1)



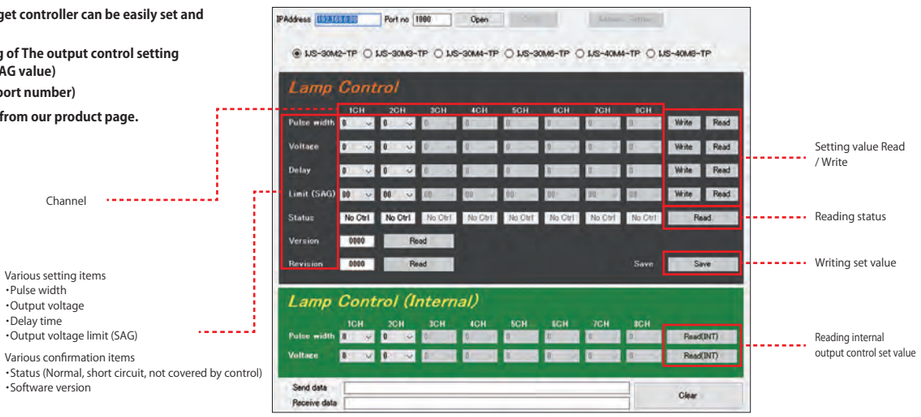
Symbol	Item	Description
d1-8	Delay Time	Time until trigger output ON
p1-8	Pulse width	Output ON time
t1-8	Trigger invalid time	Trigger invalid time after trigger output time

Sample software for IJS

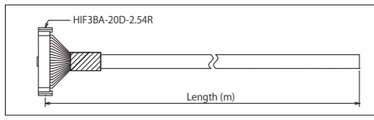
Various setting items of the target controller can be easily set and checked from the computer.

- Reading, changing, and saving of The output control setting (Pulse width, voltage, Delay, SAG value)
- Network settings (IP address-port number)

★Sample software is available from our product page.



External trigger cable



Model	Length (m)
IC-MIL-20-1	1
IC-MIL-20-2	2
IC-MIL-20-3	3
IC-MIL-20-5	5
IC-MIL-20-10	10

NEW

Super Strobe Controller

Overdrive Controller for ISS

IJS-30M2-TP/SS

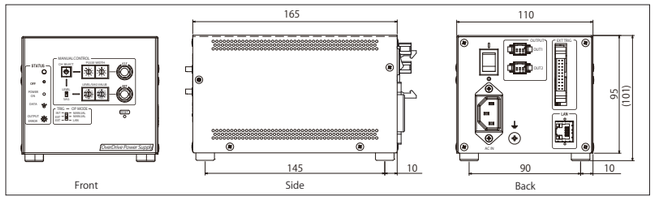
Super strobe controller ideal for ISS operation
Suitable for use in AC-powered environment

CE ※ Pending approval **LAN**

- It is a controller exclusived to The ISS series.
- It is equipped with 2 connectors to connect two ISS series lightings of 1 channel specification or one ISS series lighting of 2 channel specifications.

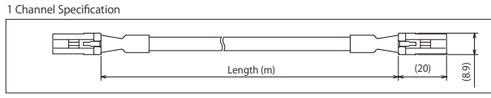
Model	Channel Number	Capacity
IJS-30M2-TP/SS	2CH	15W×2 Total 30W

Input Voltage	AC100～240V 67VA
Operating Frequency	50/60Hz
Output Voltage Limit Variable Range	10-36V (Variable in 256 levels)
Pulse Width Setting	0、10μs～99μs (1μs step)
Output Voltage Variable Range	The range from the minimum output (approx. 10V) to the output voltage limit value (SAG value) can be varied in 256 levels.
Trigger Signal	Synchronous lighting function (internal / external switching)
Internal Control Function	Variable output voltage and pulse width by switch operation
External Control Function	Variable output voltage and pulse width by LAN communication (TCP/IP)
Synchronization Control Function	Synchronization control by external trigger signal
Delay variable range	Interval of 1μs in the range of 0 to 5,000μs (Only for the external control mode)
External trigger response time	Within 2.5 μs (within 0.9μs at approx.10V, within 2.5μs at approx. 36V)
Variable Output Voltage Response Time	"00" → "FF": Within 200ms "FF" → "00": Within 1s
Internal Light	100Hz fixed
Error detection	Output short circuit detection
Other	• Interlock function (Disable the trigger signal when pulse duty becomes 1% or more.) • Sequential output function



Exclusive connection cable

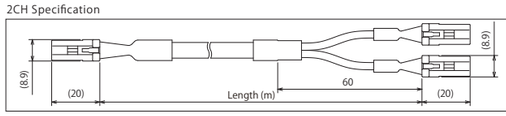
1 Channel Specification



Model	Length (m)	Model	Length (m)
I-CB-SS1	1	I-CB-SS5	5
I-CB-SS2	2	I-CB-SS7	7
I-CB-SS3	3	I-CB-SS10	10

★Sizes other than those above are also available.

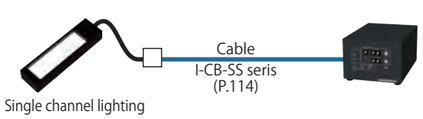
2CH Specification



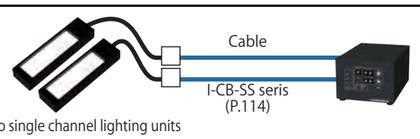
Model	Length (m)	Model	Length (m)
I-CB-SS1-2CH	1	I-CB-SS5-2CH	5
I-CB-SS2-2CH	2	I-CB-SS7-2CH	7
I-CB-SS3-2CH	3	I-CB-SS10-2CH	10

★Sizes other than those above are also available.

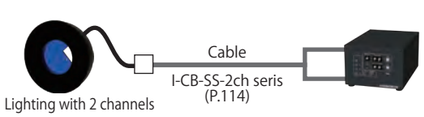
Connection Example with Lighting



Single channel lighting



Two single channel lighting units



Lighting with 2 channels

NEW

Super Strobe Controller

Overdrive Controller for ISS

ILS-40M2-PI/SS

Variable overdrive range from 10V to maximum 36V
The compact design allows easy installation in the control cabinet

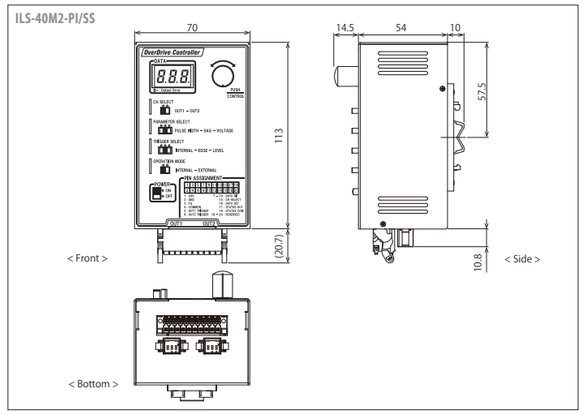
CE ※ Pending approval **8bit**

- Ideal for use in DC-powered environments
- Illumination time can be set in 1μs increments, which is shorter than the conventional product (edge mode).
- Push-in wire connectors for easy connection without tools

Controller specifications

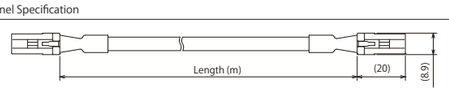
Model	ILS-40M2-PI/SS
Channel Number	2CH
Connectable Light	Rated voltage 12V Lighting max. 30W or 2 channel total 40W
Input Voltage	24V DC±10% Current consumption 3A (Max)
Output Voltage Limit Variable Range	10 to 36V (Variable in 256 levels)
Output Current	11A (peak) / Channel
Pulse Width Setting	0μs to 100μs (1μs step)
Output Voltage Variable Range	The range from the minimum output (approx. 10V) to the output voltage limit value (SAG value) can be varied in 256 levels.
External Trigger Response	OFF → ON : 3μs or less, ON → OFF (LEVEL mode): 3μs or less
Variable Output Voltage Response Time	10V → 36V: 170ms or less, 36V → 10V: approx. 2s (at no load)
Internal Control Function	Variable output voltage and pulse width by switch operation
External Control Function	Synchronization control function by 8bit parallel communication Variable output voltage (10V to SAG value)
Synchronization Control Function	Synchronization control by external trigger signal
Internal Light	800Hz fixed
Protection Function	• Overcurrent / overvoltage protection • Interlock function (Disable the trigger signal when pulse duty becomes 1% or more.)

ILS-40M2-PI/SS



Exclusive connection cable

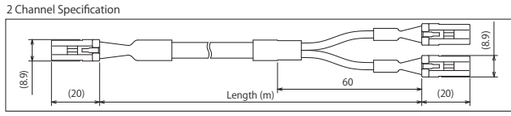
1 Channel Specification



Model	Length (m)	Model	Length (m)
I-CB-SS1	1	I-CB-SS5	5
I-CB-SS2	2	I-CB-SS7	7
I-CB-SS3	3	I-CB-SS10	10

★Sizes other than those above are also available.

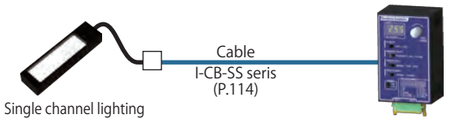
2 Channel Specification



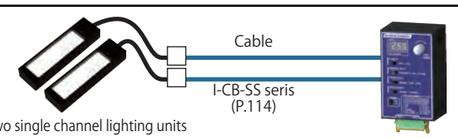
Model	Length (m))	Model	Length (m)
I-CB-SS1-2CH	1	I-CB-SS5-2CH	5
I-CB-SS2-2CH	2	I-CB-SS7-2CH	7
I-CB-SS3-2CH	3	I-CB-SS10-2CH	10

★Sizes other than those above are also available.

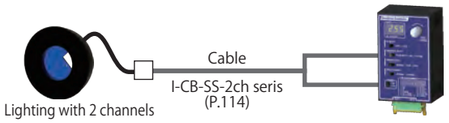
Connection Example with Lighting



Single channel lighting



Two single channel lighting units



Lighting with 2 channels

Overdrive Controller

Overdrive Controller

SAG series

Full lineup of general-purpose to high-functional models

CE ※ SAG-30M2-VI **8bit**

0-5V

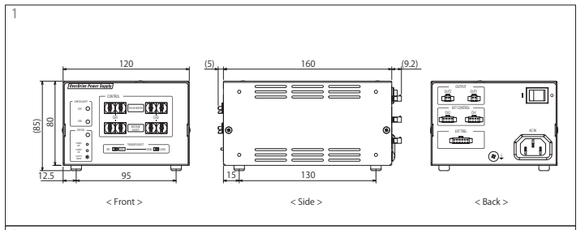
- Allows easy synchronization of LED light emission and camera exposure timing in high-speed moving image applications.
- LED elements have low heat generation, which extends LED lifetimes and stabilizes light intensity
- Please select a model according to The inspection application
- Accepts almost all standard lighting

Controller specifications

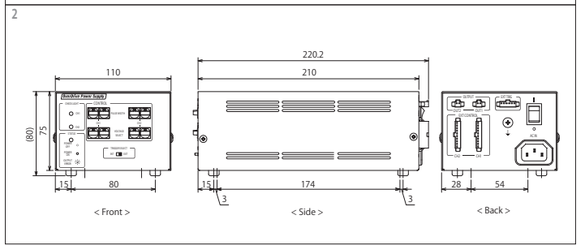
Model	SAG-30M2-VI	SAG-30M2-PI
Channel Number	2CH	2CH
Capacity	1CH / 30W Total 30W	2 channel individual/15W Total 30W
Input Voltage	AC100～240V	AC100～240V
Output Voltage	6-36V DC (Variable output voltage in 256 levels)	12 to 36V DC (Variable output voltage in 256 levels)
Pulse Width Setting	Internal: 10μs to 990μs (10μs intervals) External: 10μs to 1ms (Duty: 5% or less)	10μs to 990μs (10μs intervals)
Trigger Response Speed	Approx. 3μs	Approx. 2μs
External Output Control	External 0-5V Analog	8 bit parallel
Features	External Trigger: NPN / PNP External controller 5-24V (No external resistor required) Pilot lamp for pulse output check	Pilot lamp for pulse output check
Drawing	1	2

★Please refer to P.109 for external control cables.

1

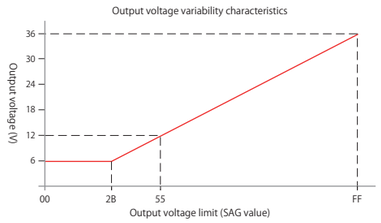


2



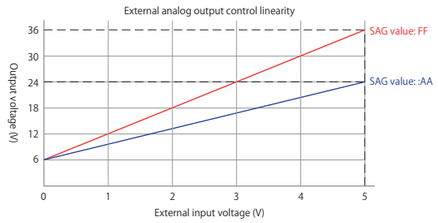
Voltage Characteristics (SAG-30M2-VI)

SAG-30M2-VI achieved output control at lower light intensity areas, by extending its minimum output voltage value from 12V of conventional models to 6V.



Improved linearity of external analog output control (SAG-30M2-VI)

- The range from 6V to the output voltage limit value (SAG value) can be be varied by the external input voltage (0 to 5V).
- In the entire range of the external input voltage of 0 to 5V, a high linearity is maintained (The lighting is turned off when the pulse output is 0 at 100mV or less).



Compact Housing Design

Compared to conventional products, SAG-30M2-VI achieves a 64% reduction in volume and SAG-30M2-PI achieves a 72% reduction.

Supports horizontal and vertical installation (SAG-30M2-VI)

By changing the mounting position of the rubber feet, installation can be switched from horizontal to vertical.
Smooth installation regardless of location.

Function expansion device

Lighting Feedback Unit

IFBU-SET

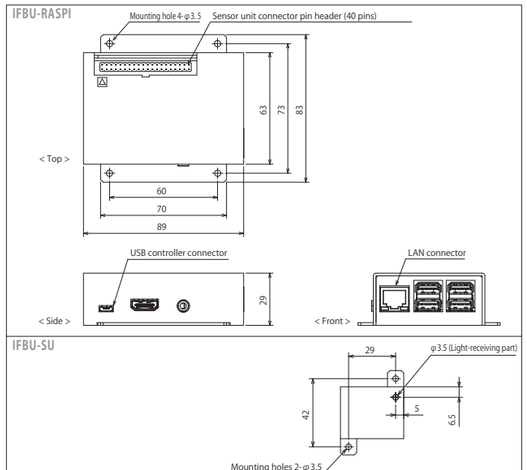
Automatic output adjustment of controller by detecting changes in light intensity
Constant light intensity can be maintained at any time

- IFBU-SET is configured with the sensor unit, IFBU-SU, the FB unit, IFBU-RASPI, and the connecting cable, IC-MIL-40-2. The functions can be expanded by connecting it with the corresponding controller.
- The brightness information is obtained from The received light information of The sensor unit in sensor mode, and It can also be obtained from The image processing information captured at The specified position. with that infromation, Constant light intensity can be maintained by adjusting The output of The lighting controller according to The threshold value set in The FB unit.
- Corresponds to The standard lighting in The entire visible light range from blue to red listed in our catalog.
- Up to 4 units can be connected to one controller via HUB
- Exclusive Software is Available for control, and upper and lower limits for changes in light intensity and The feedback control timing can be set.
- As There is a setting value storage function, There is no need to prepare a computer beyond The initial setup or settings change.
- A sensor unit that also takes temperature changes into account can be installed without restriction and The FB unit can also be mounted freely with its Compact design.
- The FB unit operates with DC input

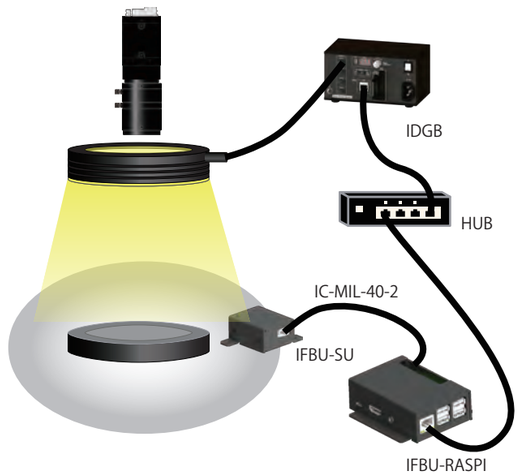
Controller specifications

Product name	Lighting Feedback Unit
Model	IFBU-SET
Controller	IDGB-□-TP / PI, IDGB-□PG-TP · · · · 12V controller (LAN specification)
	IDGB-□-24-TP / PI (-T), IDGB-□PG-24-TP (-T) · · · 24V controller (LAN specification)
Number of Control Channels on the Controller Side	Up to 4 channels
FB Mode	Sensor Mode
	I / O Mode
FB Upper Limit Setting	0 to 10% ※In sensor mode
FB Lower Limit Setting	-5 to 0% ※In sensor mode
Sampling Cycle	0.1ms to 1000ms ※In sensor mode
FB Control Cycle	0.1s to 60s ※In sensor mode
Calibration	Invalid time: 0 to 60s, Valid time: 1 to 60s ※When in Sensor mode
Operating Temperature / Humidity	File size MAX: 4 Mbyte
	Log size saved at one time: (Sensor mode: 460 bytes, I/O mode: 36 bytes)
Operating Temperature / Humidity	Temperature: 0 to + 40° C, Humidity: 20 to 70% RH (No condensation)

★ □ represents symbols such as controller capacity and number of channels.
★ When the input voltage has 24V DC specification, the symbol of "-T" is inserted at the end of model.



Configuration example (In sensor mode)



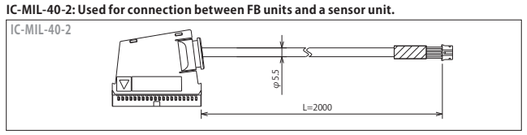
Connectable controller

Digital PWM Controller
IDGB-□-TP/PI, IDGB-□-24-TP/PI(-T)

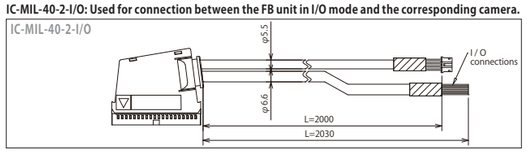
Programable Digital PWM Controller
IDGB-□PG-TP, IDGB-□-24-TP(-T)

Connection Cable: IC-MIL-40 series

IC-MIL-40-2: Used for connection between FB units and a sensor unit.



IC-MIL-40-2-I/O: Used for connection between the FB unit in I/O mode and the corresponding camera.



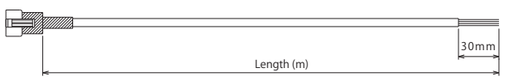
OPTIONAL PARTS

External Control Cable

Trigger Cable for SAG / IC-SA-D series

Applicable Controller: SAG-30M2-VI, SAG-30M2-PI

Pin number	Green
1	White
2	Yellow
3	Brown
4	Green
5	Red
6	Black



Model	Length (m)
IC-SA-D1	1
IC-SA-D2	2
IC-SA-D3	3
IC-SA-D4	4
IC-SA-D5	5
IC-SA-D7	7
IC-SA-D10	10

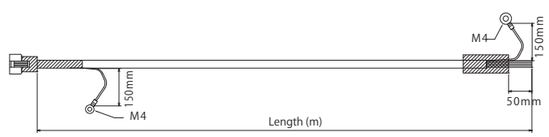
Pin number	Signal name
1	+5V OUT
2	+5~24V IN
3	CH1 TRIGGER IN
4	+5~24V IN
5	CH2 TRIGGER IN
6	GND

★Sizes other than those above are also available.

Trigger Cable for SAG (Shielded)/ IC-S-SA-D series

Applicable Controller: SAG-30M2-VI, SAG-30M2-PI

Pin number	Green
1	Black
2	Black with white line
3	Red
4	Red with white line
5	Green
6	Green with white line



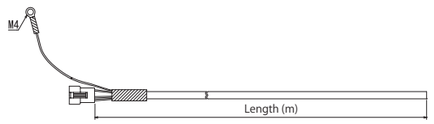
Model	Length (m)
IC-S-SA-D1	1
IC-S-SA-D2	2
IC-S-SA-D3	3
IC-S-SA-D4	4
IC-S-SA-D5	5
IC-S-SA-D10	10

★Sizes other than those above are also available.

Analog 0-5V Output Control Cable for SAG (Shielded) / IC-SA-EV series

Applicable Controller: SAG-30M2-VI

Pin number	Green
1	White
2	Red
3	NC
4	Black



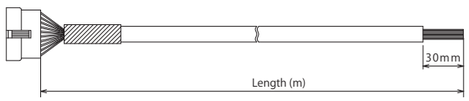
Model	Length (m)
IC-SA-EV1	1
IC-SA-EV2	2
IC-SA-EV3	3
IC-SA-EV4	4
IC-SA-EV5	5
IC-SA-EV10	10

★Sizes other than those above are also available.

8bit Digital Output Control Cable for SAG

Applicable Controller: SAG-30M2-PI

Pin number	Green
1	White
2	Yellow
3	Brown
4	Green
5	Blue
6	Gray
7	Orange
8	Sky Blue
9	Red
10	Black



Model	Length (m)
IC-ET-1	1
IC-ET-2	2
IC-ET-3	3
IC-ET-4	4
IC-ET-5	5
IC-ET-10	10

Pin number	Signal name
1	External Controller + Input voltage (+12V to +24V)
2	B0(LSB)
3	B1
4	B2
5	B3
6	B4
7	B5
8	B6
9	B7(MSB)
10	Switch internal/external control

★Sizes other than those above are also available.

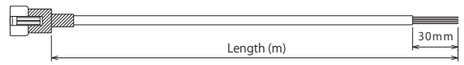
OPTIONAL PARTS

External Control Cable

ON/OFF Cable 2 channel / IC-CB-D series

Applicable Controller: IDPA-30M2 (H), IWDV-300SL-48, IWDV-600SL-48

Pin number	Green
1	White
2	Green
3	Red
4	Black

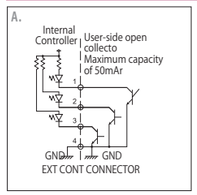


Model	Length (m)
IC-CB-D1	1
IC-CB-D2	2
IC-CB-D3	3
IC-CB-D4	4
IC-CB-D5	5
IC-CB-D7	7
IC-CB-D10	10

Pin number	Signal name
1	LAMP1 ON/OFF
2	LAMP2 ON/OFF
3	External Control Switch
4	GND

★Sizes other than those above are also available.

External ON/OFF connection example (2 channel specification)

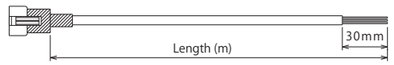


- A current of approx. 10mA flows toward the 4th pin from the 1st, 2nd, and 3rd pins. Use an open-collector circuit with a capacity of approx. 50mA as a margin.
- When short-circuiting the 3rd and 4th pins of the external light control connector, it will be switched to the external control. (The LED light connected to the 2 channels will be turned off.)
- When short-circuiting the 1st and 4th pins in addition to the above status, the LED light connected to LAMP 1 will be turned on. (Switching of the external lighting control becomes effective at 2 channels at the same time.)

ON/OFF Cable / IC-CB-8CH series

Applicable Controller: IDPA-50M6 (H), IDPA-100M6 (H)

Pin number	Green	Pin number	Green
1	White	6	Gray
2	Yellow	7	Orange
3	Brown	8	Light Blue
4	Green	9	Red
5	Blue	10	Black



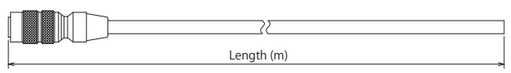
Model	Length (m)
IC-CB-8CH-1	1
IC-CB-8CH-2	2
IC-CB-8CH-3	3
IC-CB-8CH-4	4
IC-CB-8CH-5	5
IC-CB-8CH-10	10

Pin number	Signal name	Pin number	Signal name
1	LAMP1 ON/OFF	6	LAMP6 ON/OFF
2	LAMP2 ON/OFF	7	NC
3	LAMP3 ON/OFF	8	NC
4	LAMP4 ON/OFF	9	External Control Switch
5	LAMP5 ON/OFF	10	GND

★Sizes other than those above are also available.

Output Control Cable for S2/S4/ IC-MCS2 series

Applicable Controller: IDGB series (-S2 / PI, - S4 / VI), IDCA series (-S2, - S4)

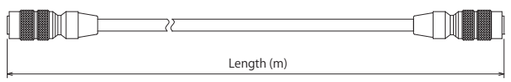


Model	Length (m)
IC-MCS2-1	1
IC-MCS2-2	2
IC-MCS2-3	3
IC-MCS2-5	5
IC-MCS2-10	10

★This is a communication cable is for the RS-232C communication as well as the RS-485 communication.

Crossover Cable For S4 Model / IC-MCS4 series

Applicable Controller: IDCA series (-S4), IDGB series (- S4 / VI)



Model	Length (m)
IC-MCS4-1	1
IC-MCS4-2	2
IC-MCS4-3	3
IC-MCS4-5	5
IC-MCS4-10	10

★This cable is for consolidation of the RS-485 communication.

OPTIONAL PARTS

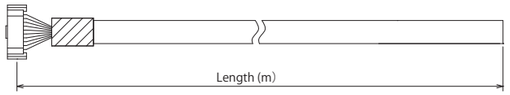
External Control Cable

ON/OFF Cable, Output Control Cable / IC-MIL-10 series

Applicable Controllers (External ON/OFF): IMC series

Pin number	Green	Dot Marking	Dot color	Pin number	Green	Dot Marking	Dot color
1	Orange	▬	Black	6	Light Green	▬	Red
2	Orange	▬	Red	7	Gray	▬	Black
3	Yellow	▬	Black	8	Gray	▬	Red
4	Yellow	▬	Red	9	White	▬	Black
5	Light Green	▬	Black	10	White	▬	Red

Core wire image



Model	Length (m)
IC-MIL-10-1	1
IC-MIL-10-2	2
IC-MIL-10-3	3
IC-MIL-10-5	5
IC-MIL-10-10	10

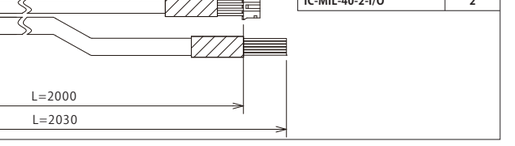
ON/OFF Cable, Output Control Cable / IC-MIL-20 series

Applicable controllers (External ON/OFF): IWDV-100S-24, IWDV-300S-24, IWDV (S) -48 series, IDGB series (excluding IDGB-30M2), IDCA series, IJS series
(External output control): IWDV-100S-24, IWDV-300S-24, IWDV (S) -48 series

Pin number	Green	Dot Marking	Dot color	Pin number	Green	Dot Marking	Dot color
1	Orange	▬	Black	11	Orange	▬ ▬	Black
2	Orange	▬	Red	12	Orange	▬ ▬	Red
3	Yellow	▬	Black	13	Yellow	▬ ▬	Black
4	Yellow	▬	Red	14	Yellow	▬ ▬	Red
5	Light Green	▬	Black	15	Light Green	▬ ▬	Black
6	Light Green	▬	Red	16	Light Green	▬ ▬	Red
7	Gray	▬	Black	17	Gray	▬ ▬	Black
8	Gray	▬	Red	18	Gray	▬ ▬	Red
9	White	▬	Black	19	White	▬ ▬	Black
10	White	▬	Red	20	White	▬ ▬	Red

Core wire image

Core wire image



Model	Length (m)
IC-MIL-20-1	1
IC-MIL-20-2	2
IC-MIL-20-3	3
IC-MIL-20-5	5
IC-MIL-20-10	10

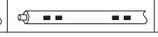
Output Control Cable for VI/PI / IC-MIL-26 Series

Applicable Controllers (External ON/OFF): IWDV-240M2-24, IWDV-600M2-24, IDGB-30M2 series, IDGB-PG series
(External output control): IWDV-240M2-24, IWDV-600M2-24, IDGB series, IDCA series

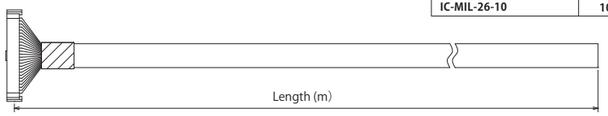
Pin number	Green	Dot Marking	Dot color	Pin number	Green	Dot Marking	Dot color	Pin number	Green	Dot Marking	Dot color
1	Orange	▬	Black	11	Orange	▬ ▬	Black	21	Orange	▬ ▬ ▬	Black
2	Orange	▬	Red	12	Orange	▬ ▬	Red	22	Orange	▬ ▬ ▬	Red
3	Yellow	▬	Black	13	Yellow	▬ ▬	Black	23	Yellow	▬ ▬ ▬	Black
4	Yellow	▬	Red	14	Yellow	▬ ▬	Red	24	Yellow	▬ ▬ ▬	Red
5	Light Green	▬	Black	15	Light Green	▬ ▬	Black	25	Light Green	▬ ▬ ▬	Black
6	Light Green	▬	Red	16	Light Green	▬ ▬	Red	26	Light Green	▬ ▬ ▬	Red
7	Gray	▬	Black	17	Gray	▬ ▬	Black				
8	Gray	▬	Red	18	Gray	▬ ▬	Red				
9	White	▬	Black	19	White	▬ ▬	Black				
10	White	▬	Red	20	White	▬ ▬	Red				

Core wire image

Core wire image



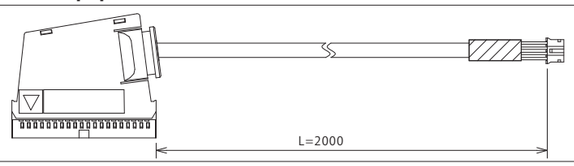
Core wire image



Model	Length (m)
IC-MIL-26-1	1
IC-MIL-26-2	2
IC-MIL-26-3	3
IC-MIL-26-5	5
IC-MIL-26-10	10

Exclusive Connection Cable for IFBU-SET / IC-MIL-40 series

Applicable Equipment unit: IFBU-SET (Sensor mode)



Model	Length (m)
IC-MIL-40-2	2

Applicable Equipment unit: IFBU-SET (I/O mode)

Model	Length (m)
IC-MIL-40-2-I/O	2

OPTIONAL PARTS

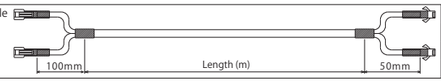
External Control Cable

Extension cable for lighting (For 12V DC & 24V DC)

1 channel cable (Single)

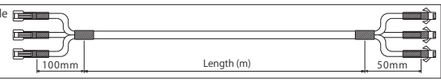
Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-S1	I-CB-S1-24	1	I-CB-S4	I-CB-S4-24	4
I-CB-S2	I-CB-S2-24	2	I-CB-S5	I-CB-S5-24	5
I-CB-S3	I-CB-S3-24	3	I-CB-S10	I-CB-S10-24	10

2 channel cable (Double)



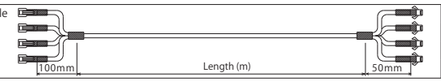
Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-D1	I-CB-D1-24	1	I-CB-D4	I-CB-D4-24	4
I-CB-D2	I-CB-D2-24	2	I-CB-D5	I-CB-D5-24	5
I-CB-D3	I-CB-D3-24	3	I-CB-D10	I-CB-D10-24	10

3 channel cable (Triple)



Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-T1	I-CB-T1-24	1	I-CB-T4	I-CB-T4-24	4
I-CB-T2	I-CB-T2-24	2	I-CB-T5	I-CB-T5-24	5
I-CB-T3	I-CB-T3-24	3	I-CB-T10	I-CB-T10-24	10

4 channel cable (Quadruple)

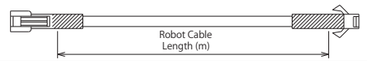


Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-F1	I-CB-F1-24	1	I-CB-F4	I-CB-F4-24	4
I-CB-F2	I-CB-F2-24	2	I-CB-F5	I-CB-F5-24	5
I-CB-F3	I-CB-F3-24	3	I-CB-F10	I-CB-F10-24	10

★Sizes other than those above are also available.

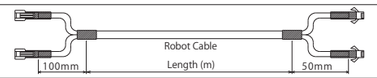
Extension robot cable for lighting (For 12V DC & 24V DC)

1 channel robot cabl (Single)



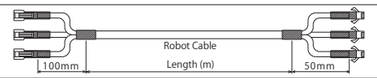
Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-S1R-C02	I-CB-S1R-24-C02	1	I-CB-S4R-C02	I-CB-S4R-24-C02	4
I-CB-S2R-C02	I-CB-S2R-24-C02	2	I-CB-S5R-C02	I-CB-S5R-24-C02	5
I-CB-S3R-C02	I-CB-S3R-24-C02	3	I-CB-S10R-C02	I-CB-S10R-24-C02	10

2 channel robot cabl (Double)



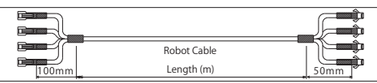
Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-D1R-C02	I-CB-D1R-24-C02	1	I-CB-D4R-C02	I-CB-D4R-24-C02	4
I-CB-D2R-C02	I-CB-D2R-24-C02	2	I-CB-D5R-C02	I-CB-D5R-24-C02	5
I-CB-D3R-C02	I-CB-D3R-24-C02	3	I-CB-D10R-C02	I-CB-D10R-24-C02	10

3 channel robot cabl (Triple)



Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-T1R-C02	I-CB-T1R-24-C02	1	I-CB-T4R-C02	I-CB-T4R-24-C02	4
I-CB-T2R-C02	I-CB-T2R-24-C02	2	I-CB-T5R-C02	I-CB-T5R-24-C02	5
I-CB-T3R-C02	I-CB-T3R-24-C02	3	I-CB-T10R-C02	I-CB-T10R-24-C02	10

4 channel robot cable (Quadruple)

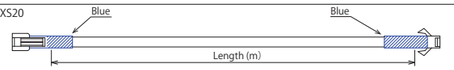


Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-CB-F1R-C02	I-CB-F1R-24-C02	1	I-CB-F4R-C02	I-CB-F4R-24-C02	4
I-CB-F2R-C02	I-CB-F2R-24-C02	2	I-CB-F5R-C02	I-CB-F5R-24-C02	5
I-CB-F3R-C02	I-CB-F3R-24-C02	3	I-CB-F10R-C02	I-CB-F10R-24-C02	10

★Sizes other than those above are also available.

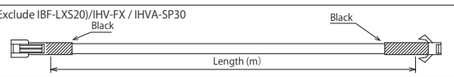
Extension cable for coaxial-spot lighting (IHV, IHVE, IBF, IHV-FX, IHVA-SP30)

IHV / IBF-LXS20



Model	Length (m)	Model	Length (m)
I-CB-S1-HV	1	I-CB-S4-HV	4
I-CB-S2-HV	2	I-CB-S5-HV	5
I-CB-S3-HV	3	I-CB-S10-HV	10

IHVE/IBF (Exclude IBF-LXS20)/IHV-FX / IHVA-SP30

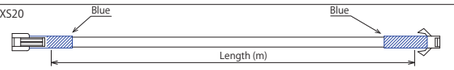


Model	Length (m)	Model	Length (m)
I-CB-S1-HV3W	1	I-CB-S4-HV3W	4
I-CB-S2-HV3W	2	I-CB-S5-HV3W	5
I-CB-S3-HV3W	3	I-CB-S10-HV3W	10

★Sizes other than those above are also available.

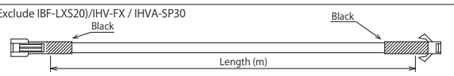
Extension robot cable for coaxial-spot lighting (IHV, IHVE, IBF, IHV-FX, IHVA-SP30)

IHV / IBF-LXS20



Model	Length (m)	Model	Length (m)
I-CB-S1R-HV-C02	1	I-CB-S4R-HV-C02	4
I-CB-S2R-HV-C02	2	I-CB-S5R-HV-C02	5
I-CB-S3R-HV-C02	3	I-CB-S10R-HV-C02	10

IHVE/IBF (Exclude IBF-LXS20)/IHV-FX / IHVA-SP30



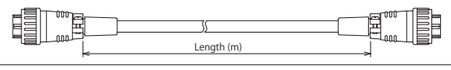
Model	Length (m)	Model	Length (m)
I-CB-S1R-HV3W-C02	1	I-CB-S4R-HV3W-C02	4
I-CB-S2R-HV3W-C02	2	I-CB-S5R-HV3W-C02	5
I-CB-S3R-HV3W-C02	3	I-CB-S10R-HV3W-C02	10

★Sizes other than those above are also available.

OPTIONAL PARTS

Extension Cables for Lighting

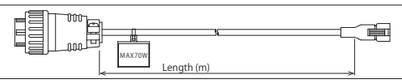
Extension cables for 24V DC (IDBB-LSRA、IDBB-LSRS、IDBB-LSRC、IQDH-LSR、IDBB-RE、IDBA-HM、IDBA-LEH2、IDBA-LEH、IFPA、IFPA-D、IFD-IR)



Model	Length (m)	Model	Length (m)
I-CB-S1R-MCB	1	I-CB-S5R-MCB	5
I-CB-S2R-MCB	2	I-CB-S7R-MCB	7
I-CB-S3R-MCB	3	I-CB-S10R-MCB	10

★Sizes other than those above are also available.

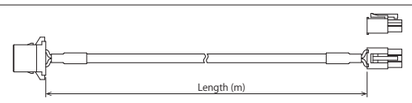
Extension cables for 24V DC



Model	Length (m)	Model	Length (m)
I-CB-S1R-MCBSM	1	I-CB-S5R-MCBSM	5
I-CB-S2R-MCBSM	2	I-CB-S7R-MCBSM	7
I-CB-S3R-MCBSM	3	I-CB-S10R-MCBSM	10

★Sizes other than those above are also available.
★Please connect lighting with power consumption up to 70W.

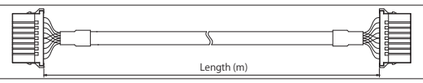
Extension cables for 48V DC (IDBA-RK、IDBA-FD、IFD)



Model	Length (m)	Model	Length (m)
I-CB-S1-DNEL	1	I-CB-S5-DNEL	5
I-CB-S2-DNEL	2	I-CB-S7-DNEL	7
I-CB-S3-DNEL	3	I-CB-S10-DNEL	10

★Sizes other than those above are also available.

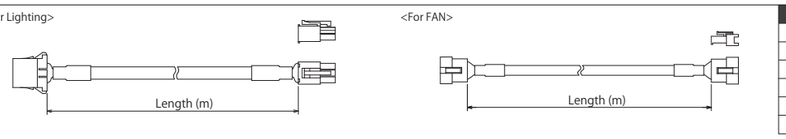
Extension cables for 48V DC (IDBB-LSRH)



Model	Length (m)	Model	Length (m)
I-CB-S1-HDN	1	I-CB-S5-HDN	5
I-CB-S2-HDN	2	I-CB-S7-HDN	7
I-CB-S3-HDN	3	I-CB-S10-HDN	10

★Sizes other than those above are also available.

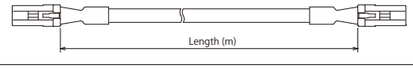
Extension Cable and FAN Drive Cable Set（IDBB-LSRF）



Model	Length (m)
I-CB-S1-FSET-DNEL	1
I-CB-S2-FSET-DNEL	2
I-CB-S3-FSET-DNEL	3
I-CB-S5-FSET-DNEL	5
I-CB-S7-FSET-DNEL	7
I-CB-S10-FSET-DNEL	10

OPTIONAL PARTS
Extension Cables for Lighting

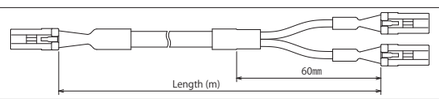
Extension cable for super strobe lighting (ISS series (excluding 2 channel specification))



Model	Length (m)	Model	Length (m)
I-CB-SS1	1	I-CB-SS5	5
I-CB-SS2	2	I-CB-SS7	7
I-CB-SS3	3	I-CB-SS10	10

★Sizes other than those above are also available.

Extension cable for super strobe lighting (ISS series (2 channel specification)

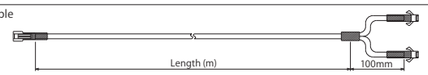


Model	Length (m)	Model	Length (m)
I-CB-SS1-2CH	1	I-CB-SS5-2CH	5
I-CB-SS2-2CH	2	I-CB-SS7-2CH	7
I-CB-SS3-2CH	3	I-CB-SS10-2CH	10

★Sizes other than those above are also available.

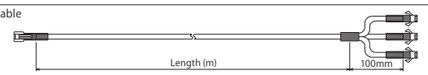
Extension Two-forked, Three-forked, Four-forked Cable for Light (For 12V DC & 24V DC)

Two-forked cable



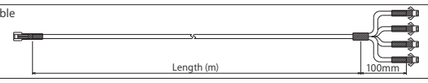
Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-2M-1-100	I-2M-1-100-24	1	I-2M-4-100	I-2M-4-100-24	4
I-2M-2-100	I-2M-2-100-24	2	I-2M-5-100	I-2M-5-100-24	5
I-2M-3-100	I-2M-3-100-24	3	I-2M-10-100	I-2M-10-100-24	10

Three-forked cable



Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-3M-1-100	I-3M-1-100-24	1	I-3M-4-100	I-3M-4-100-24	4
I-3M-2-100	I-3M-2-100-24	2	I-3M-5-100	I-3M-5-100-24	5
I-3M-3-100	I-3M-3-100-24	3	I-3M-10-100	I-3M-10-100-24	10

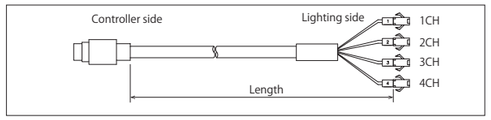
Four-forked cable



Model (12V)	Model (24V)	Length (m)	Model (12V)	Model (24V)	Length (m)
I-4M-1-100	I-4M-1-100-24	1	I-4M-4-100	I-4M-4-100-24	4
I-4M-2-100	I-4M-2-100-24	2	I-4M-5-100	I-4M-5-100-24	5
I-4M-3-100	I-4M-3-100-24	3	I-4M-10-100	I-4M-10-100-24	10

★Sizes other than those above are also available.
★Please connect branch cables in cases of 12V DC lighting with a total power consumption of 30W or less and in cases of 24V DC lighting with a total power consumption of 70W or less. In addition, please select after confirming the controller capacity.

Exclusive cable for GenICam-compatible controller/PoE-compatible control unit (4ch specification)



This is for products with mini DIN connector output specifications such as GenICam capable controllers and PoE capable control units.

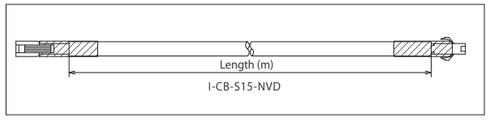
Model	Length (m)
I-4M-1-50-DIN	1

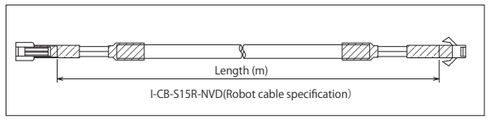
★Sizes other than those above are also available.

OPTIONAL PARTS

Extension Cables for Lighting

Voltage Drop Prevention Cable





★Sizes other than those above are also available.

Extending the cable between the controller and lighting to more than 10m may decrease lighting output due to cable resistance.
Using voltage drop prevention cables will reduce voltage drop in long-distance extensions.

Light Used: IDHM-92 / 92GT

	Length (m)	Model	Output Attenuation Rate (%)*
Without extension cable	0	–	0
Standard Cable	15	I-CB-S15	30
Robot Cable	15	I-CB-S15R-C02	35
Voltage Drop Prevention Cable	15	I-CB-S15-NVD	5
Voltage Drop Prevention Robot Cables	15	I-CB-S15R-NVD	5

*Reference value.

Cable Specifications

Model (12V)	Model (24V)	Length (m)
I-CB-S10-NVD	I-CB-S10-24-NVD	10
I-CB-S15-NVD	I-CB-S15-24-NVD	15
I-CB-S20-NVD	I-CB-S20-24-NVD	20

Robot Cable Specifications

Model (12V)	Model (24V)	Length (m)
I-CB-S10R-NVD	I-CB-S10R-24-NVD	10
I-CB-S15R-NVD	I-CB-S15R-24-NVD	15
I-CB-S20R-NVD	I-CB-S20R-24-NVD	20

Cable finished outer diameter / Minimum bending radius

Model	Finished Outer Diameter	Fixed part (mm)	Moving part (mm)
Cables attached to lighting unit	3.1	12.4	–
	3.7	14.8	–
Cables attached to IDBA-SE-WP Series, IPQC series, and IHR-LE series.	3.5	21	28
I-2M-※-100	4.6	18.4	–
I-3M-※-100			
I-4M-※-100			
I-CB-S※-HV			
I-CB-S※R-HV-C02	4	16	26.25
I-CB-S※-HV3W	4.6	18.4	–
I-CB-S※R-HV3W-C02	4	16	26.25

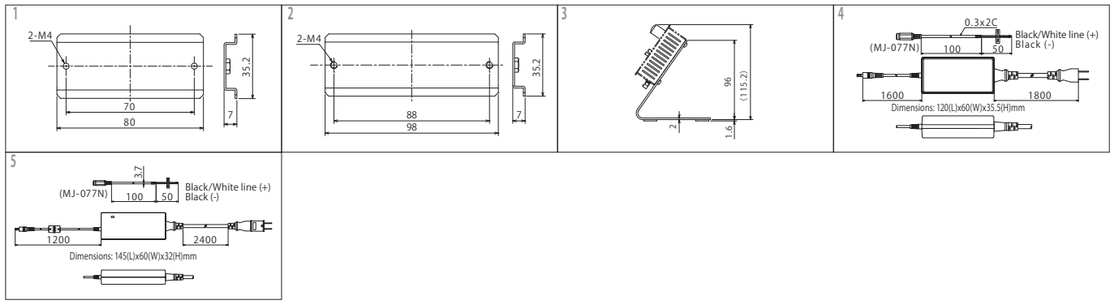
Model	Finished Outer Diameter	Fixed part (mm)	Moving part (mm)
I-CB-S※	4.6	18.4	–
I-CB-S※R-C02	4	16	30
I-CB-D※	5.3	21.2	–
I-CB-D※R-C02	6.2	24.8	46.5
I-CB-T※	6.5	26	–
I-CB-T※R-C02	6.7	26.8	50.25
I-CB-S※-DN	6.2	37.2	–
I-CB-S※-NVD	7.4	45	–
I-CB-S※R-NVD	7.3	43.8	43.8
I-CB-S※R-MCB	8.2	50	50

★※ represents the length (m).
★Please use the robot cable when using it on a moving part. Other cables cannot be used on moving parts.

OPTIONAL PARTS

Optional Parts

Options for ILP-30M2, ILP-60M2-24, ILC-700 (350) M2-VI, ILS, ILS-SS, ILV



Model	Drawing	Overview
IBK-ILP	1	Panel attachment for ILP series
IBK-ILC	2	Panel Attachment for ILC-700M2-VI/ILC-350M2-VI series
IHA-IL	3	Stand for ILP/ILC-700M2-VI/ILC-350M2-VI/ILS series
IC-ADJK-0.15	4	AC adapter for ILP / ILC-700M2-VI / ILC-350M2-VI (100V AC→24V DC)
IC-ADJK-0.15-ST	5	ILS / ILS-SS / ILV AC adapter (100V AC→24V DC)

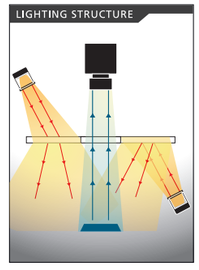
Perforated Diffusion Plate with a Hole / IKBA

■ **A diffusion plate supporting camera imaging.**
Illumination can be diffused and reflected by installing it in combination with wide-angle light distribution type bar lighting, etc., and it can be used as large flat-surface lighting.
By having a camera hole, it allows illumination without disturbing the imaging.

■ **Simple attachment and detachment by post-attachment with screws.**

■ **Customizable opening diameter, opening position, screw hole position, etc.**

Model	Specification
IKBA-500/500-50T5-CO40	Dimensions 500mm × 500mm × 5mm thickness, opening diameter 40mm, transmissivity 50%



OPTIONAL PARTS

Optional Parts

Options for ILP-30M2, ILP-60M2-24, ILC-700 (350) M2-VI, ILS, ILS-SS, ILV Selectable transmissivity

■This diffusion plate is specially designed for use with bar lights.
It diffuses light and can reduce reflection on objects due to its LED elements.

■Selectable transmissivity (Degree of diffusion)
The standard model has a transmissivity of 80%. Models with transmissivity of 90%, 60% and 30% with the same thickness are also available.
* The standard diffusion plate of the red, DR series, will have a transmissivity of 60%.
* The standard transmissivity of IDBA-LEH2, IDBA-LEH, and IDBA-LE is 90%.

■Special custom sizes are also available.
Bar lights are manufactured in different ways depending on the presence or absence of a diffusion plate, so please indicate if you need a diffusion plate when purchasing the lighting.

(Thickness: 2mm)

Model	Applicable Light
IKBA-11/14-80	IDBA-C11/14
IKBA-15/26-80	IDBA-C15/26
IKBA-25/25-80	IDBA-C25/25
IKBA-50/15-80	IDBA-C50/15
IKBA-27/34-80	IDBA-C27/34
IKBA-100/11-80	IDBA-C100/11

Model	Applicable Light
IKBA-100/15-80	IDBA-C100/15
IKBA-140/11-80	IDBA-C140/11
IKBA-132/15-80	IDBA-C132/15
IKBA-72/24-80	IDBA-C72/24
IKBA-50/50-80	IDBA-C50/50
IKBA-70/75-80	IDBA-C70/75

Model	Applicable Light
IKBA-100/100-80	IDBA-C100/100
IKBA-15/200-80	IDBA-C15/200
IKBA-185/30-80	IDBA-C185/30
IKBA-300/24-80	IDBA-C300/24
IKBA-Q360-80	IDBA-QC360
IKBA-Q690-80	IDBA-QC690

Model	Applicable Light
IKBA-LE75-80	IDBA-LE75□
IKBA-LE150-80	IDBA-LE150□
IKBA-LE225-80	IDBA-LE225□
IKBA-LE300-80	IDBA-LE300□
IKBA-LE375-80	IDBA-LE375□
IKBA-LE450-80	IDBA-LE450□
IKBA-LE600-80	IDBA-LE600□
IKBA-LE750-80	IDBA-LE750□
IKBA-LE900-80	IDBA-LE900□
IKBA-LE1050-80	IDBA-LE1050□
IKBA-LE1200-80	IDBA-LE1200□

Model	Applicable Light
IKBA-LEH75-80	IDBA-LEH75□
IKBA-LEH150-80	IDBA-LEH150□
IKBA-LEH225-80	IDBA-LEH225□
IKBA-LEH300-80	IDBA-LEH300□
IKBA-LEH450-80	IDBA-LEH450□
IKBA-LEH600-80	IDBA-LEH600□
IKBA-LEH750-80	IDBA-LEH750□

Model	Applicable Light
IKBA-LEH900-80	IDBA-LEH900□
IKBA-LEH1050-80	IDBA-LEH1050□
IKBA-LEH1200-80	IDBA-LEH1200□
IKBA-LEH1350-80	IDBA-LEH1350□
IKBA-LEH1500-80	IDBA-LEH1500□
IKBA-LEH1650-80	IDBA-LEH1650□
IKBA-LEH1800-80	IDBA-LEH1800□

Model	Applicable Light
IKBA-LEHW75-80	IDBA-LEH75□2
IKBA-LEHW150-80	IDBA-LEH150□2
IKBA-LEHW225-80	IDBA-LEH225□2
IKBA-LEHW300-80	IDBA-LEH300□2
IKBA-LEHW450-80	IDBA-LEH450□2
IKBA-LEHW600-80	IDBA-LEH600□2
IKBA-LEHW750-80	IDBA-LEH750□2

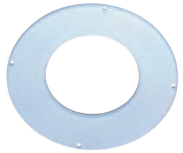
Model	Applicable Light
IKBA-LEHW900-80	IDBA-LEH900□2
IKBA-LEHW1050-80	IDBA-LEH1050□2
IKBA-LEHW1200-80	IDBA-LEH1200□2
IKBA-LEHW1350-80	IDBA-LEH1350□2
IKBA-LEHW1500-80	IDBA-LEH1500□2
IKBA-LEHW1650-80	IDBA-LEH1650□2
IKBA-LEHW1800-80	IDBA-LEH1800□2

*The above models are of 80% transmissivity. The end of the model number is -90 in the case of 90% transmissivity, -60 in the case of 60% transmissivity, and -30 in the case of 30% transmissivity.

OPTIONAL PARTS

Optional Parts

Diffusion plate for ring lighting/IKR, IKR-F Selectable transmissivity



■This diffusion plate is specially designed for use with ring lights.
It diffuses light and can reduce reflection on objects due to its LED elements.

■Selectable transmissivity (Degree of diffusion)
The standard model has a transmissivity of 80%. Models with transmissivity of 90%, 60% and 30% with the same thickness are also available.
* The standard diffusion plate of the red, DR series, will have a transmissivity of 60%.

■Simple attachment and detachment by post-attachment with screws.

(Thickness: 2mm)

Model	Applicable Light
IKR-32/10-80	IDR-32/10
IKR-38/15-80	IDR-38/15
IKR-38/12-80	IDR-38/15
IKR-40/25-80	IDR-40/25
IKR-40/21-80	IDR-40/25
IKR-42/18-80	IDR-42/18
IKR-50/28-80	IDR-50/28
IKR-50/24-80	IDR-50/28
IKR-66/36-80	IDR-66/36

Model	Applicable Light
IKR-66/32-80	IDR-66/36
IKR-70/39-80	IDR-70/39
IKR-70/35-80	IDR-70/39
IKR-90/50-80	IDR-90/50
IKR-90/46-80	IDR-90/50
IKR-110/60-80	IDR-110/60
IKR-110/56-80	IDR-110/60
IKR-140/95-80	IDR-140/95
IKR-140/91-80	IDR-140/95

Model	Applicable Light
IKR-F43/15-80	IDR-F43/15
IKR-F50/15-80	IDR-F50/15
IKR-F60/32-80	IDR-F60/32
IKR-F70/37-80	IDR-F70/37
IKR-F90/50-80	IDR-F90/50
IKR-F100/50-80	IDR-F100/50
IKR-F110/60-80	IDR-F110/60
IKHR-LE90-80	IHR-LE90

*The above models are of 80% transmissivity. The end of the model number is -90 in the case of 90% transmissivity, -60 in the case of 60% transmissivity, and -30 in the case of 30% transmissivity.

Diffusion Ring for Low Angle Ring Lighting / IKR-LA

■This diffusion ring is specially designed for use with low-angle ring lights.
It diffuses light and can reduce reflection on objects due to its LED elements.

■It forms a uniform light-focused area at close distances by means of a specially processed acrylic plate.

※There is no diffusion ring for IDR-LA40/15□-2.
※The shape of IKR-LA50/24-C01 is different than the product image on the left.

Model	Applicable Light
IKR-LA50/24-C01	IDR-LA50/24□-2-C01
IKR-LA74/48	IDR-LA74/48
IKR-LA100/68	IDR-LA100/68

Model	Applicable Light
IKR-LA120/70-3	IDR-LA120/70□-3
IKR-LA140/108-3	IDR-LA140/108□-3
IKR-LA200/170-3	IDR-LA200/170□-3

Diffusion Ring for Horizontal Opposed Ring Light / IKR-T

■This diffusion ring is specially designed for use with horizontal opposed ring lights.
It diffuses light and can reduce reflection on objects due to its LED elements.

■It enables uniform illumination at close distances by means of a specially processed acrylic plate.

Model	Applicable Light
IKR-T78/46-1	IDRA-T78/46□-1
IKR-T84/54-1	IDRA-T84/54□-1
IKR-T96/60-1	IDRA-T96/60□-1
IKR-T122/92-1	IDRA-T122/92□-1

Model	Applicable Light
IKR-T152/114-1	IDRA-T152/114□-1
IKR-T176/140-1	IDRA-T176/140□-1
IKR-T206/170-1	IDRA-T206/170□-1
IKR-T450/400-1	IDRA-T450/400□-1

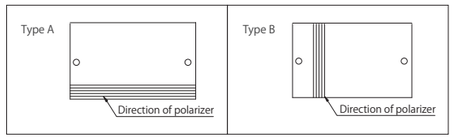
OPTIONAL PARTS

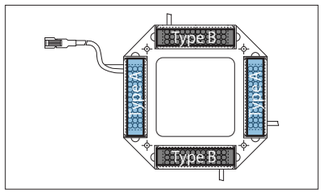
Optional Parts

Polarizing Plate (PL Plate) / IKBA-PL, IKR-PL, IKR-F PL

- This PL plate and PL filter can remove glare and surface reflections on objects by attaching it to a lighting and a camera lens.
- It can be mounted using screws in the same way as a diffusion plate.
- The polarizing plate for bar light is grouped into type A and type B according to the polarizer direction.
- There is a possibility of deformation or discoloration due to heat, depending on the use environment. Take an appropriate action to release heat and use it within the heat-resistant temperature (74°C). Otherwise, the product may not be able to deliver the original performance. Periodically check the use environment.

Direction of polarizer





When illuminating the bar light from four directions, please align the direction of the polarizer using types A and B.

For Bar Light / IKBA-PL

Model		Applicable Light
IKBA-HM100-A-PL	IKBA-HM100-B-PL	IDBA-HM100□
IKBA-HM200-A-PL	IKBA-HM200-B-PL	IDBA-HM200□
IKBA-HM300-A-PL	IKBA-HM300-B-PL	IDBA-HM300□
–	IKBA-HM400-B-PL	IDBA-HM400□
–	IKBA-HM500-B-PL	IDBA-HM500□
–	IKBA-HM600-B-PL	IDBA-HM600□
–	IKBA-HM700-B-PL	IDBA-HM700□

Model		Applicable Light
IKBA-LE75-A-PL	IKBA-LE75-B-PL	IDBA-LE75□
IKBA-LE150-A-PL	IKBA-LE150-B-PL	IDBA-LE150□
IKBA-LE225-A-PL	IKBA-LE225-B-PL	IDBA-LE225□
IKBA-LE300-A-PL	IKBA-LE300-B-PL	IDBA-LE300□
IKBA-LE375-A-PL	IKBA-LE375-B-PL	IDBA-LE375□
–	IKBA-LE450-B-PL	IDBA-LE450□
–	IKBA-LE600-B-PL	IDBA-LE600□
–	IKBA-LE750-B-PL	IDBA-LE750□

Model		Applicable Light
IKBA-LEH75-A-PL	IKBA-LEH75-B-PL	IDBA-LEH75□
IKBA-LEH150-A-PL	IKBA-LEH150-B-PL	IDBA-LEH150□
IKBA-LEH225-A-PL	IKBA-LEH225-B-PL	IDBA-LEH225□
IKBA-LEH300-A-PL	IKBA-LEH300-B-PL	IDBA-LEH300□
–	IKBA-LEH450-B-PL	IDBA-LEH450□
–	IKBA-LEH600-B-PL	IDBA-LEH600□

Model		Applicable Light
IKBA-LEHW75-A-PL	IKBA-LEHW75-B-PL	IDBA-LEH75□2
IKBA-LEHW150-A-PL	IKBA-LEHW150-B-PL	IDBA-LEH150□2
IKBA-LEHW225-A-PL	IKBA-LEHW225-B-PL	IDBA-LEH225□2
IKBA-LEHW300-A-PL	IKBA-LEHW300-B-PL	IDBA-LEH300□2
–	IKBA-LEHW450-B-PL	IDBA-LEH450□2
–	IKBA-LEHW600-B-PL	IDBA-LEH600□2

Model		Applicable Light
IKBA-11/14-A-PL	IKBA-11/14-B-PL	IDBA-C11/14
IKBA-15/26-A-PL	IKBA-15/26-B-PL	IDBA-C15/26
IKBA-25/25-A-PL	IKBA-25/25-B-PL	IDBA-C25/25
IKBA-50/15-A-PL	IKBA-50/15-B-PL	IDBA-C50/15
IKBA-27/34-A-PL	IKBA-27/34-B-PL	IDBA-C27/34
IKBA-100/11-A-PL	IKBA-100/11-B-PL	IDBA-C100/11
IKBA-100/15-A-PL	IKBA-100/15-B-PL	IDBA-C100/15
IKBA-132/15-A-PL	IKBA-132/15-B-PL	IDBA-C132/15
IKBA-72/24-A-PL	IKBA-72/24-B-PL	IDBA-C72/24
IKBA-50/50-A-PL	IKBA-50/50-B-PL	IDBA-C50/50
IKBA-70/75-A-PL	IKBA-70/75-B-PL	IDBA-C70/75
IKBA-100/100-A-PL	IKBA-100/100-B-PL	IDBA-C100/100

*Some of IDBA-C series becomes the exclusive model.
The polarizing plate cannot be attached to products with exclusive models after the order.
■ represents light color (DR=Red, DW=White, B=Blue, G=Green).
For models with S filled in for ▽, the diffusion plate is mounted as its specification.

Model		Applicable Light
IDBA-C15/200■▽-PL-A	IDBA-C15/200■▽-PL-B	IDBA-C15/200
IDBA-C185/30■▽-PL-A	IDBA-C185/30■▽-PL-B	IDBA-C185/30
IDBA-C300/24■▽-PL-A	IDBA-C300/24■▽-PL-B	IDBA-C300/24

For Ring Light / IKR-PL IKR-F PL

Model	Applicable Light
IKR-32/10-PL	IDR-32/10
IKR-38/15-PL	IDR-38/15
IKR-38/12-PL	IDR-38/15
IKR-40/25-PL	IDR-40/25
IKR-40/21-PL	IDR-40/25
IKR-50/28-PL	IDR-50/28
IKR-50/24-PL	IDR-50/28
IKR-66/36-PL	IDR-66/36

Model	Applicable Light
IKR-66/32-PL	IDR-66/36
IKR-70/39-PL	IDR-70/39
IKR-70/35-PL	IDR-70/39
IKR-90/50-PL	IDR-90/50
IKR-90/46-PL	IDR-90/50
IKR-110/60-PL	IDR-110/60
IKR-110/56-PL	IDR-110/60
IKR-140/95-PL	IDR-140/95

Model	Applicable Light
IKR-140/91-PL	IDR-140/95
IKR-F33/16-PL	IDR-F33/16
IKR-F43/15-PL	IDR-F43/15
IKR-F50/15-PL	IDR-F50/15
IKR-F60/32-PL	IDR-F60/32
IKR-F70/37-PL	IDR-F70/37
IKR-F90/50-PL	IDR-F90/50
IKR-F100/50-PL	IDR-F100/50

Model	Applicable Light
IKR-F110/60-PL	IDR-F110/60
IKHR-60-PL	IHRA-60
IKHR-80-PL	IHRA-80
IKHR-120-PL	IHRA-120
IKHR-150-PL	IHRA-150
IKHR-220-PL	IHRA-220
IKHR-270-PL	IHRA-270
IKHR-350-PL	IHRA-350

For Flat-surface Light / IKHM-PL

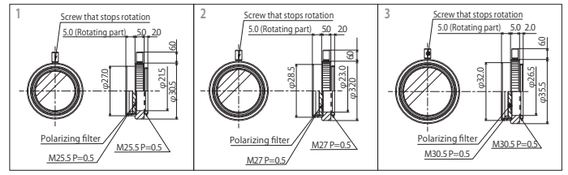
Model		Applicable Light
IKHM-25/30-A-PL	IKHM-25/30-B-PL	IHM-25/30、IHM-25/30-V
IKHM-66/60-A-PL	IKHM-66/60-B-PL	IHM-66/60、IHM-66/60-V
IKHM-108/114-A-PL	IKHM-108/114-B-PL	IHM-108/114、IHM-108/114-V
IKHM-150/142-A-PL	IKHM-150/142-B-PL	IHM-150/142、IHM-150/142-V
IKHM-214/226-A-PL	IKHM-214/226-B-PL	IHM-214/226、IHM-214/226-V

OPTIONAL PARTS

Optional Parts

Polarizing Lens Filter with Rotating Ring and Screw Lock / IMPL

Model	Lens filter diameter	Drawing
IMPL-M255	M25.5×P0.5	1
IMPL-M270	M27.0×P0.5	2
IMPL-M305	M30.5×P0.5	3



Light Control Film (LC) / IKHM-LC, IKFVH-LC

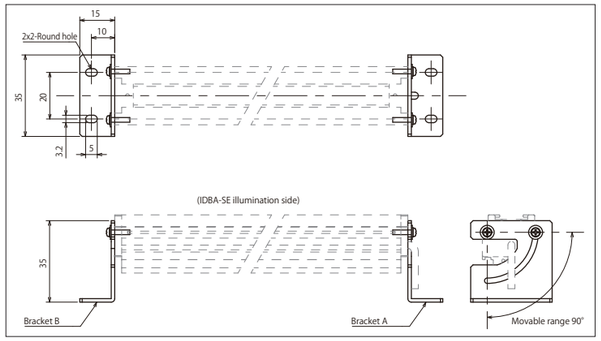
- There is a possibility of deformation or discoloration due to heat, depending on the use environment. Otherwise, the product may not be able to deliver the original performance. Periodically check the use environment.

Model		Applicable Light
IKHM-25/30-LC-A	IKHM-25/30-LC-B	IHM-25/30、IHM-25/30-V
IKHM-66/60-LC-A	IKHM-66/60-LC-B	IHM-66/60、IHM-66/60-V
IKHM-108/114-LC-A	IKHM-108/114-LC-B	IHM-108/114、IHM-108/114-V
IKHM-150/142-LC-A	IKHM-150/142-LC-B	IHM-150/142、IHM-150/142-V
IKHM-214/226-LC-A	IKHM-214/226-LC-B	IHM-214/226、IHM-214/226-V

Model	Applicable Light
IKFVH-40-LC	IFVH-40
IKFVH-50-LC	IFVH-50
IKFVH-70-LC	IFVH-70

Adjustable Angle Bracket for IDBA-SE / IDBA-SE-BR

- It allows fixation at any angle of 0-90° by fixing it to each bracket with attached M2x8 pan head screws (PW, SW included).



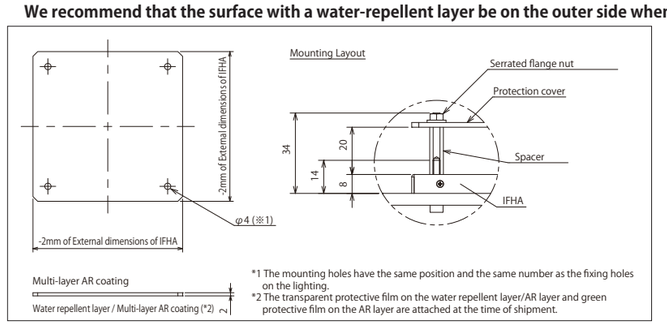
Model	Applicable Light
IDBA-SE-BR	IDBA-SE

OPTIONAL PARTS

Optional Parts

Protection Cover for IFHA / IFHA-AR

■This is a protection cover to protect the surface of the non-illumination side of IFHA.
Multi-layer AR coating is applied. In addition, a water-repellent coating is applied on one side.
We recommend that the surface with a water-repellent layer be on the outer side when assembling.



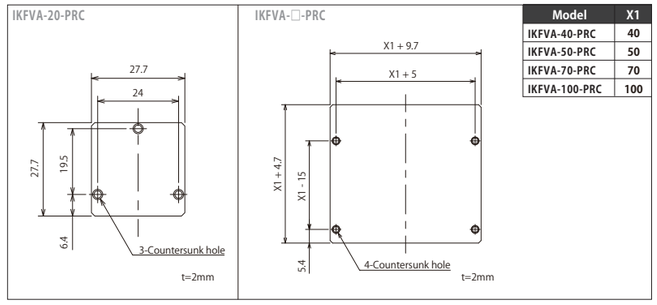
*1 The mounting holes have the same position and the same number as the fixing holes on the lighting.
*2 The transparent protective film on the water repellent layer/AR layer and green protective film on the AR layer are attached at the time of shipment.

Model	Applicable Light
IKFHA-50-AR	IFHA-50□
IKFHA-75-AR	IFHA-75□
IKFHA-100-AR	IFHA-100□
IKFHA-150-AR	IFHA-150□
IKFHA-200-AR	IFHA-200□HV
IKFHA-300-AR	IFHA-300□HV
IKFHA-200/100-AR	IFHA-200/100□
IKFHA-300/150-AR	IFHA-300/150□HV
IKFHA-400/200-AR	IFHA-400/200□HV

Accessories: Comes with fixing nut and hex spacer.
・Serrated flange nut :#REF!
・Hexagon spacer M3x20mm (6mm male thread, 6mm female thread)

Dust Protection Cover for IFVA / IFVA-PRC

■This is a protection cover to protect the opening on the IFVA illumination surface.
This is for preventing dust and falling objects, and is ideal for edge detection as a backlight application, etc.



Model	X1
IKFVA-40-PRC	40
IKFVA-50-PRC	50
IKFVA-70-PRC	70
IKFVA-100-PRC	100

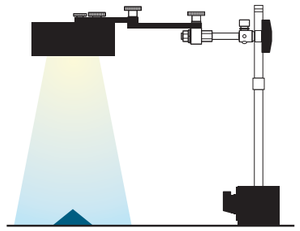
Model	Applicable Light
IKFVA-20-PRC	IFVA-20□
IKFVA-40-PRC	IFVA-40□
IKFVA-50-PRC	IFVA-50□
IKFVA-70-PRC	IFVA-70□
IKFVA-100-PRC	IFVA-100□HV

OPTIONAL PARTS
Optional Parts

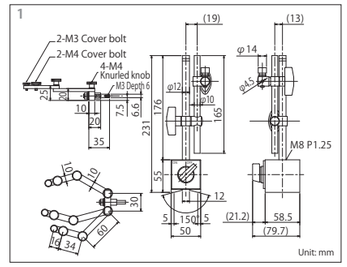
Lighting Mounting Arm Set / IHA series

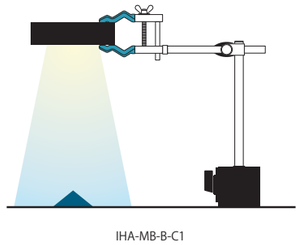
■It is ideal for mounting lighting such as ring lighting. Since it is movable, it is also suitable for temporary settings and experiments.
■Please note that this product is not RoHS2 compliant.

Usage Example

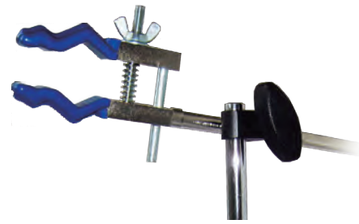


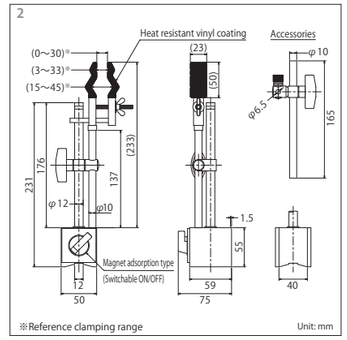
IHA-150A／MB-B





IHA-MB-B-C1





Model	Specification	Drawing
IHA-150A／MB-B	Supports lighting units with mounting pitch of 30 to 150mm	1
IHA-MB-B-C1	Supports devices with holding units up to 30mm thick	2

Dedicated slide nut *Set of 5 pieces

Applicable Light	Model		
	For M3	For M4	For M5
IDBB-LSRF series	INBB-M3-5P	INBB-M4-5P	INBB-M5-5P
IDBB-LSRA series			
IDBB-LSRS series			
IDBB-LSRC series			
IDBA-RK series			
IDBB-RE series (1100mm～)			
IDBA-HM series			
IDBA-HMS series			
IDBA-FD series			
IDBA-LEH2 series			
IDBA-LEH series			
IDBA-SE series			
IDBA-SL series			
IFD / IFD Infrared series			
IDBB-RE series (～1000mm)	INRE-M3-5P	INRE-M4-5P	INRE-M5-5P
IDBA-LE series	INLE-M3-5P	INLE-M4-5P	INLE-M5-5P
IDBA-CH series			
IDBB-LSRH series	There is no exclusive slide nut.		

OPTIONAL PARTS

Optional Parts for Line Lights

Half mirror box for IDBB-LSRA, IDBB-RE series

Optional coaxial units attachable to line light. By combining with the half mirror box, it allows imaging with high contrast and high illuminace by the specular reflection or backlight. In addition to specular reflection, it is also suitable for detections on curved surfaces. It is available in 100mm increments up to a maximum length of 500mm according to the application.

Model	Applicable Light	Drawing
HMBOXB-LSR100	IDBB-LSRA100□	1
HMBOXB-LSR200	IDBB-LSRA200□	2
HMBOXB-LSR300	IDBB-LSRA300□	3
HMBOXB-LSR400	IDBB-LSRA400□	-
HMBOXB-LSR500	IDBB-LSRA500□	-
HMBOXB-RE100	IDBB-RE100□	4
HMBOXB-RE200	IDBB-RE200□	5
HMBOXB-RE300	IDBB-RE300□	6
HMBOXB-RE400	IDBB-RE400□	-
HMBOXB-RE500	IDBB-RE500□	-

Coaxial lighting by combining with line light

Condenser Lens for Line Light / ILBB, ILBBH

Model	Applicable Light
ILBB-100	IDBB-□100
ILBB-200	IDBB-□200
ILBB-300	IDBB-□300
ILBB-400	IDBB-□400
ILBB-500	IDBB-□500

Model	Applicable Light
ILBB-600	IDBB-□600
ILBB-700	IDBB-□700
ILBB-800	IDBB-□800
ILBB-900	IDBB-□900
ILBB-1000	IDBB-□1000

Model	Applicable Light
ILBBH-100	IDBB-LSRH100
ILBBH-200	IDBB-LSRH200
ILBBH-300	IDBB-LSRH300
ILBBH-400	IDBB-LSRH400
ILBBH-500	IDBB-LSRH500

Model	Applicable Light
ILBBH-600	IDBB-LSRH600
ILBBH-700	IDBB-LSRH700
ILBBH-800	IDBB-LSRH800
ILBBH-900	IDBB-LSRH900
ILBBH-1000	IDBB-LSRH1000

★□ represents series name of the line light (LSRF=IDBB-LSRF, LSRA=IDBB-LSRA, LSRC=IDBB-LSRC)

Diffusion Plate for Line Light / IKBB

■ **Selectable transmissivity (Degree of diffusion)**

There are transmissivities of 90%, 80%, 60%, and 30% for the same thickness.

Model	Applicable Light
IKBB-LSR100-80	IDBB-□100
IKBB-LSR200-80	IDBB-□200
IKBB-LSR300-80	IDBB-□300
IKBB-LSR400-80	IDBB-□400
IKBB-LSR500-80	IDBB-□500
IKBB-LSR600-80	IDBB-□600
IKBB-LSR700-80	IDBB-□700
IKBB-LSR800-80	IDBB-□800
IKBB-LSR900-80	IDBB-□900
IKBB-LSR1000-80	IDBB-□1000
IKBB-LSR1100-80	IDBB-□1100
IKBB-LSR1200-80	IDBB-□1200
IKBB-LSR1300-80	IDBB-□1300
IKBB-LSR1400-80	IDBB-□1400
IKBB-LSR1500-80	IDBB-□1500
IKBB-LSR1600-80	IDBB-□1600
IKBB-LSR1700-80	IDBB-□1700
IKBB-LSR1800-80	IDBB-□1800

Model	Applicable Light
IKBB-LSRH100-80	IDBB-LSRH100
IKBB-LSRH200-80	IDBB-LSRH200
IKBB-LSRH300-80	IDBB-LSRH300
IKBB-LSRH400-80	IDBB-LSRH400
IKBB-LSRH500-80	IDBB-LSRH500
IKBB-LSRH600-80	IDBB-LSRH600
IKBB-LSRH700-80	IDBB-LSRH700
IKBB-LSRH800-80	IDBB-LSRH800
IKBB-LSRH900-80	IDBB-LSRH900
IKBB-LSRH1000-80	IDBB-LSRH1000
IKBB-LSRH1100-80	IDBB-LSRH1100
IKBB-LSRH1200-80	IDBB-LSRH1200
IKBB-LSRH1300-80	IDBB-LSRH1300
IKBB-LSRH1400-80	IDBB-LSRH1400
IKBB-LSRH1500-80	IDBB-LSRH1500
IKBB-LSRH1600-80	IDBB-LSRH1600
IKBB-LSRH1700-80	IDBB-LSRH1700
IKBB-LSRH1800-80	IDBB-LSRH1800

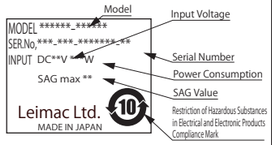
Model	Applicable Light
IKBB-LSRS100-80	IDBB-LSRS100
IKBB-LSRS200-80	IDBB-LSRS200
IKBB-LSRS300-80	IDBB-LSRS300
IKBB-LSRS400-80	IDBB-LSRS400
IKBB-LSRS500-80	IDBB-LSRS500
IKBB-LSRS600-80	IDBB-LSRS600
IKBB-LSRS700-80	IDBB-LSRS700
IKBB-LSRS800-80	IDBB-LSRS800
IKBB-LSRS900-80	IDBB-LSRS900
IKBB-LSRS1000-80	IDBB-LSRS1000
IKBB-LSRS1100-80	IDBB-LSRS1100
IKBB-LSRS1200-80	IDBB-LSRS1200
IKBB-LSRS1300-80	IDBB-LSRS1300
IKBB-LSRS1400-80	IDBB-LSRS1400
IKBB-LSRS1500-80	IDBB-LSRS1500
IKBB-LSRS1600-80	IDBB-LSRS1600
IKBB-LSRS1700-80	IDBB-LSRS1700
IKBB-LSRS1800-80	IDBB-LSRS1800

★□ represents series name of the line light (LSRF=IDBB-LSRF, LSRA=IDBB-LSRA, LSRC=IDBB-LSRC)

*The above models are of 80% transmissivity.

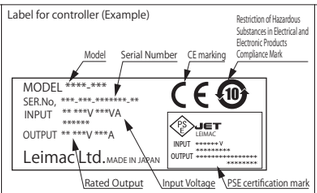
Product Labels

Label for Light (Example)



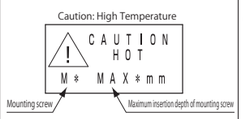
The lighting model, serial number, input voltage, power consumption, SAG value, and Restriction of Hazardous Substances in Electrical and Electronic Products Compliance Mark are provided.

Label for controller (Example)



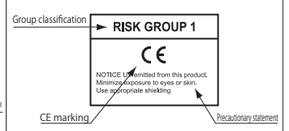
Controller model, serial number, input voltage, rated output, capacity, conformity information of PSE and/or CE standards, and Restriction of Hazardous Substances in Electrical and Electronic Products Compliance Mark are provided.

Screw Depth Indication Label (Example)



The size and depth of the mounting screw hole are provided.

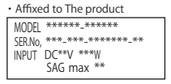
Group Classification Labels (Example)



For more information on the group classification, please refer to "International Safety Standards for LEDs" below.

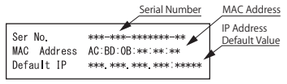
Label for Small Light (Example)

・Affixed to The product



・Affixed to The product tag

Label for MAC address (Example)



For the controllers with LAN communication functionality, information specific to the product is affixed to the product, such as MAC address, IP Address default values, and the port number.

International Safety Standards for LEDs (IEC 62471: 2006)

LED products are included in the scope of the IEC 62471 standard "Photobiological Safety of Lamps and Lamp Systems" (published by the International Electrotechnical Commission (IEC) in 2006), and are classified according to degree of potential biological damage as follows:

Group (Safety Risk Category)	Code	Description	Label
Exempt	Exempt	No photobiological hazard	
Risk Group 1 (Low Risk)	RG1	No photobiological hazard under normal behavioral limitations	
Risk Group 2 (Moderate Risk)	RG2	Does not pose a hazard due to aversion response to bright light or thermal discomfort	
Risk Group 3 (High Risk)	RG3	Hazardous even for momentary exposure	Not applicable to our products.

CE Marking on LED Light

We have began to affix CE marking (Risk group classification label) to orders from April 1, 2013 for products listed in this catalog.
***As there are products that are not covered, please contact our sales department for details.**

Product Safety Electrical Appliance & Material Law (PSE) on Controllers for LED Lights

Products with a PSE (Product Safety Electrical Appliance & Material Law) mark on each page listed in this catalogue comply with the technical criteria of Specified Electrical Appliances and Materials (CV controller).

UL Standards

Since our LED lighting and extension cables are used at 48V DC or less, they are below the voltage level of the safety standard for measurement, control, and laboratory electrical equipment (UL61010-1, Section 6.3.1a), and therefore are not subject to U.S. safety standards.
Although controllers for LED lighting are models that correspond to the safety standards, we have no plan to acquire it because it is not a mandatory certification standard.

Operating environment

Light	Controller	Cable
•Ambient temperature: 0 to + 40℃	•Ambient temperature: 0 to + 40℃	•Ambient temperature: 0 to + 40℃
•Ambient humidity: 35 to 85% RH (No condensation)	•Ambient humidity: 20 to 70% RH (No condensation)	•Ambient humidity: 35 to 70% RH (No condensation)

*The above values are typical values and do not apply to all products. Please read the instruction manual carefully before use and use it correctly.

Storage Environment

Light	Controller	Cable
•Ambient temperature: -20 to + 65℃	•Ambient temperature: -20 to + 65℃	•Ambient temperature: -20 to + 65℃
•Ambient humidity: 20 to 85% RH (No condensation)	•Ambient humidity: 20 to 85% RH (No condensation)	•Ambient humidity: 20 to 85% RH (No condensation)

*The above values are typical values and do not apply to all products. Please read the instruction manual carefully before use and use it correctly.

Precautions for Use

- **Do not look directly at The light source.**
- **Do not disassemble or remodel The lighting or controller.**
- **Do not touch products in operation with wet hands.**
- **Do not use products not prepared for The environment of high temperature and high humidity.**
- **Avoid installation in places with a lot of dust.**
- **Take appropriate measures for heat dissipation, cooling, etc.**
- **Try to use The light at minimum output or in flashing mode as much as possible.**
- **Do not use The lighting with The controller of other companies.**
- **Make sure that The input voltage matches both The lighting and The controller.**
- **Make sure that The controller capacity is larger than The lighting power consumption.**
- **Do not use AC input from a controller that is used for motive power, solenoid valves, or similar applications.**
- **Pay attention to The surge and noise around The installation place.**
- **Noise may occur from lighting and controllers.**
- **Connect The controller with The ground terminal to The ground.**
- **Follow The Thread depth indication label when installing The lighting.**

Our products are industrial products based on an assumption of use for built-in equipment, during the manufacturing-process, or in the manufacturing plant.
Please contact our sales representative if you wish to use our products for general consumer applications or educational use at universities, vocational schools, etc.

Warranty

Warranty period: 2 years from our shipment*

In the event that our products fail within the warranty period specified above, or if the illumination output of the lighting equipment drops to 50%, Leimac shall repair or replace it free of charge as stipulated under the "Scope of Warranty". Please present the applicable product and contact us.
※However, the warranty regarding up to half the illumination output is one year from the date of our shipment.

Scope of Warranty

Under the terms of use specified by Leimac in accordance with the instruction manual, if a malfunction occurs within the warranty period, Leimac shall repair or replace the faulty part free of charge.
However, even if it is within the warranty period, there will a charge in the following cases.

- ✓Malfunction or damage resulting from connecting the product to lighting equipment or a controller manufactured by other companies
- ✓Malfunction or damage resulting from incorrect usage or from improper repair, modification, or disassembly
- ✓Malfunction or damage resulting from vibration, dropping, or other shock or from inappropriate handling
- ✓ Malfunction or damage resulting from occurrences such as fires, pollution, riots, etc.; external factors such as earthquakes, lightning, floods, and other natural disasters; or unusual circumstances (abnormal voltage, high temperature and humidity, dust, corrosive gas, silicone gas, etc.)
- ✓ Other cases in which liability is not attributable to Leimac.

Limitation of Liability

Secondary disasters (damage to equipment, lost opportunity, lost profit, etc.) incurred by the customer as a result of the malfunction of or damage to a Leimac product and any damages whatsoever shall not be subject to compensation.

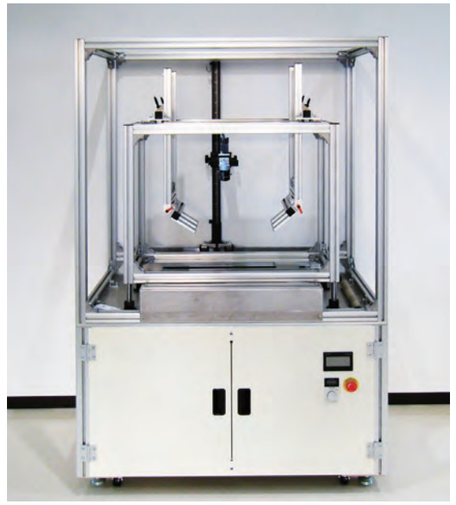
Limitations of Warranty

This product warranty promises the aforementioned warranty details under the specified operating environment and storage environment.
Accordingly, it does not undertake any other guarantees, whether expressed or implied.
Leimac products are primarily designed for use with image processing and industrial inspection applications.
This warranty shall not apply to use under circumstances like those outlined below:
•Use in applications that may result in personal injury (nuclear power controls, railways, aviation, safety equipment) and particularly in applications that require reliability
•Use in medical equipment that directly affects human life
•Use in applications that have the potential to significantly affect property

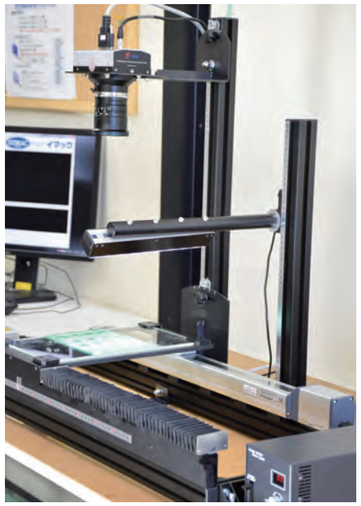
Testing Room

We have testing rooms in our headquarters, Tokyo, Nagoya, and Osaka offices.
A testing room is equipped with imaging equipment such as various lightings, various cameras, and stands. We will select the ideal lighting and propose the use conditions if you can send us the object.
You are welcomed to bring the object to our office and select lightings.
Our sales representitive will support customers for lighting selection.
You can also request a demo trial on the spot to take it back with you.

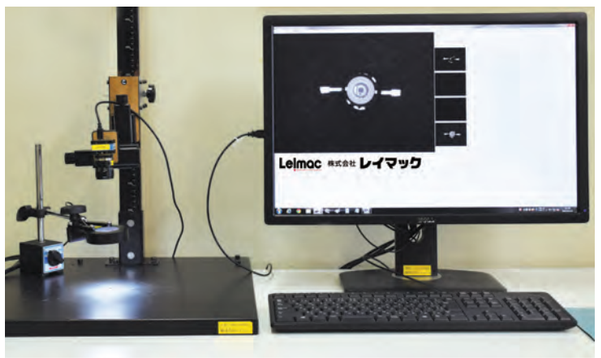
General-purpose image acquisition system for evaluation [Tokyo]

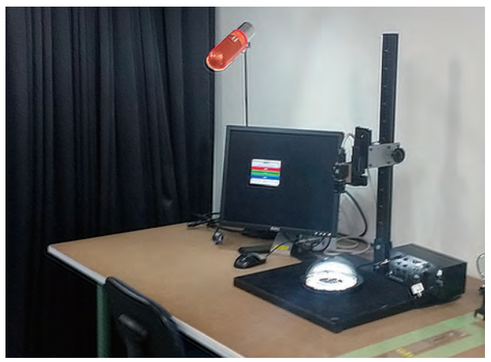


Line Camera: Image acquisition device for evaluation [Head Office, Tokyo]



Area Camera: Image acquisition equipment for evaluation [Head Office, Tokyo, Nagoya, Osaka]





Company Profile

Company Name	Leimac Ltd.
CEO	Mamoru Tanaka
Establishment	1993/5/1 0:00:00
Capital	20,000,000 yen
Employees	145

Headquarters
1551 Sazukawacho, Moriyama City, Shiga
524-0215, JAPAN

TEL：+81-77-585-6767
FAX：+81-77-585-6790
FAX：+81-77-585-6790

Headquarters

＜ Direct Line to LED Light Equipment Group Headquarters ＞
Phone: +81-77-585-6771 Fax: +81-77-585-6773
E-mail: led@leimac.jp

＜ Direct Line to FA Equipment Group ＞
Phone: +81-77-585-6770 Fax: +81-77-585-6790
E-mail: fa@leimac.jp

＜ Healthcare Group ＞
Phone: +81-77-585-6770 Fax: +81-77-585-6790
E-mail: med@leimac.jp

＜ Optera Group ＞
Phone: +81-77-500-0323 Fax: +81-77-585-6790
E-mail: optera@leimac.jp

Sales office / Testing Room


Tokyo Office

Tokyo Office
Kameda Building 2F, 2-5-6 Uchikanda,
Chiyoda-ku, Tokyo 101-0047, JAPAN

TEL：+81-3-6206-4838
FAX：+81-3-6206-4575


Nagoya Testing Room

Nagoya Testing Room
Second Mutsumi Building 3F 1-8-7
Noritake Nakamura-ku, Nagoya City, Aichi
453-0014, JAPAN

Phone: +81-77-585-6771
Fax: +81-77-585-6773


Osaka Testing Room

Osaka Testing Room
Shinosaka Chiyoda Building Bekkan 8F
4-4-63 Miyahara Yodogawa-ku, Osaka City,
Osaka 532-0032, JAPAN

Phone: +81-77-585-6771
Fax: +81-77-585-6773

History

1993	May.	IMAC was founded as private limited company in Imahama-cho, Moriyama, Shiga
1994	Aug.	Re-resistered as IMAC Co., Ltd.
1995	Aug.	Initiated development of fully-automatic electric-wire processing machine
1996	Feb.	Began sales of LED lighting equipment for image processing
1997	Oct.	Initiated development of heat-source monitoring control system
1998	Mar.	Certified as advanced fully-automatic electric-wire processing machine under the Shiga Prefectural Government Act on the Promotion of Creative Business Activities
	Mar.	Certified as LED light source for image processing under the Shiga Prefecture Government Act on the Promotion of Creative Business Activities
	Sep.	Moved company building to Sazukawa-cho, Moriyama City
2000	Oct.	Certified as A-rank under strain gauge monitoring system by the Shiga Prefecture Business Potential Evaluation Committee
2001	Jan.	ISO 9001:2000 Certified in FA equipment department and LED lighting equipment department
	Jun.	Acquired CE marking compliance certification for LED lighting equipment
2002	Sep.	Expanded a new plant for lighting products and FA on site
2004	Dec.	Expanded a new plant No. 2 (Factory exclusive to LED division)
2005	Jan.	Authorized as a medical device manufacturer
	Feb.	ISO 14001:2004 Certified in FA equipment department and LED lighting equipment department Acquired ISO14001：2004
	Apr.	Authorized as a Class 3 Medical Device Manufacturer
2006	Apr.	Authorized as highly controlled medical device manufacturer and rental service company
	Apr.	Joined Japan Industrial Imaging Association as a supporting member
2008	Apr.	Gained full membership of Japan Industrial Imaging Association
	Dec.	Completed plant No. 3
2010	Sep.	Received approval for business plan utilizing local industrial resources in relation to fluorometric detectors
	Dec.	Received approval for supporting industry plan for nanofibers
2011	Jun.	Received approval for new technology development plan for Step Aid
2012	Dec.	Authorized as a Class 1 Medical Device Manufacturer
2013	Jul.	Established Tokyo office in Chiyoda-ku, Tokyo
2015	Nov.	Completed plant No. 4
	Dec.	Established Nagoya testing room in Nagoya City, Aichi Prefecture
2018	Sep.	Relocated Tokyo Office to Kanda Chioda-Ku, Tokyo
2019	Sep.	Changed company name to "Leimac Ltd."
	Sep.	Established Osaka testing room opened in Yodogawa-ku, Osaka-shi, Osaka

OEM • ODM

▶ Product manufacturing

We handle precision equipment, electronic equipment, industrial equipment, and medical equipment in Japan for trial production, design, some processes (processing, mounting), and small batch production. In addition, we also support trial production, medium-volume, and mass production at overseas cooperation partners.

- Processing equipment

  We offer a wide range of processing machines, including long processing machines, turret punch press machines, laser processing machines, etc., so combining the cutting and hole processing of long parts and by cutting out any shape by combining hundreds of types of dies, curves, etc., we also support a wide range of press processing in small quantities.

- Automatic solder robot / Assembly cell production

  We are equipped with stable high quality automated equipment and support a wide range of processes in small quantities and specialize in flexible volume variable production on assembly cell production lines for precision equipment and electronic equipment, supporting production from a single unit.

▶ Machine manufacturing

Based on customer requests, we carry out the entire process from design to manufacturing, installation, and maintenance. We have experience in many fields such as production equipment for general industry, image inspection machines, and cleaning equipment for hospitals.

- Automatic image processing equipment

  We develop, design, and manufacture image processing inspection machines that perform high-precision, high-speed inspection using our core technology of LED lighting for image processing. We can also handle partial requests such as image processing, transportation, and control.

- Fully Automatic Micro Plate Cleaning Machine

  We develop and manufacture machines that perform fully automatic washing and drying of microplates used in large-scale hospitals and for the Japanese Red Cross Society. We can support various customizations according to your request.

▶ Product development

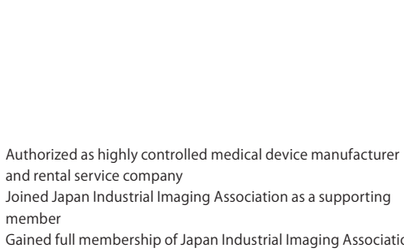
We develop and make a prototypes of image processing components such as electronic equipment, medical equipment, lighting, and controllers. We can support any form, such as contract development, OEM product development, and requests for only a part of the design process.

- Firmware design

  We design firmware for control of medical devices and various electronic devices, networks, BLE communication, etc. It can be used with any device such as FPGA, ARM, and microcomputers.

- Special light source design / controller design

  We design a exclusive light source and controller for special applications.
  We design a wide range of products from our prototypes such as ultraviolet illumination devices from LED light sources for image processing using LEDs, optical power meters, and light sources for deep sea surveys. Regarding the controller, we will design a controller device that can be externally controlled by parallel communication, LAN, and USB. We can support analog and digital circuits, artwork, housing design, etc., from 3D prototyping to commercialization.



<Fully Automatic Micro Plate Cleaning Machine>


<3D Printer>