KKIMAC
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2017~ LED Lighting

General Catalog

The next level of vision

IMAC Co., Ltd.

the NEXT LEVEL *of* VISION

RoHS Directive

About our standard products(except parts) have manufactured as the RoHS directive (2002/95/EC) of(Lead·Mercury·Cadmium·Hexavalent chromium·Polybrominated biphenyl·Polybrominated diphencyl)from April in 2007.

Please confirm the detail on our Website about RoHS derective(2002/95/EC) and the revised RoHS derective(2011/65/EU).

Chinese version RoHS Directive

Since April of 2017, we have been providing standard products in the catalog as those corresponding to "Chinese version RoHS Directive" *Except for some products.
For details, see our Website.

To provide our customers with safe, environmentally friendly products, IMAC will comply with global standards

Management Philosophy

To ensure the development of our company and the happiness of our employees, we will contribute to society by exploring the possibilities of mechatronics and offering 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.
As a natural circulation company, we will also strive to protect the environment.

People-focused

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 and Power Supplies for Image Processing

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

1 Thanks to their long lifetimes and low power consumption, LEDs make it possible to reduce running costs 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 conrol and light modulation control.

4 LEDs can be used as stroboscopic light sources thanks to their fast response times and ability to withstand high currents.

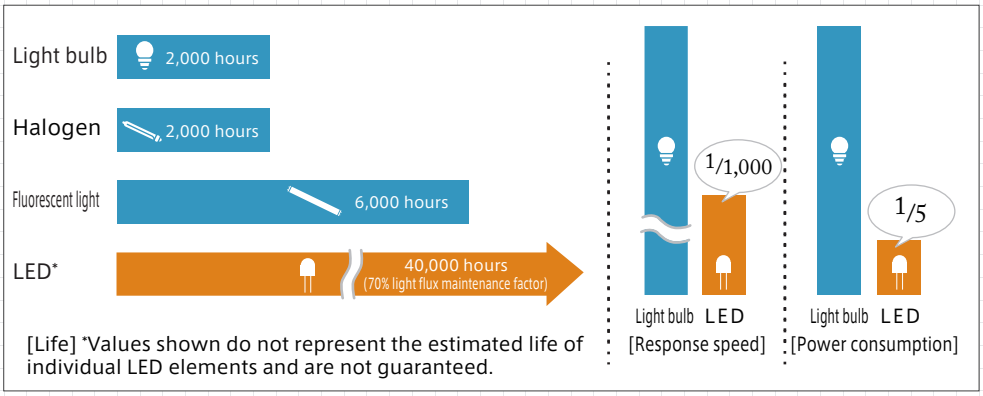
5 LEDs provide directional light, and are therefore better able to emphasize flaws in the subject compared with fluorescent lights and other diffuse light sources.

6 LEDs allow the selection of wavelength (from ultraviolet light to visible light to infrared light) according to work conditions.

7 LEDs can be built to suit the size and shape of the work.

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 completely cease lighting up, unlike an incandescent lamp which will no longer light up 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.
The life 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 LED life also applies to LED lights with LED elements mounted.

Getting the most out of LED lighting How to ensure adequate LED lighting performance

1. Do not use LED lighting in high-temperature environments as doing so will speed up the rate at which luminance decreases and elements degrade.

LEDs tend to decrease in luminance and undergo accelerated element deterioration due to heat (heat generated by the LED itself). It is said that life of a LED element is about 40,000 hours(TYP), but a LED brightness decrease the deterioration in short time if you use a LED at high temperatures.

2. LED lighting units should be moved as close to the subject as possible.

As LED elements themselves are small, LED lighting units can be made compact and lightweight.

Illumination is inversely proportional to the square of the distance, so moving the lighting unit close significantly increases light intensity.
(We also design lighting solutions to suit various applications)

When using direct lighting,

Using a diffusing plate or polarizing plate can eliminate reflected lighting in some cases.

3. To mitigate loss of luminance and degradation due to heat

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.
■ Attach a fan.
It is recommended to install LED lighting units in a structure or environment with good heat-dissipative capabilities, for example by taking steps to ensure adequate cooling.

Turn lighting on and off in sync with image capture

LED lighting handles switching well.
Using the ability of IMAC light control power supplies to turn lighting on and off via an external signal, it is possible to extend LED life by only turning them on when required.
(Not all power supplies come equipped with this function.)

Reduce light modulation volume

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 usinng lighting continuously, it is recommended that volume is set to around 50%.
(Even if luminance is reduced due to degradation, the volume can be increased to return to normal luminance.)

Selecting wavelength

Selecting lighting by wavelength

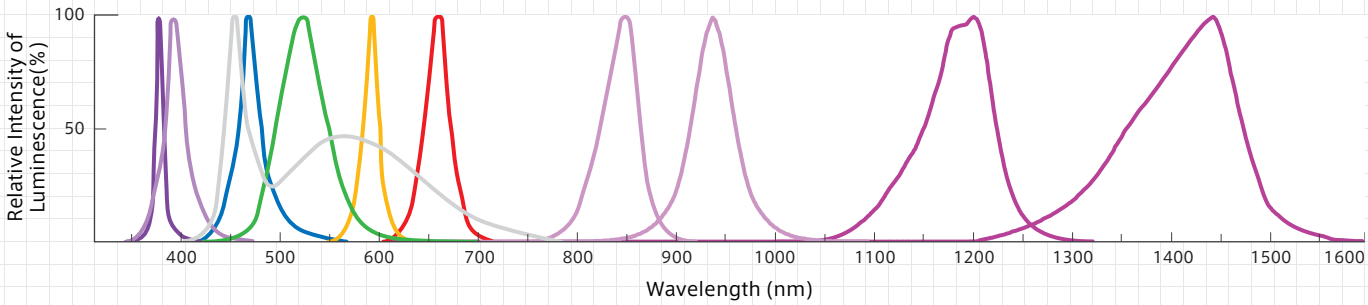
Shorter wavelengths have larger scattering ratios, and are suited to surface inspection applications.

*"Scattering ratio" indicates how easy it is for light to hange direction upon hitting the surface of the work or another object.The higher the scattering ratio, the easier it is for light to scatter on hitting a surface, so wavelengths with a higher scattering ratio are ideal for surface inspections. If, on the other hand, the scattering ratio is low, it is easier for light to pass through the surface of the work, therefore making it ideal for transmissive applications.

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

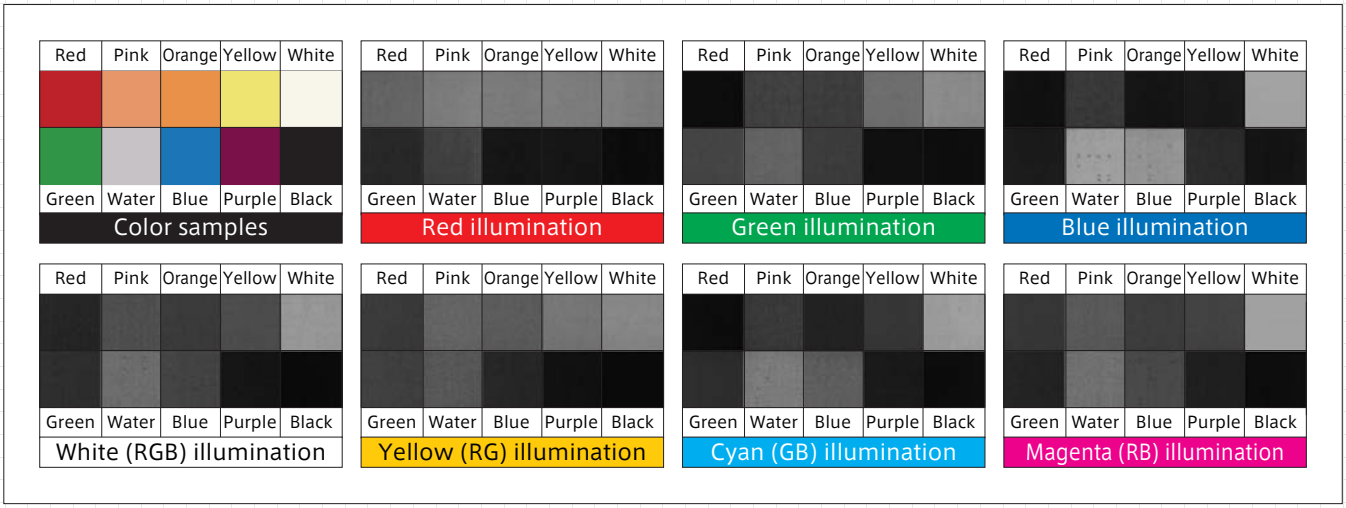
	Peak Wavelength	Main Inspection Applications	Scattering Ratio
White	–	Color treatment, etc.	–
Ultra Violet	365nm	Non-destructive inspections, etc.	Approx. 10x
	375nm	Inspecting for faint scratches, etc.	Approx. 9x
	405nm		Approx. 8x
Blue	470nm	Scratch inspection, etc.	Approx. 4x
Green	525nm	Visual inspection, etc.	Approx. 2.5x
Yellow	590nm	Inspections in exposure environments, etc.	Approx. 1.6x
Red	660nm	Backlight applications, etc.	1
Infrared	850nm	Transmitted lighting	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 a subject 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 typical example only and may not be applicable depending on work characteristics (reflection, transmission, and absorption), and camera and lens (optical system).

Reflection and absorption of colors

Work Color \ Lighting Color	Red LED Illumination	Green LED Illumination	Blue LED Illumination	Relationship of Reflection and Absorption
Cyan	Absorption	Reflection	Reflection	R: Absorption★ G: Reflection B: Reflection W (White)− R(Red) = C(Cyan) C(Cyan)
Yellow	Reflection	Reflection	Absorption	R: Reflection G: Reflection B: Absorption★ W (White)− B(Blue) = Y(Yellow) Y(Yellow)
Magenta	Reflection	Absorption	Reflection	R: Reflection G: Absorption★ B: Reflection W (White)− G(Green) = M(Magenta) M (Magenta)

Checklist for Selection of Lighting Equipment

1. Inspection Details

Processing •Binarization/pattern matching
•B&W/color

Purpose •Text inspection, defect inspection, visual inspection, positioning, and dimension measurement

2. Operating Environment

Is ambient light an issue?
Is the temperature/humidity too high?

3. Positional Relationship of Workpiece, Camera, and Lighting

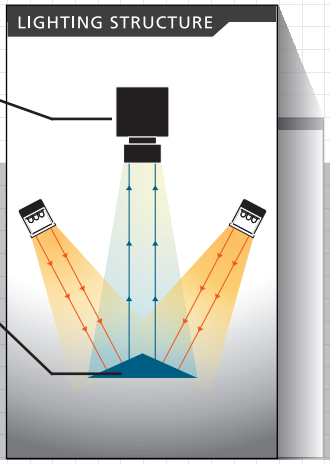
Are distances and angles exact?
Is there sufficient space for lighting installation?

4. Type of Lens/Camera

Type of Lens •Macro/telecentric
Type of Camera •Area/line sensor
•Spectral sensitivity of CCD

5. Objects 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



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Power Supply

300W･600W high-capacity Constant voltage power supply IWDV(SL)-48 series Analog P.78

This power supply control the LED light by voltage adjustment.
There is nothing to worry to synchronize light to Ultra-high-speed shutter camera or high speed clock line censer camera.

DC48V | CE | PSE | 0-5V

Power Supply

Constant-current Power Supply for IDBB-LSRH IMC series P.79

There is nothing to worry to synchronize light to Ultra-high-speed shutter camera or high speed clock line censer camera by Constant-current power supply.

Constant-current | LAN | CE | PSE

Power Supply

High-function Constant voltage power supply IWDV-24 series P.80

This power supply control the LED light by voltage adjustment.
There is nothing to worry to synchronize light to Ultra-high-speed shutter camera or high speed clock line censer camera.

DC24V | LAN | 10bit | CE | PSE

Power Supply

Digital PWM Power Supply IDGB series P.81

It is a multifunctional power supply with choosable external control function (external light control with LAN communication, 8bit parallel, RS-232C communication, RS-485 communication, and Analog 0-5V).
External ON/OFF and output control are standard feaures.
DIN rail installation.

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

Power Supply

Programable digital PWM power supply IDGB-PG series P.83

NEW

It's seamless power supply that installed the programming mode, it makes a control easily to the multiple LED lighting.
It's possible to chang the setting data by pattern registration easily.
External ON/OFF and output control are standard feaures.

CE | PSE | LAN

Power Supply

1000 Level Digital Controller ILP series P.85

This is the smallest and lowest priced 1000 level digital power supply with 24VDC input. Adjustable to DIN rail installation.
Our standard line up are 12V output/30W 2channels and 24V output/60W 2channels.
External ON/OFF ports are standard features.

CE | Low cost

Power Supply

Analog PWM power supply IDPA series P.86

It's renewal to the compact and high-function simple PWM power supply.
This series is effective for ensuring long life and uniformity of LED lighting.
External on/off terminals are provided as standard.

CE | PSE

Power Supply

Multi-channel Constant-current Power Supply IDCA series P.87

Constant-current light control power supporting direct connection of IHV, IHVD, IHVE, and IBF series.
Allows simultaneous connection of 12 V DC lights and spot lights.
It is a multifunctional power supply with choosable external control function (external light control with LAN communication, 8bit parallel, RS-232C communication, RS-485 communication, and Analog 0-5V).

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

Power Supply

Compact Constant-Current Controller ILC series P.88

Ultra-compact, constant-current light control power supply with 24 V input. Adjustable to DIN rail installation.
For the IHV, IHVD, IHVE, and IBF series, the light can be controlled in the range of 0 to 100% using an external signal of DC 0-5V.
External on/off terminals are provided as standard.

CE | 0-5V

Power Supply

Compact Multi-channel overdrive power supply for LAN control IJS series P.89

Lineup 2CH～8CH
For applications of moving high-speed imaging, synchronization of the exposure timing of the camera and the LED can be set easily.
As the LED elements generate less heat, the amount of light is stabilized and the lifespan will be longer.
It outputs a larger instantaneous current than normal lights, offering a maximum capacity.It can be used at up to approximately four times the current.

CE | LAN

Power Supply

Overdrive power supply SAG series P.91

NEW

This is the overdrive power supply that standard lighting is able to connect.
Lights are activated via an external trigger.
It's become more high repeatability by the 256 level variable voltage, and more compact than before.

CE | 8bit | 0-5V

Power Supply

High-capacity overdrive power supply SAG-HP series P.92

Lineup features high-capacity models of 75 to 600 W.
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.
The SAG-HP series outputs a larger instantaneous current than normal lights, offering a maximum capacity.
It can be used at up to approximately four times the current.

8bit

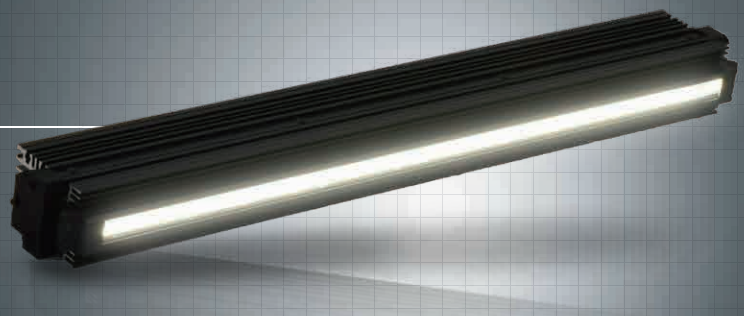
Power Supply

PoE-capable Control Unit IPSA･IPPA series P.93

These industry-first control units carry power over Ethernet signals and allow high-speed switching of light units on up to 4 channels.
These power supply control units are available as either strobe-control or PWM-control models.
Control unit is designed as a compact module to allow connection to a camera.
Use of Ethernet allows the simplification of overall system design and the sophistication of lighting control.

CE | LAN

Line Light



Series	IDBB-LSRF series	IDBB-LSRH series	IDBB-LSR series	IDBB-LSRC series	IDBA-RK series	IDBB-RE series
Product image						
Illumination method	Condense	Condense	Condense	Condense	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	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 Longest 3,000mm	100mm×n Longest 3,000mm	100mm×n Longest 3,000mm	100mm×n Longest 2,000mm	200mm×n Longest 2,400mm	100mm×n Longest 1,800mm
Output control	Collectively	In 100mm increments	Collectively	Collectively	Collectively	Collectively
Air cooling system	Forced air cooling (fan air cooling)	Natural air cooling	Natural air cooling	Natural air cooling	Natural air cooling	Natural air cooling
The white color temperature	4,900K(typ)	4,900K(typ)	6,200K(typ)	6,200K(typ)	4,900K(typ)	8,000K(typ)
Reference page	P.11	P.12	P.13	P.14	P.15	P.16
Applicable power supply series name	IWDV-300S-48 IWDV-600S-48	IMC-300M10-TP IMC-600M20-TP IMC-1000M30-TP	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24	IWDV-100S-24 IWDV-300S-24	IWDV-300S-48 IWDV-300SL-48	IWDV-100S-24 IWDV-300S-24 IWDV-600M2-24 IWDV-300M1-24
Product image						
Output control level	1,000 levels	1,000 levels	1,000 levels	1,000 levels	No level/1,000 levels	1,000 levels
Output control method	Constant voltage	Constant current	Constant voltage	Constant voltage	Constant voltage	Constant voltage
External Control	ON/OFF LAN/10-bit parallel	ON/OFF LAN	ON/OFF LAN/10-bit parallel	ON/OFF LAN/10-bit parallel	ON/OFF 0-5 V Analog LAN/10-bit parallel	ON/OFF LAN/10-bit parallel
Reference page	P.77	P.79	P.80	P.80	P.77·78	P.80

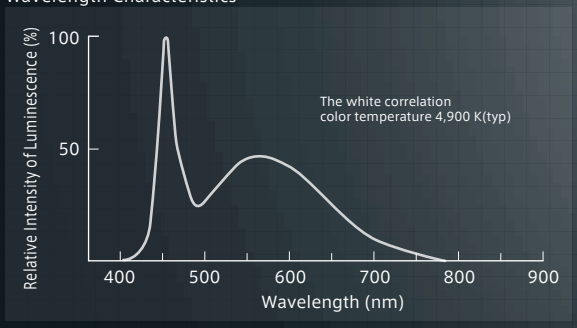
Note: The brightness should only be used as a reference. It does not guarantee the quality of the product.
Color temperature (typ) has described a representative value. Please contact us for further details.

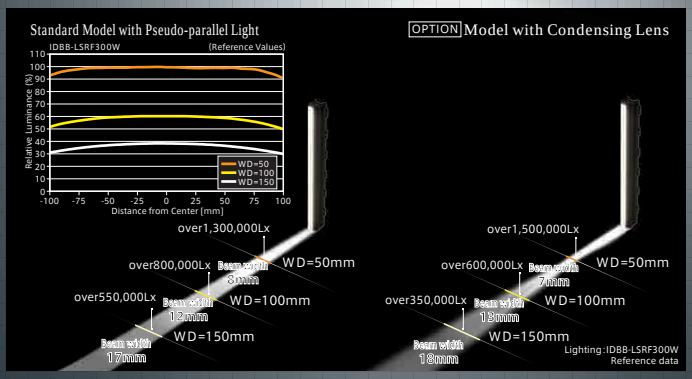
Illumination method：Condense light

1,300,000 lx Forced Air Cooling Type Line Light

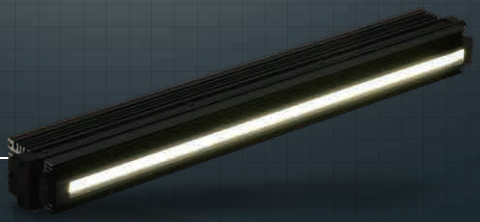
IDBB-LSRF series

Wavelength Characteristics



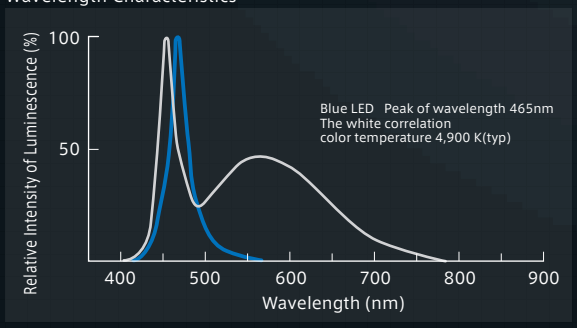


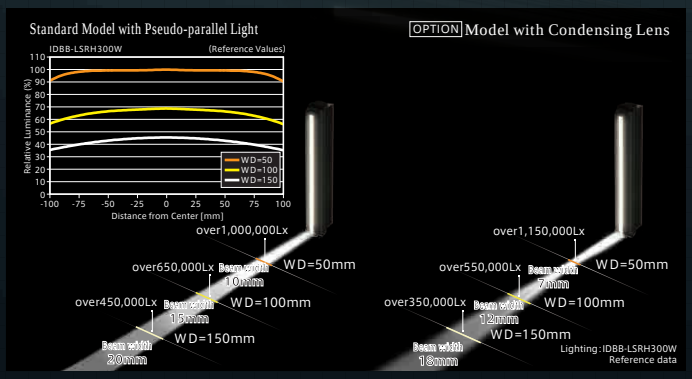
1,000,000 lx Natural Air Cooling Type Seamless Line Light



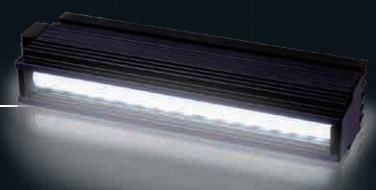
IDBB-LSRH series

Wavelength Characteristics



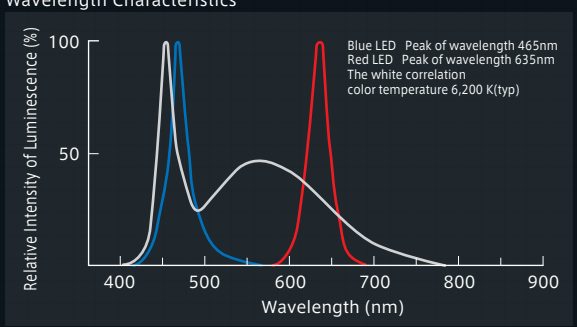


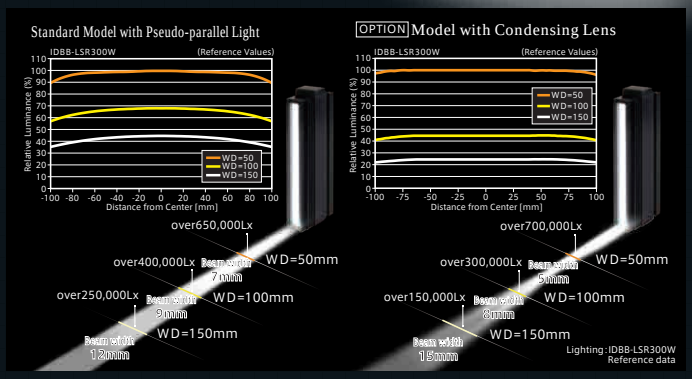
600,000 lx Brimax Line Light II



IDBB-LSR series

Wavelength Characteristics





Line Light

1,300,000 lx Forced Air Cooling Type Line Light

IDBB-LSRF series

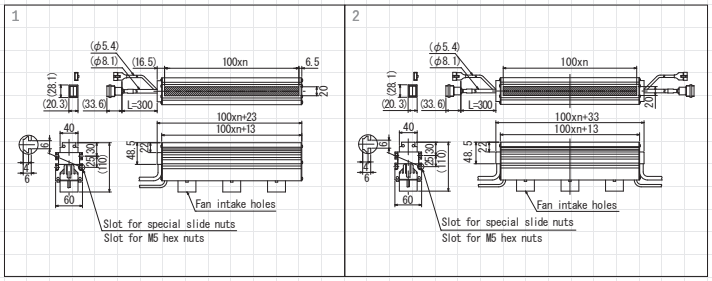
Capable of excellent output power over 1,300,000 lx

Special Optical Design | Forced air cooled | Power LEDs

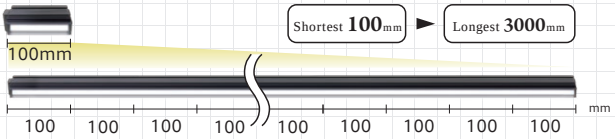
・A forced air cooling type is also available for the Brimax line light
・Forced air cooling system enables excellent output power over 1,000,000 lx
・Lineup includes the light emission sizes from 100 to 3,000 mm in 100 mm increments

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IDBB-LSRF100W	W	40	DC48V	IWDV-300S-48 (P.77)	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 (P.77)	1 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-300S-48 +IWDV-600S-48 (P.77)	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		IWDV-600S-48 2unit (P.77)	2 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

*See page 18 for condensing lens and optical diffusing plate models.
*Condensing lens ILBB-□ and optional diffusing plate IKBB-LSR□ can be mounted. □ represents size in 100 mm increments. We line up the condense lens from 100 to 1000 mm, and diffusing plate is from 100 to 1800 mm. When ordering, specify number and type of condensing lenses and diffusing plates required. Diffusing plates are available with transmissivity of 30%, 60%, 80%, or 90%.

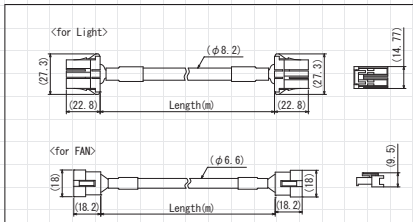


Wide Selection of Sizes



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

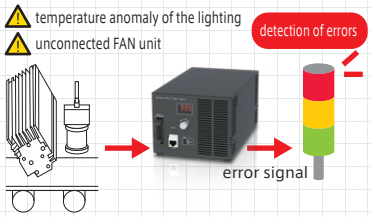
Extension cable and FAN drive cable set



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

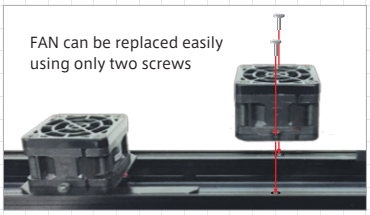
Avoid trouble by error detection system.

Connection to exclusive power supply of the IWDV
・temperature anomaly of the lighting
・unconnected FAN unit
can detect them and quickly avoid troubles by error signal from power supply.



Easy FAN replacement

Can easily exchange units during the maintenance because fan units which are mounted light are tightened with screws on two parts.



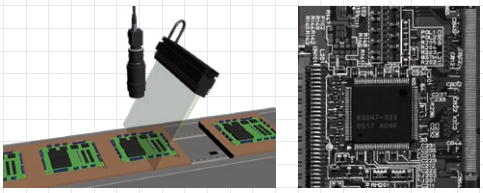
Power Supply(voltage control)

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

Output control level:1000 levels
External Control:LAN/10-bit parallel

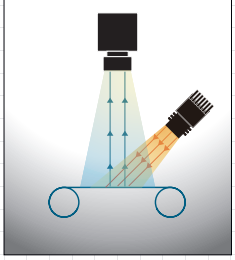
details are described in P77

Workpiece:Electronic component mounting board.

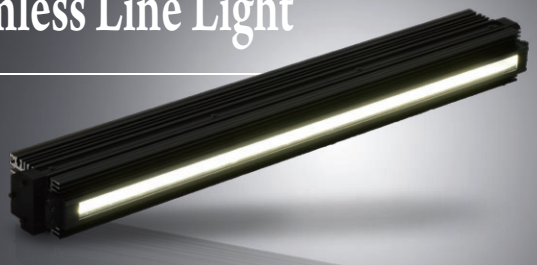


Light used:IDBB-LSRF300W

LIGHTING STRUCTURE



1,000,000 lx Natural Air Cooling Type Seamless Line Light



IDBB-LSRH series

Achived the industry-leading high output power over 1,000,000 lx by natural air cooling.

Capable of brightness adjustment in 100 mm increments from a PC with dedicated power supply application

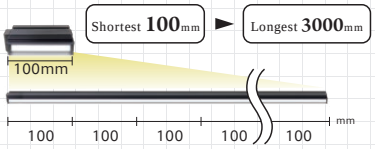
Special Optical Design | Natural air cooled | Power LEDs

- Realized 1,000,000 lx (WD50 mm) with natural air cooling
- Capable of individual control in 100mm increments from a PC with dedicated power supply application
- Lineup includes the emission light sizes from 100 to 3,000 mm in 100 mm increments

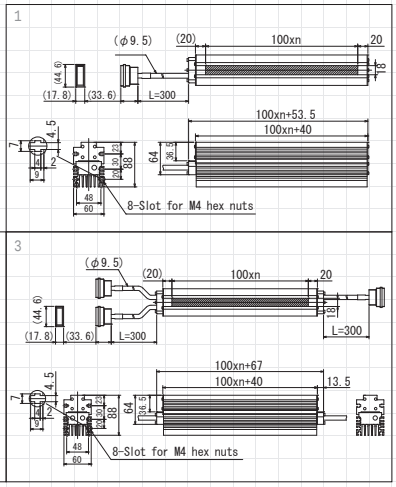
Model	Light Color		Power Consumption (W)	Channel numbers	Drive System	Power Supply	Drawing	
IDBB-LSRH100□	W	B	30	1CH	Constant current	IMC-300M10-TP (P.79)	1	n=1
IDBB-LSRH200□	W	B	60	2CH				n=2
IDBB-LSRH300□	W	B	90	3CH				n=3
IDBB-LSRH400□	W	B	120	4CH				n=4
IDBB-LSRH500□	W	B	150	5CH				n=5
IDBB-LSRH600□	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.79)	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.79)	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)
*See page 18 for condensing lens and optical diffusing plate models.
*Condensing lens ILBBH-□ and optional diffusing plate IKBB-LSRH□ can be mounted. □ represents size in 100 mm increments.
We line up the condense lens from 100 to 1000 mm, and diffusing plate is from 100 to 1800 mm.
When ordering, specify number and type of condensing lenses and diffusing plates required.
Diffusing plates are available with transmissivity of 30%, 60%, 80%, or 90%.

Wide Selection of Sizes



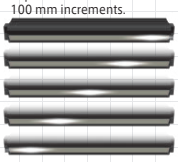
Available in 100 mm increments up to maximum length of 3,000 mm.



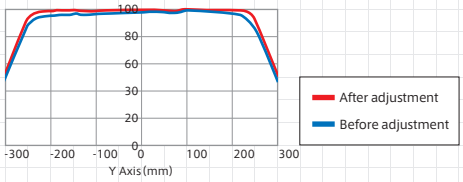
Capable individual control in 100 mm increments.

Because it is possible to control individually in 100 mm increments by exclusive supply power IMC series, you can control dimming according to the situation.
Furthermore, it is mounted offset dimming to go up and down while maintaining individual dimming setting.

Capable individual control in 100 mm increments.



Capable the high uniform luminous by individual control.

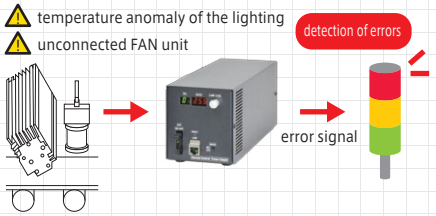


Avoid trouble by error detection system.

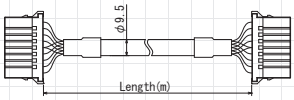
Connection to exclusive power supply of the IMC

- temperature anomaly of the lighting
- unconnected FAN unit

can detect them and quickly avoid troubles by error signal from power supply.



Dedicated 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

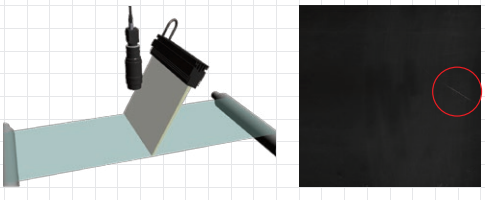
Power Supply(current control)

IMC series

Output control level:1000 levels
(Capable individual control in 100mm increments.)
External Control:LAN control

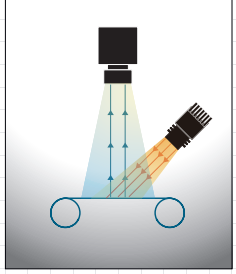
for details, described in P79

Workpiece:Surface inspection of films.



Light used:IDBB-LSRH400W

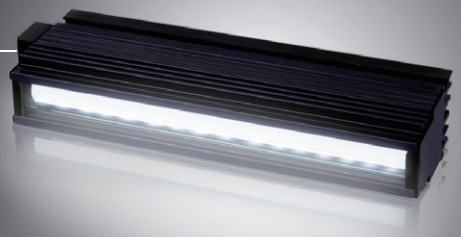
LIGHTING STRUCTURE



Line Light

600,000 lx Brimax Line Light II

IDBB-LSR series

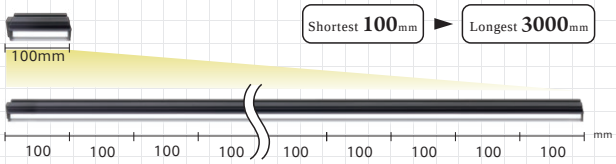


Special Optical Design | Natural air cooled | Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IDBB-LSR100□	R W B	R:13、W/B:20	DC24V	IWDV-100S-24 (P.80)	1 n=1
IDBB-LSR200□	R W B	R:26、W/B:40			n=2
IDBB-LSR300□	R W B	R:39、W/B:60			n=3
IDBB-LSR400□	R W B	R:52、W/B:80			n=4
IDBB-LSR500□	R W B	R:65、W/B:100			n=5
IDBB-LSR600□	R W B	R:78、W/B:120		IWDV-300S-24 (P.80)	n=6
IDBB-LSR700□	R W B	R:91、W/B:140			n=7
IDBB-LSR800□	R W B	R:104、W/B:160			n=8
IDBB-LSR900□	R W B	R:117、W/B:180			n=9
IDBB-LSR1000□	R W B	R:130、W/B:200			n=10
IDBB-LSR1100□	R W B	R:143、W/B:220			n=11
IDBB-LSR1200□	R W B	R:156、W/B:240			n=12
IDBB-LSR1300□	R W B	R:169、W/B:260			n=13
IDBB-LSR1400□	R W B	R:182、W/B:280			n=14
IDBB-LSR1500□	R W B	R:195、W/B:300			n=15
IDBB-LSR1600□	R W B	R:208、W/B:320		IWDV-600M2-24 (P.80)	2 n=16
IDBB-LSR1700□	R W B	R:221、W/B:340			n=17
IDBB-LSR1800□	R W B	R:234、W/B:360			n=18
IDBB-LSR1900□	R W B	R:247、W/B:380			n=19
IDBB-LSR2000□	R W B	R:260、W/B:400			n=20
IDBB-LSR2100□	R W B	R:273、W/B:420			n=21
IDBB-LSR2200□	R W B	R:286、W/B:440			n=22
IDBB-LSR2300□	R W B	R:299、W/B:460			n=23
IDBB-LSR2400□	R W B	R:312、W/B:480			n=24
IDBB-LSR2500□	R W B	R:325、W/B:500			n=25
IDBB-LSR2600□	R W B	R:338、W/B:520			n=26
IDBB-LSR2700□	R W B	R:351、W/B:540			n=27
IDBB-LSR2800□	R W B	R:364、W/B:560			n=28
IDBB-LSR2900□	R W B	R:377、W/B:580			n=29
IDBB-LSR3000□	R W B	R:390、W/B:600			n=30

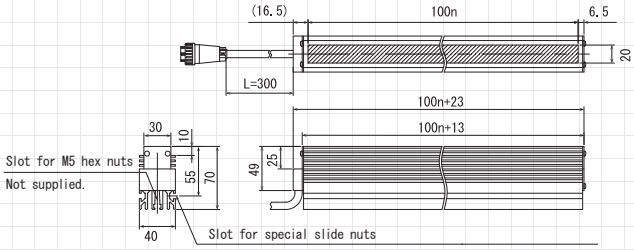
*□ represents light color (R=Red, W=White, B=Blue)
*See page 18 for condensing lens and optical diffusing plate models.
*Condensing lens ILBB-□ and optional diffusing plate IKBB-LSR□ can be mounted. □ represents size in 100 mm increments. We line up the condense lens from 100 to 1000 mm, and diffusing plate is from 100 to 1800 mm. When ordering, specify number and type of condensing lenses and diffusing plates required. Diffusing plates are available with transmissivity of 30%, 60%, 80%, or 90%.
*For extension cables, see P97 (extension cables for DC24V lights)

Wide Selection of Sizes

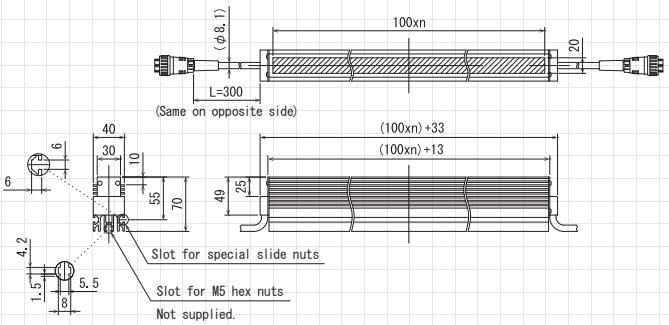


Available in 100 mm increments up to maximum length of 3,000 mm.

1



2



Easily Adjustable to Suit Installation Environment

Slot for special slide nuts
(M5, M4, or M3)

Slot for M5 hex nuts

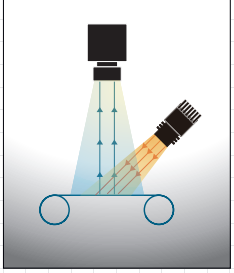
Power Supply(voltage control)

IWDV-100S-24(100W、1CH)
IWDV-300S-24(300W、1CH)
IWDV-600M2-24(600W、2CH)

By connecting the IWDV-300M1-24 to the IWDV-600M2-24, it's able to control until maximum 4CH.
Output control level:1000 levels
External control: LAN control、8bit parallel

details are described in P80

LIGHTING STRUCTURE



Compact Line Light

IDBB-LSRC series

Smaller size, Lighter-weighted and Lower power consumption Line Light!

Special Optical Design | Natural air cooled | Power LEDs

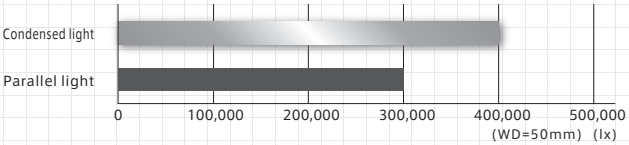
・Compact type Line Lighting is lineuped
・By naturel air cooling, high illuminance: more than 400,000lx is achieved.
・Light emission surface length: Parallel light type→ from 100 to 2000mm in 100mm increments/ Condensed light type→ from 100 to 1000mm in 100mm increments.

Model	Light Color		Power Consumption (W)	Input Voltage	Power Supply	Drawing	
IDBB-LSRC100□	W	B	9.5	DC24V	IWDV-100S-24 (P.80)	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			2	n=8
IDBB-LSRC900□	W	B	85.5				n=9
IDBB-LSRC1000□	W	B	95				n=10
IDBB-LSRC1100□	W	B	104.5		IWDV-300S-24 (P.80)		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

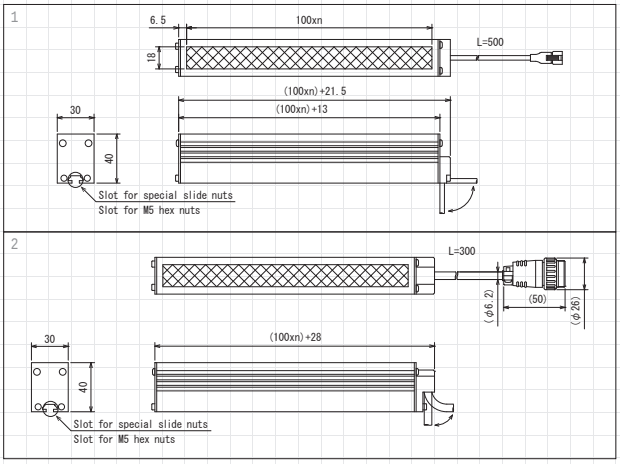
*□ represents light color (W=White, B=Blue)
*See P18 for condensing lens and optical diffusing plate models.
*Condensing lens: ILBB-□ and diffusing plate: IKBB-LSR□ (option) can be mounted.
□ represents the size in 100mm increments.
We line up the condense lens from 100 to 1000mm, and diffusing plate from 100 to 1800mm.
When ordering, specify number and type of condensing lenses and diffusing plates required.
Diffusing plates are available with transmissivity of 30%, 60%, 80%, or 90%.

Brightness Comparison(Reference Values)

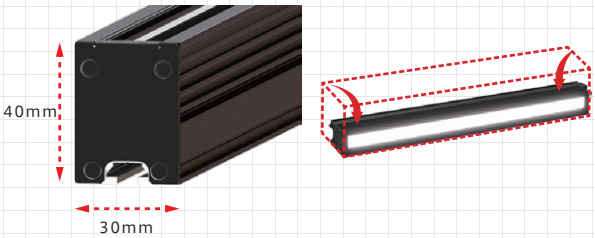
Standard: Parallel light type. Option: Condensed light type (Parallel light type + condensing lenses) By selecting the condensed type, 33% increase in light intensity (compared to the parallel light type) is possible.



IDBB-LSRC400W
<Irradiation Imaging>



A Huge Size Decrease



While having a 18mm light emission surface width(short side), it significantly reduced its body size! The width (short side) = 30mm, and the depth = 40mm.
Compared to IDBB-LSR series, aprx. 43% smaller and 42% lighter.
Its compact body enables irradiation at an angle close to photographing optical axis.

Dedicated extension cable

For models with less than 700mm length, I-CB-S■-24 (see P.97)
For models with more than 800mm length, I-CB-S■R-MCB(seeP.97)
*■represents the lengths(m) of the extension cable.(■=1,2,3,4,5,10)

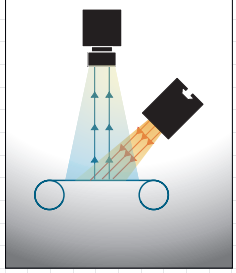
Power Supply(voltage control)

IWDV-100S-24 (100W、1CH)
IWDV-300S-24 (300W、1CH)

Output control level:1000 levels
External control: LAN control、10bit parallel

details are described in P80

LIGHTING STRUCTURE



Line Light

Low-Cost High-Performance Line Light

IDBA-RK series

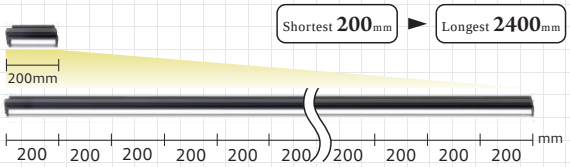
Highly cost-effective model
Replaceable from fluorescent light

Low cost　Power LEDs

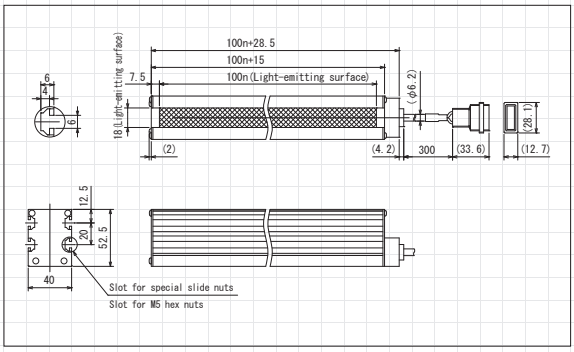
- Smartly-priced high-performance line light by inheriting developed lighting technologies
- Perfect for replacement of fluorescent light for inspection
- Lineup includes the emission light sizes from 200 to 2,400 mm in 200 mm increments

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IDBA-RK200W	W	19	DC48V	IWDV-300SL-48 (Analog) IWDV-300S-48 (Digital) (P.77·78)	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			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

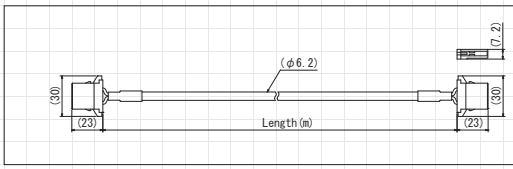
Wide Selection of Sizes



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



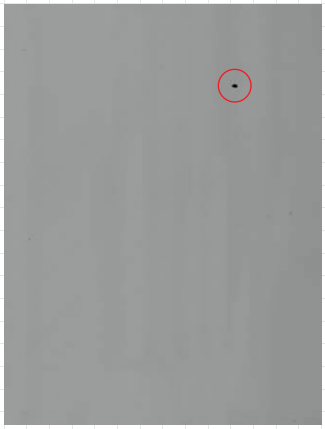
Dedicated extension cable for IDBA-RK



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

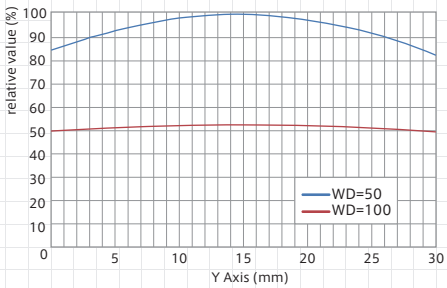
inspection for contaminants on film

Light used: IDBA-RK200W
Workpieces: film

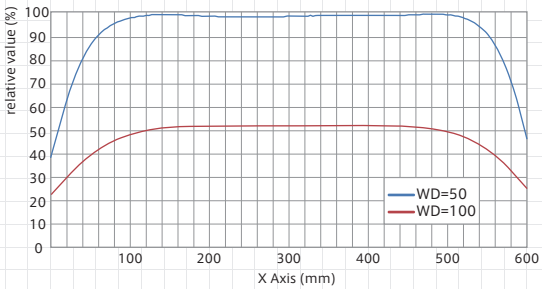


Luminance Distribution Chart (Reference Values)

Center line in lateral direction (IDBA-RK600W)



Center line in longitudinal direction (IDBA-RK600W)



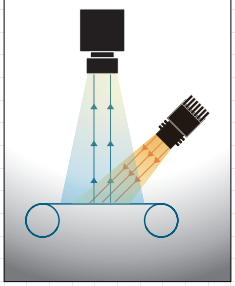
Power Supply (voltage control)

IWDV-300S-48 (Digital)
IWDV-300SL-48 (Analog)

Output control level: 1000 levels
External control: LAN control/10-bit parallel

details are described in P77·78

LIGHTING STRUCTURE



Line Light

Briback Line Light II

IDBB-RE series

Transmissive Line Light

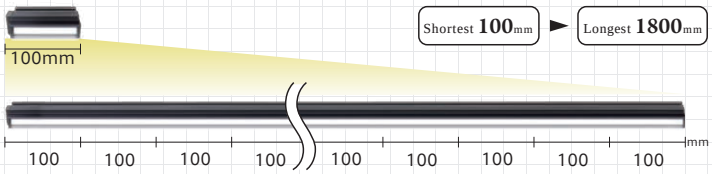
Available in 100 mm increments up to a maximum length of 1,800 mm

Natural air cooled | Power LEDs

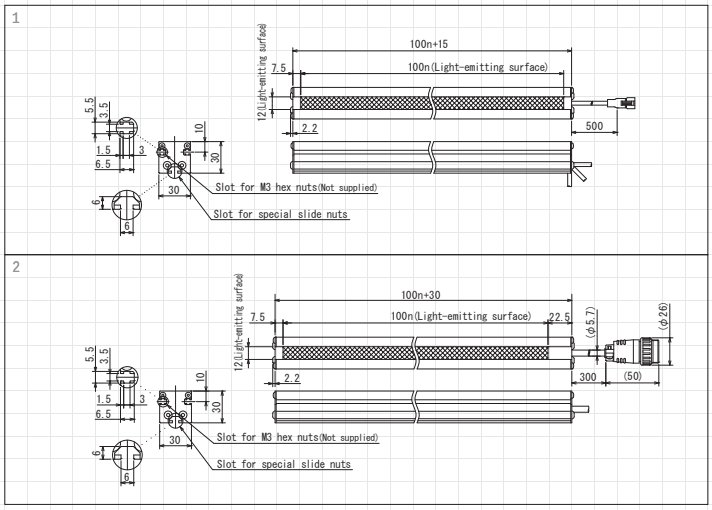
Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing	
IDBB-RE100□	R W B	7	DC24V	IWDV-100S-24 (P.80)	1	n=1
IDBB-RE200□	R W B	14				n=2
IDBB-RE300□	R W B	21				n=3
IDBB-RE400□	R W B	28				n=4
IDBB-RE500□	R W B	35				n=5
IDBB-RE600□	R W B	42				n=6
IDBB-RE700□	R W B	49				n=7
IDBB-RE800□	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.80)		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.
•A metal connector is provided for dimensions over 1,100 mm. For the extension cable, refer to page 97 (I-CS-S' R-MCB).
•For dimensions up to 1,000 mm, IDGB (PWM) 24 V power supply specification on page 81 can also be connected.

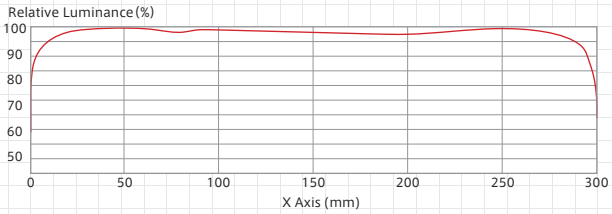
Wide Selection of Sizes



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

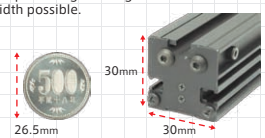


Luminance Distribution Chart(Reference Values)

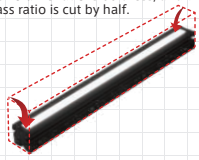


A Huge Size Decrease

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

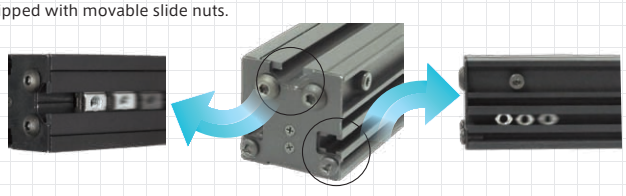


Compared to our conventional designs, the volume ratio is 60% less, and the mass ratio is cut by half.



Easily Adjustable to Suit Installation Environment

Equipped with movable slide nuts.



The cable outlet direction is adjustable 90°

Due to the cable outlet's 90°movability, the cable is easily adjustable in a small installation space.

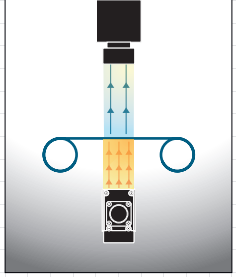
Power Supply(voltage control)

IWDV-100S-24 (100W、1CH)
IWDV-300S-24 (300W、1CH)

Output control level: 1000 levels
External control: LAN control/10-bit parallel

details are described in P80

LIGHTING STRUCTURE



Line Light

Half-pipe Light for Line Sensor

IQDH-LSR series

Dome type with high power / high uniformity for line sensor

Natural air cooled | Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IQDH-LSR100W-C02	W	14W×2	DC24V	IWDV-300S-24 (P.80)	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 multiples of 100 mm.

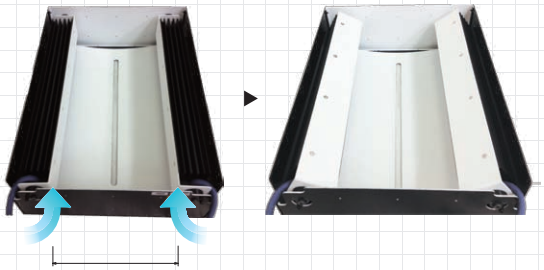
Large lighting opening section achieves superior dome effect

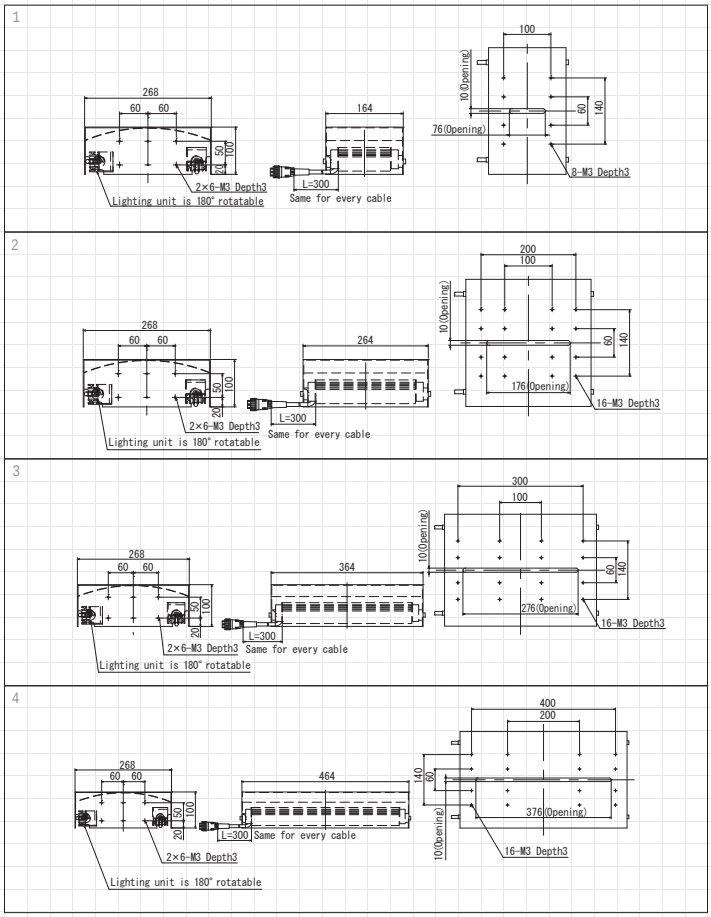
The lighting opening section of approx. 160 mm allows illumination from any direction, which achieves superior dome effect at close range.
Even in relatively far ranges, higher dome effect can be obtained compared with the line sensor light of other dome types.

Internal section of lighting

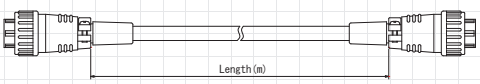
The degree of inspection is adjustable depending on the inspection content

Because the mechanism which makes the light source section variable from 0-180° is attached, it can be adjusted for the light amount-oriented or diffusion-oriented focus. It has excellent versatility and changing the illumination shape depending on the inspected object is not necessary.



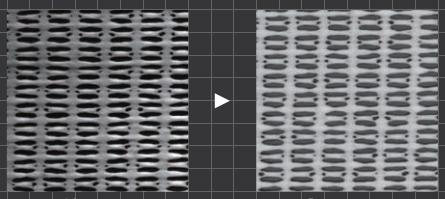


Dedicated extension cable



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

Effect Dome effect clears out the shadow of irregularity and enables uniform imaging



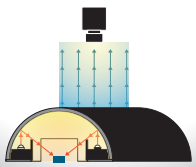
Power Supply(voltage control)

IWDV-300S-24

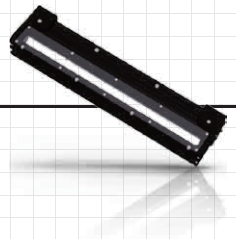
Output control level:1000 levels
External Control:LAN control/10-bit parallel

details are described in P80

LIGHTING STRUCTURE



Optional parts for line light

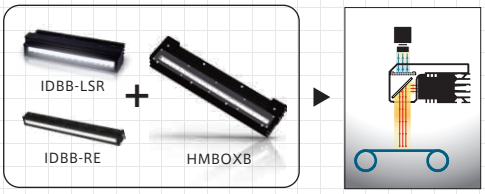


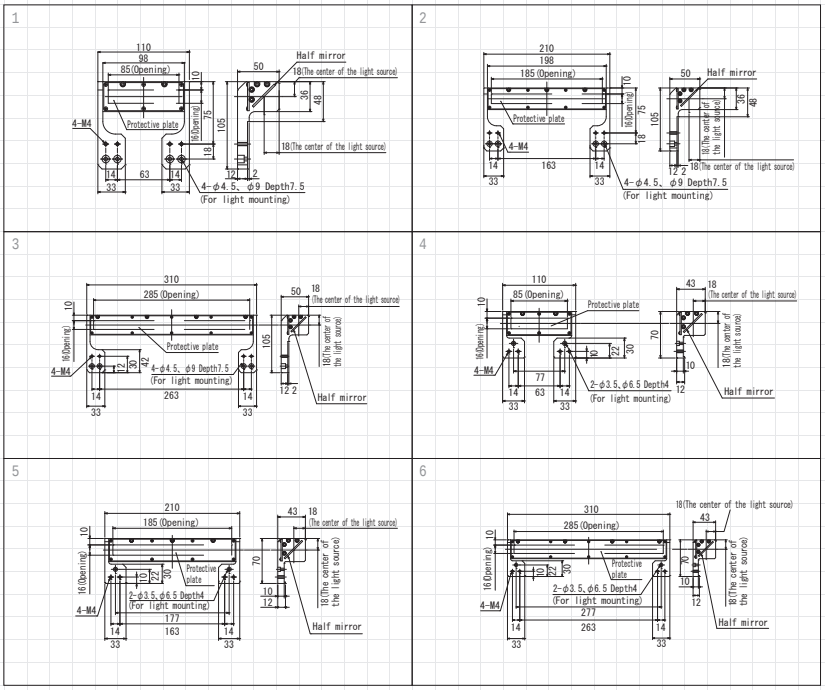
Half Mirror Box for IDBB-LSR、IDBB-RE series

Installing an optional coaxial unit with line light.
By combining with the half mirror box, it enables imaging with high contrast and high illuminace by the specular reflection or backlight.
In addition, it is suitable for the detection of surface defects as well as specular reflection. It is available in 100mm increments up to a maximum length of 500mm according to the application.

Model	Light Used	Drawing
HMBOXB-LSR100	IDBB-LSR100□	1
HMBOXB-LSR200	IDBB-LSR200□	2
HMBOXB-LSR300	IDBB-LSR300□	3
HMBOXB-RE100	IDBB-RE100□	4
HMBOXB-RE200	IDBB-RE200□	5
HMBOXB-RE300	IDBB-RE300□	6

It becomes coaxial lighting by combining with line light





Condensing lens for line light / ILBB・ILBBH

Model	Light Used
ILBB-100	IDBB-LSRF(LSR)100
ILBB-200	IDBB-LSRF(LSR)200
ILBB-300	IDBB-LSRF(LSR)300
ILBB-400	IDBB-LSRF(LSR)400
ILBB-500	IDBB-LSRF(LSR)500

Model	Light Used
ILBB-600	IDBB-LSRF(LSR)600
ILBB-700	IDBB-LSRF(LSR)700
ILBB-800	IDBB-LSRF(LSR)800
ILBB-900	IDBB-LSRF(LSR)900
ILBB-1000	IDBB-LSRF(LSR)1000

Model	Light Used
ILBBH-100	IDBB-LSRH100
ILBBH-200	IDBB-LSRH200
ILBBH-300	IDBB-LSRH300
ILBBH-400	IDBB-LSRH400
ILBBH-500	IDBB-LSRH500

Model	Light Used
ILBBH-600	IDBB-LSRH600
ILBBH-700	IDBB-LSRH700
ILBBH-800	IDBB-LSRH800
ILBBH-900	IDBB-LSRH900
ILBBH-1000	IDBB-LSRH1000

Diffusing plate for line light / IKBB

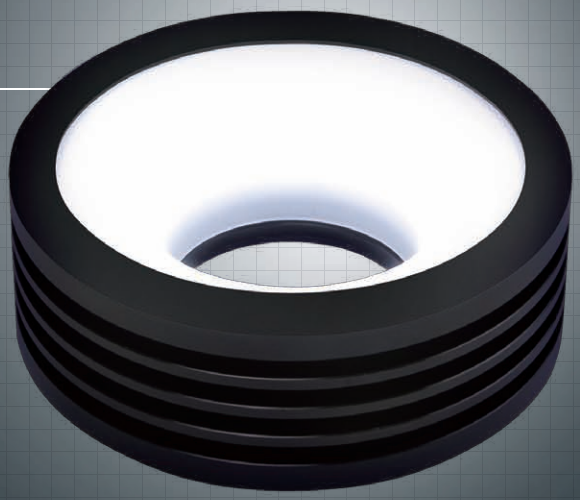
Model	Light Used
IKBB-LSR100-80	IDBB-LSRF(LSR)100
IKBB-LSR200-80	IDBB-LSRF(LSR)200
IKBB-LSR300-80	IDBB-LSRF(LSR)300
IKBB-LSR400-80	IDBB-LSRF(LSR)400
IKBB-LSR500-80	IDBB-LSRF(LSR)500
IKBB-LSR600-80	IDBB-LSRF(LSR)600
IKBB-LSR700-80	IDBB-LSRF(LSR)700
IKBB-LSR800-80	IDBB-LSRF(LSR)800
IKBB-LSR900-80	IDBB-LSRF(LSR)900
IKBB-LSR1000-80	IDBB-LSRF(LSR)1000
IKBB-LSR1100-80	IDBB-LSRF(LSR)1100
IKBB-LSR1200-80	IDBB-LSRF(LSR)1200
IKBB-LSR1300-80	IDBB-LSRF(LSR)1300
IKBB-LSR1400-80	IDBB-LSRF(LSR)1400
IKBB-LSR1500-80	IDBB-LSRF(LSR)1500
IKBB-LSR1600-80	IDBB-LSRF(LSR)1600
IKBB-LSR1700-80	IDBB-LSRF(LSR)1700
IKBB-LSR1800-80	IDBB-LSRF(LSR)1800

Model	Light Used
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

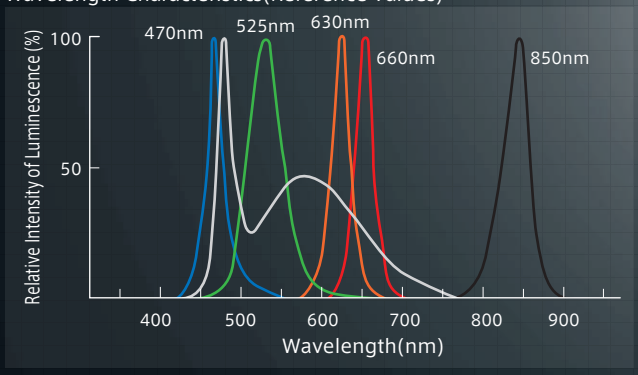
■Controls transmittance(degree of diffusion).
There are transmittance of 90%, 80%, 60%, 30% in the same thickness.

*The above model is 80% transmittance.In the case of transmittance of 90% will be the end -90, in the case of transmittnce of 60% will be the end -60, in the case of transmittance of 30% will be the end -30.

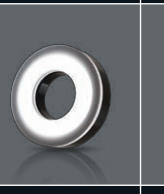
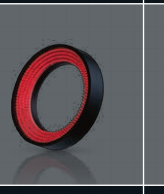
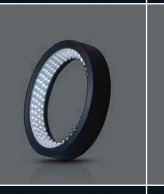
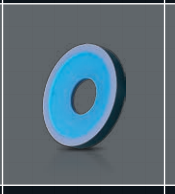
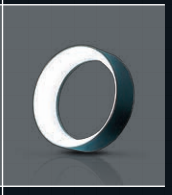
Ring Light



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	φ80mm	φ90mm	φ66mm
Max. outer diameter	φ130mm	φ200mm	φ140mm	φ130mm	-	φ353mm
Field of vision for inspection	Narrow - Medium - Wide	Narrow - Medium - Wide	Narrow - Medium - Wide	Narrow - Medium - Wide	Medium - Wide	Medium - Wide
WD (between light and object)	Short - Medium - Long	Short - Medium - Long	Short - Medium - Long	Short - Medium - Long	Medium - Long	Medium - Long
Light Color	Red/White/Blue	Red/White/Blue	Red/White/Blue	Red/White/Blue	Red/White/Blue/Infrared	Red/White/Blue
The white color temperature	7,000K(typ)	7,000K(typ)	7,000K(typ)	7,000K(typ)	4,900K(typ)	4,900K(typ)
Reference page	P.20	P.21	P.21	P.22	P.23	P.24

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	φ32mm	φ33mm	φ32mm	φ40mm	φ78mm	φ100mm	φ100mm
Max. outer diameter	φ110mm	-	φ140mm	φ200mm	φ450mm	φ150mm	φ180mm
Field of vision for inspection	Medium - Wide	Narrow	Narrow - Medium - Wide	Narrow - Medium - Wide	Narrow - Medium - Wide	Medium - Wide	Medium - Wide
WD (between light and object)	Medium - Long	Short	Short - Medium - Long	Short - Medium	Short	Medium - 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
The 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.25	P.26	P.27	P.28	P.29	P.30	P.30

Note:Color temperature (typ) has described a representative value. Please contact us for further details.

Ring Light

Multi-position Ring Light

IMAR-8CH series

Multi-channel model with flexible illumination from eight segments

Suitable for visual inspections of irregularly shaped objects

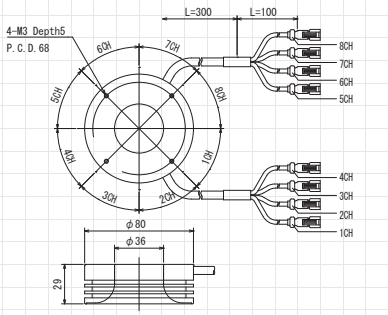
24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IMAR-80□-8CH	AR	7	DC12V	A9/Each ch	IDGB-30M8 series (Stationary lighting) (P.81) IJS-40M8-TP (Overdrive lighting) (P.89)	1
	W	8		CB/Each ch		
	B	8		95/Each ch		
IMAR-130□-8CH	AR	14		A9/Each ch		2
	W	16		D8/Each ch		
	B	16		9E/Each ch		

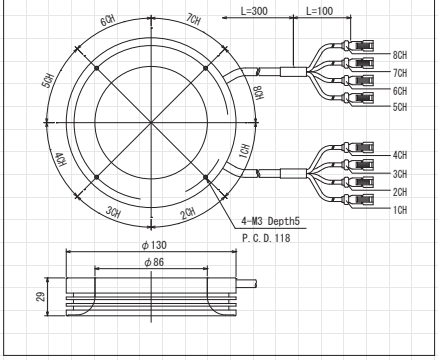
*□represents light color (AR=Red,W=White,B=Blue)

＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

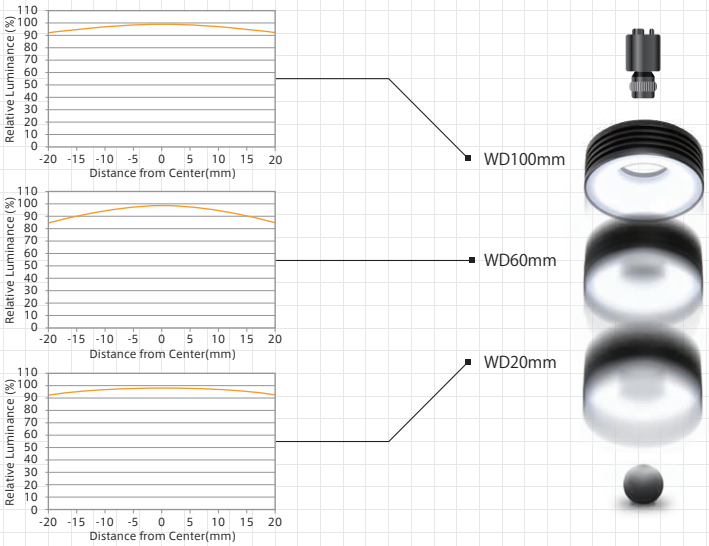
1



2



Luminance Distribution Chart (Reference Values) IMAR-80W



Enable to accurate detection by swiching to high speed irradition

It is enable to swich 8-direction irradition rapidly to conbine overdrive power supply IJS-40M8-TP(P.89).

Inspection case of image synthesis

LED Light:IMAR-130W　LED Light:IMAR-130W-8CH(Single light)　LED Light:IMAR-130W-8CH

Can file images prevented halation by synthesizing to image from 8-direction irradition.

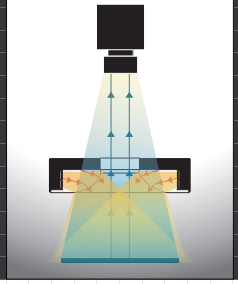
Effect Can detect invisible defect in the case of omnidirectional irradition.

Cannot detect a flaw due to evenly irradiating overall in case of omnidirectional irradition.

Even if irradition is in same direction a flaw, a flaw is not emphasised.

If illumination is in a vertical direction a flaw, a flaw is emphasised.

LIGHTING STRUCTURE



Ring Light

Multi-position Ring Light

IMAR series

Highly versatile with variable illumination distance

IP67 standard-compliant dust & water proof model is available

24V DC Models Available

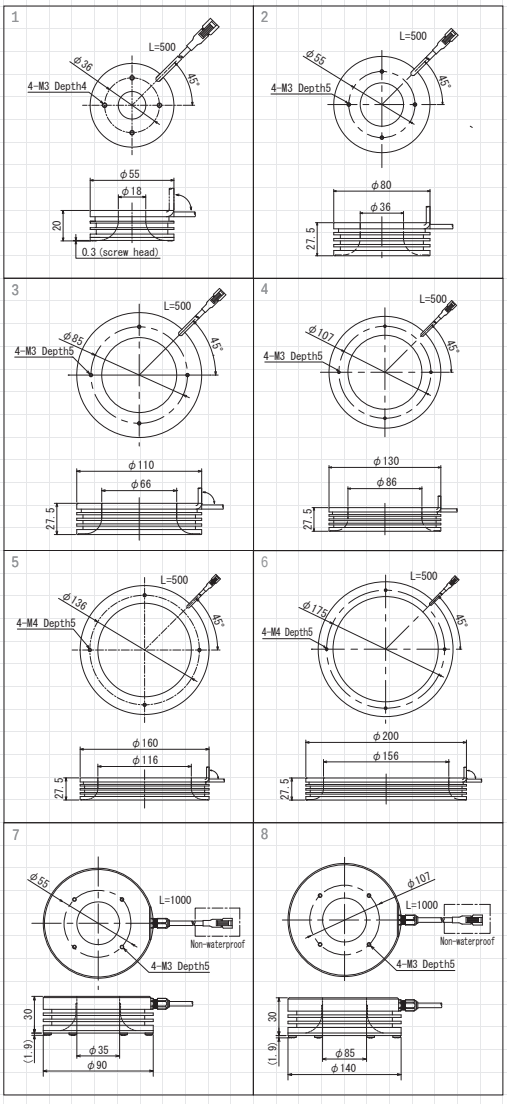
Standard Type

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IMAR-55□	AR	4.5	DC12V	95	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply 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		

Dust & Waterproof specification (IP67 standard-compliant)

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IMAR-90□-WP	AR	8.5	DC12V	7F	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	7
	W	8		AC		
	B	8		AE		
IMAR-140□-WP	AR	14.5		80		8
	W	16		A6		
	B	16		A9		

*□ represents light color (AR=Red, W=White, B=Blue) *Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Functional Characteristics

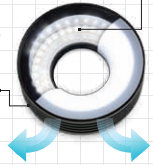
FEATURES

Dense concentration of highintensity power LEDs

High-intensity power LEDs are mounted densely to provide extremely bright, more even ring lighting. A special diffusing plate makes it possible to project diffuse light unaffected by ghost images produced by LED elements.

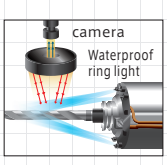
Heat-dissipating fins

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

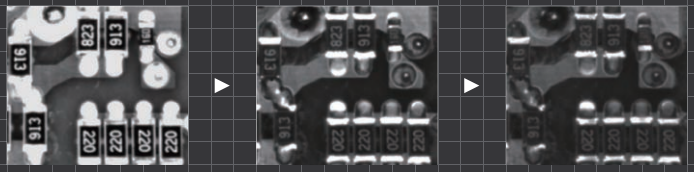


International Protection code

"6" for the first digit of the protection code indicates the degree of protection from the following:
•Dust-tight
"7" for the second digit of the protection code indicates the degree of protection from the following:
•Protection against effect of immersion in water under defined conditions of pressure and time
•The device (with a height less than 850 mm) can be located 1,000 mm below the surface of the water for 30 minutes consecutively



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

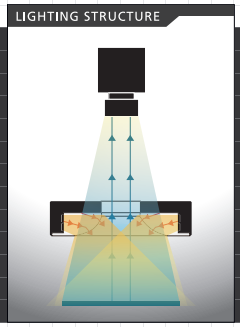


WD=20mm
Printing clearly emphasized

WD=60mm
Wiring pattern and electrodes emphasized

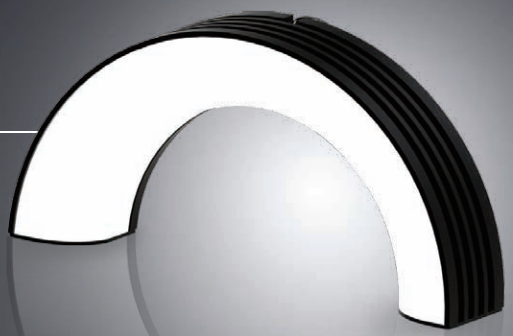
WD=100mm
Only electrodes emphasized

LIGHTING STRUCTURE



Ring Light

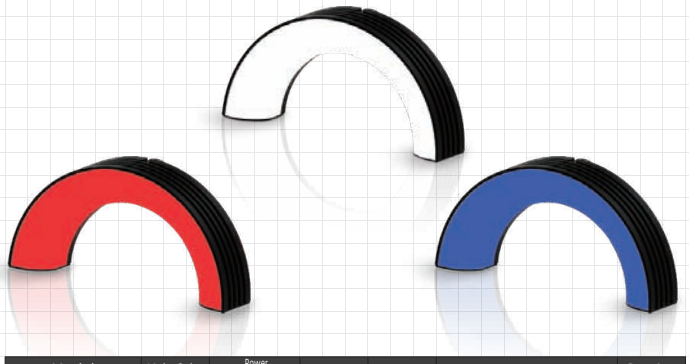
Multi-position Ring Light



IMAR-CT series

All-round for various installation environments and objects

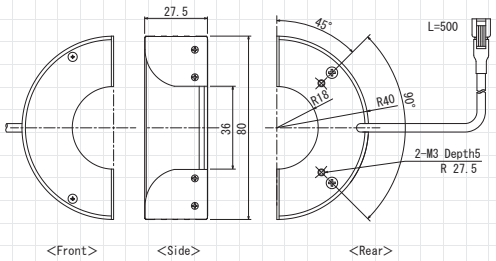
24V DC Models Available



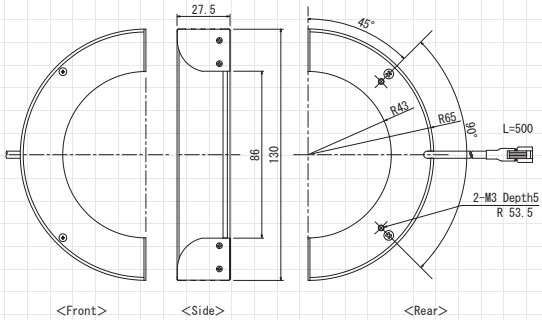
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (∗)	Power Supply	Drawing
IMAR-CT80□	AR	4.3	DC12V	75	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply etc.	1
	W	4		9D		
	B	4		77		
IMAR-CT130□	AR	7.3		79		2
	W	8		9B		
	B	8		75		

*□represents light color (AR=Red, W=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
∗The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

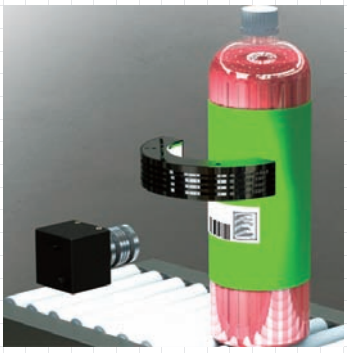
1



2



Application examples



Recognition of printing on conveyed objects

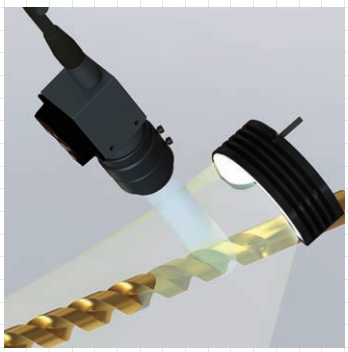
Suitable for recognition of bar code (printing) on curved surface, e.g. cylindrical bottles.

Inspection for conveyed objects

For inspection that requires irradiation a short distance, and no installation of lighting above a conveyer line.

Shape recognition of bases, etc.

Suitable for shape inspection of threaded cylindrical objects.



Inspection for cylindrical objects

Suitable for surface inspection and shape inspection (e.g. abrasion and deformation) of cylindrical objects.

Ring Light

B´C Ring Light

IHR-LE series

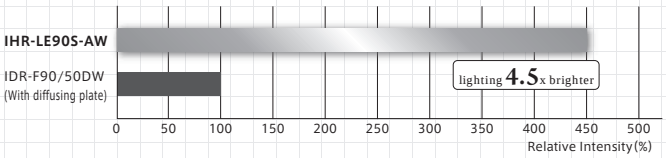
Simultaneous release of short-distance and long-distance convergent beams

Vibration- and shock-resistant design

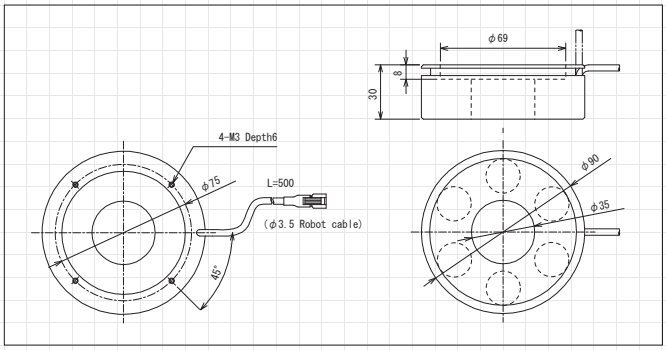
Vibration-resistant | Shock-resistant | Power LEDs | 24V DC Models Available

Vibration- and shock-resistant design enables use on moving parts like robot arms.

Luminance Comparison (Reference Values) WD=100mm

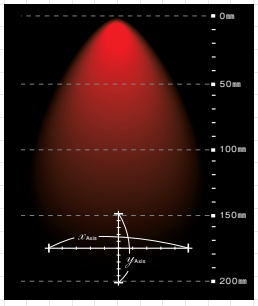


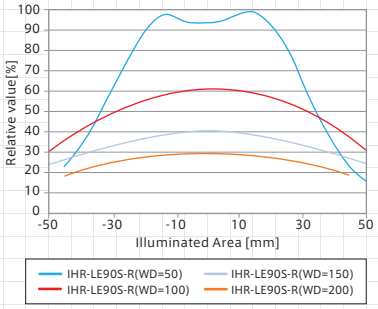
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply
IHR-LE90□-■	R	10.5	DC12V	92	ILP - 30M2 (P.85) IDGB series (P.81) IPPA/IPSA series (P.93) other, overdrive power supply etc.
	AW			C6	
	B			7E	
	IR(850)			BA	
IHR-LE90C50-■	R	10.5		92	
	AW			C6	
	B			7E	
	IR(850)			BA	
IHR-LE90C100-■	R	10.5		92	
	AW			C6	
	B			7E	
	IR(850)			BA	



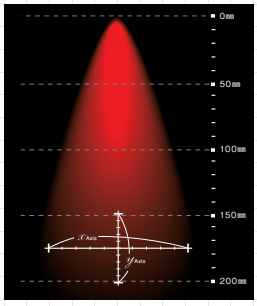
*□ represents S (wide-distribution model) or L (narrow-distribution model).
*■ represents light color (R=Red, AW=White, B=Blue, IR-850=Infrared)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Polarizing plate can be mounted.
*C50=condensed at WD:50mm type, and C100=condensed at WD:100mm type.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

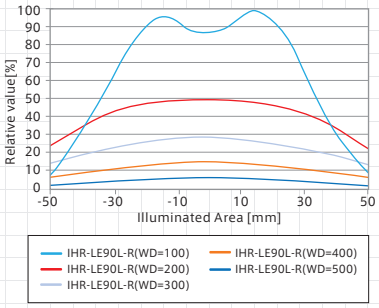
S type wide-distribution model - Illuminates a wide area at close distances (Reference Values)



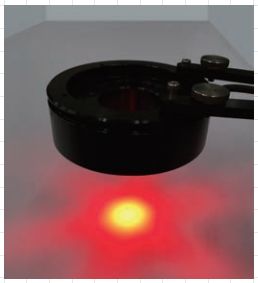


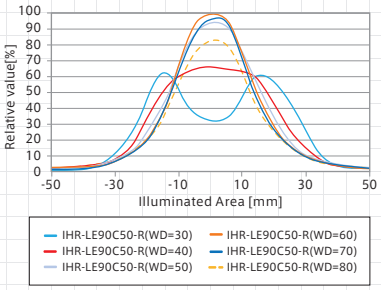
L type narrow-distribution model - Provides bright illumination at long distances (Reference Values)



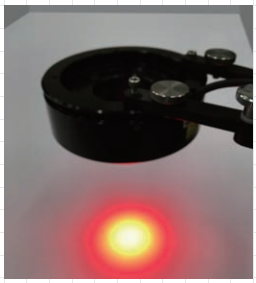


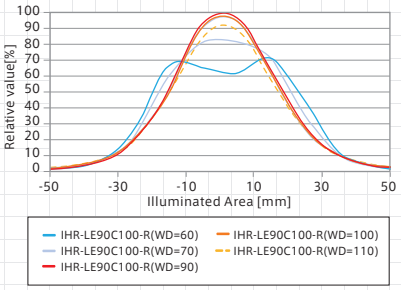
Short focus C50 type: condensed at the distance of 50mm and illuminates brightly (Reference Values)





Short focus C100 type: condensed at the distance of 100mm and illuminates brightly (Reference Values)





Ring Light

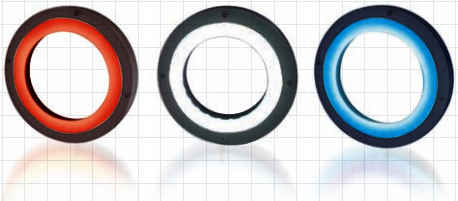
NEO Ring Light

IHRA series

High Illuminance・Wide-area illumination Ring

Extensive lineup available from ϕ60 to ϕ350

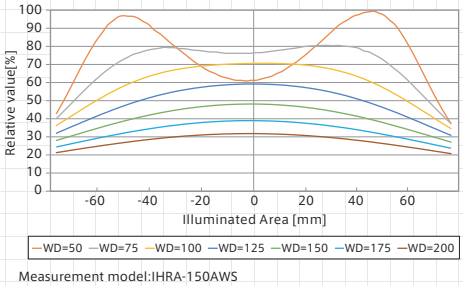
Power LEDs | **24V DC Models Available**



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IHRA-60□S	R / AW / B	6.5	DC12V	FF	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
IHRA-80□S	R / AW / B	9	DC12V	FF	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	2
IHRA-120□S	R / AW / B	13.5	DC12V	FF	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	3
IHRA-150□S	R / AW / B	18	DC12V	FF	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	4
IHRA-220□S	R / AW / B	28.5	DC12V	FF / C3 / BC	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	5
IHRA-270□HVS	R / AW / B	34	DC24V	—	ILP-60M2-24 (P.85) IDGB-24 series (P.81)	6
IHRA-350□HVS	R / AW / B	44	DC24V	—	ILP-60M2-24 (P.85) IDGB-24 series (P.81)	7

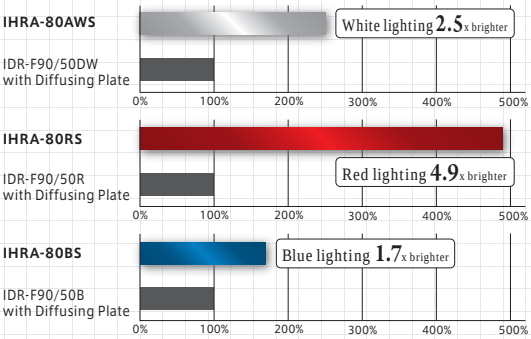
*□represents light color (R=Red, AW=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*Diffusing plate is removable. Optional polarizing plate is available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

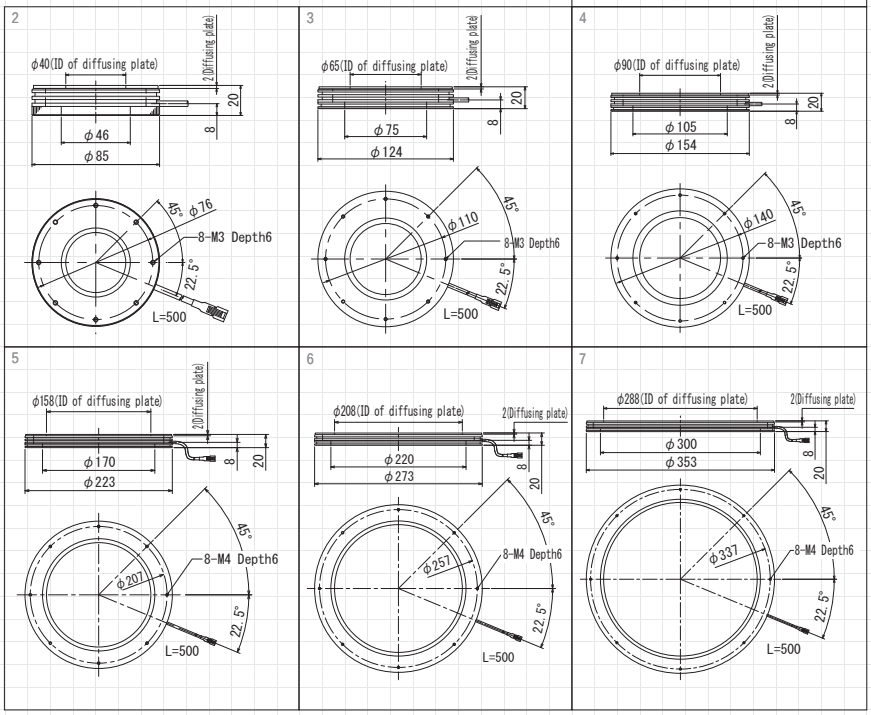
Luminance Distribution Chart (Reference Values)



Measurement model:IHRA-150AWS

Comparison of Light Intensity with Previous Models (Reference Values) (WD=50mm)

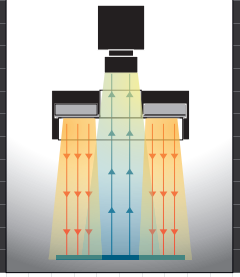




Effect Example of large workpiece photographed when illuminating subject from distance of 600 mm or more. A wide area is evenly illuminated.

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

LIGHTING STRUCTURE



Ring Light

Flat Direct Ring Light

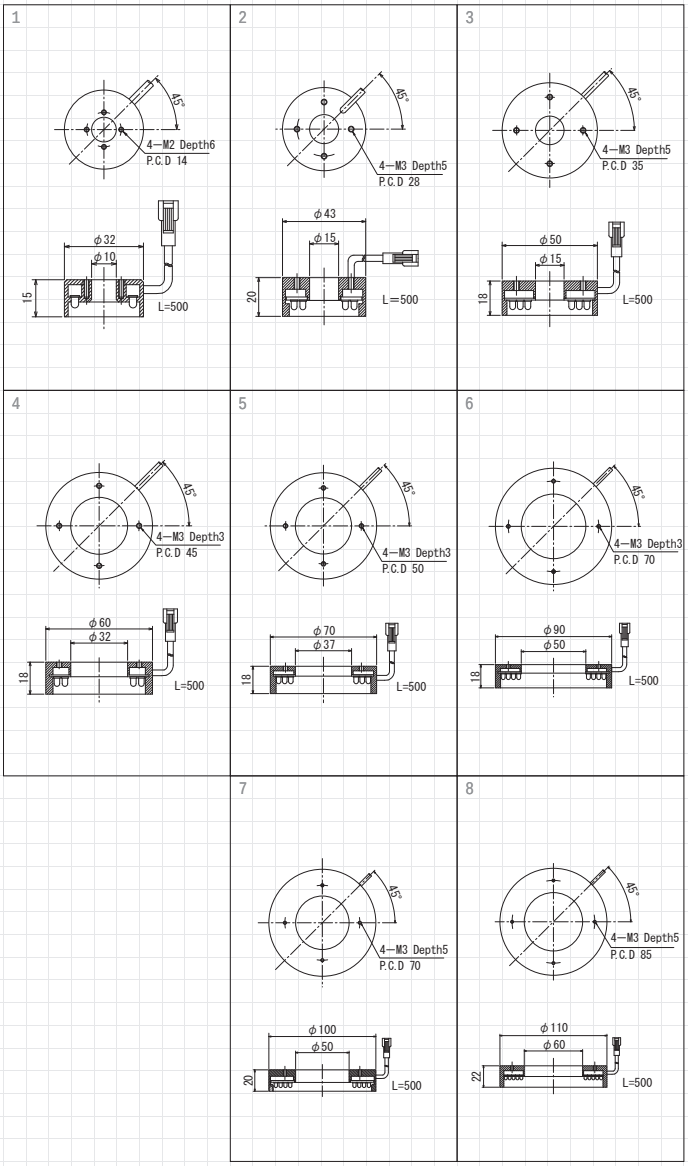
IDR-F series

LEDs mounted on flat surface provide even, wide-area illumination

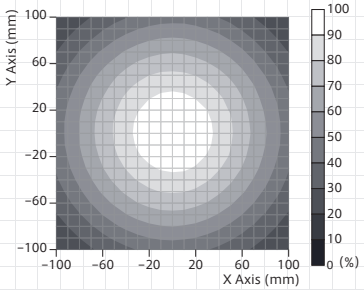
24V DC Models Available

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDR-F32/10□	DR	0.8	DC12V	C5	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	DW B G	1.1		FF		
IDR-F43/15□	DR	1.8		C6		2
	DW B G	2.2		FF		
IDR-F50/15□	DR	3.1		DA		3
	DW B G	3.3		FF		
IDR-F60/32□	DR	3.6		C7		4
	DW B G	3.6		FF		
IDR-F70/37□	DR	4.9		D4		5
	DW B G	5.6		FF		
IDR-F90/50□	DR	7.3		F0		6
	DW B G	6.2		FF		
IDR-F100/50□	DR	8.5		FF		7
	DW B G	6.5		FF		
IDR-F110/60□	DR	12.1		E1		8
	DW B G	9.6		FF		

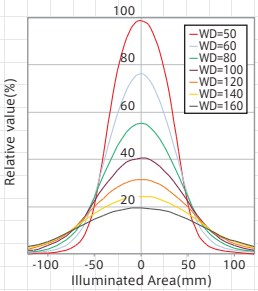
*□represents light color (DR=Red, DW=White, B=Blue, G=Green)
*Diffusing plate is removable. Optional polarizing plate is available.
The IDR-F32/10 is only need the fixation or adapter.
*Input voltage is 12V DC, but 24V DC models are also available.
*See page 74 for 24V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Luminance Distribution Chart (Reference Values)

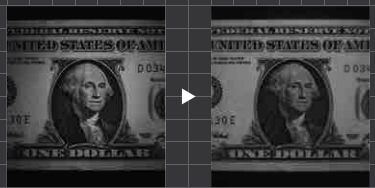


Superbly uniform lighting is ensured even at a long working distance.
Measurement model:IDR-F110/60DW
WD:200mm



A wide, uniform lighting area is ensured by mounting the LED in parallel with the work surface.
Measurement model:IDR-F70/37DW

Effect A wide area can be photographed using flat illumination from above.



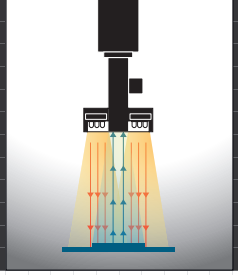
IDR-90/50DW

IDR-F90/50DW

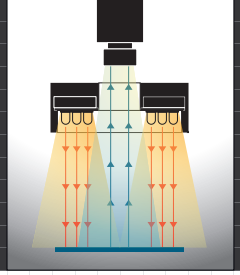
IDR-90/50DR

IDR-F90/50DR

LIGHTING STRUCTURE



LIGHTING STRUCTURE



Ring Light

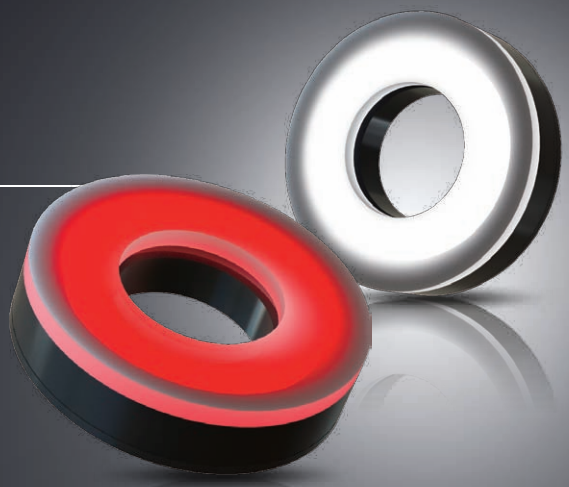
Flat Direct Ring Light

IDR-F33/16 series

Super thin ring Light

Mountable on coaxial telecentric lens with ϕ16mm outer diameter.

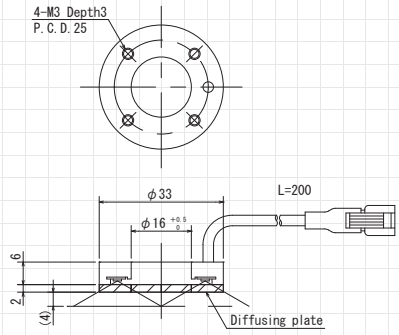
＊Recommended　LWD:40mm、65mm



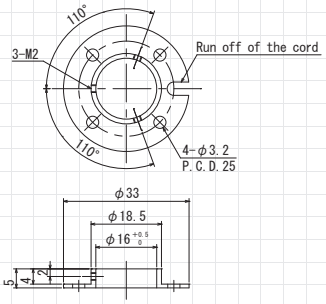
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IDR-F33/16RS	R	2	DC12V	A8	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply etc.	1
IDR-F33/16WS	W			D3		

＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

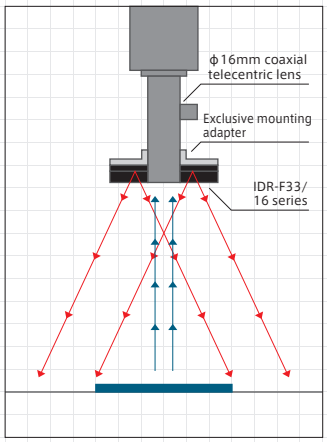
1



2



Compact and Lightweight design



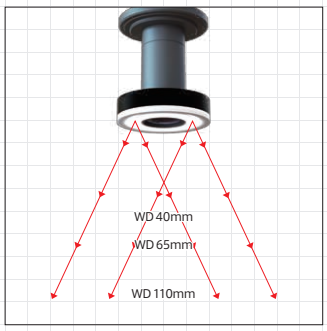
Ultra-thin body:8mm thick(body=6mm,Diffusing plate=2mm) Its thin design allows sharp cut of installation space.
Suitable design for coaxial telecentric lens with outer diameter of ϕ16mm .

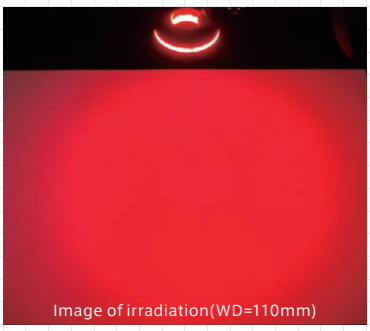
Exclusive adapter

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

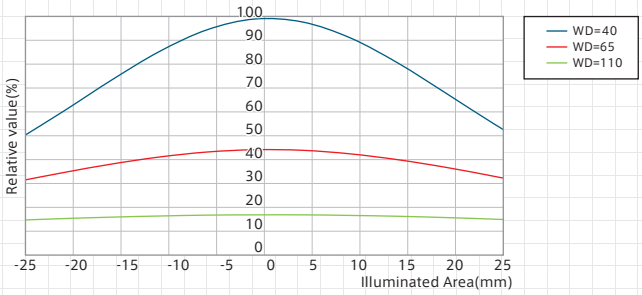
For fixing of IDR-F33/16 series and a coaxial telecentric lens

Wide and strong irradiation





It allows uniform irradiation on the field of view of the lens.(WD=40～110mm)



Effect Concomitant use of Coaxial spot lighting and Ring lighting allows high contrast imageing.
Application: Alignment marks, QR codes, Inspection for Characters, Electronic components, Semiconductor and others.

Magnification:X1 WD=65mm


Object:Board(Land)


Coaxial spot lighting


IDR-F33/16WS

Magnification:X2 WD40mm


Object:Resistor(Character)


Coaxial spot lighting


IDR-F33/16WS

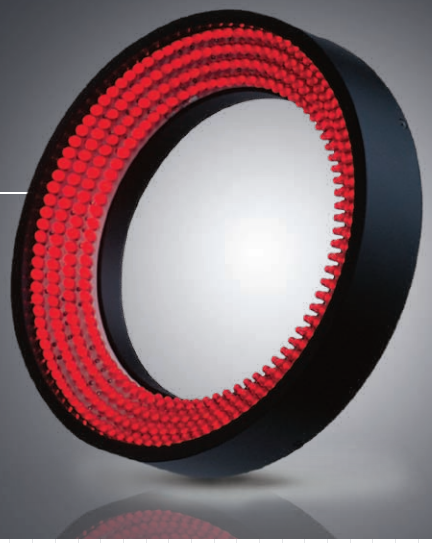
Ring Light

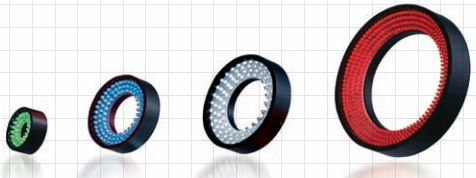
Direct Ring Light

IDR series

General purpose ring light
for a diverse range of visual inspections

24V DC Models Available

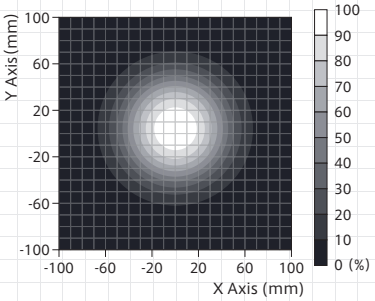




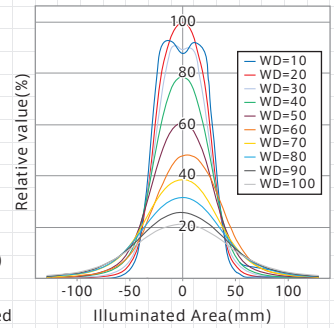
Model	Light Color	Power Consumption (W)	Input Voltage	WD(mm)	SAG (*)	Power Supply	Drawing
IDR-32/10□	DR	1.6	DC12V	10~30	D8	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	DW B G	1.8			FF		
IDR-38/15□	DR	1.8		10~35	C6		2
	DW B G	2.2			FF		
IDR-40/25□	DR	1.2		25~45	C6		3
	DW B 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 diffusing plate/polarizing plate can be mounted.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

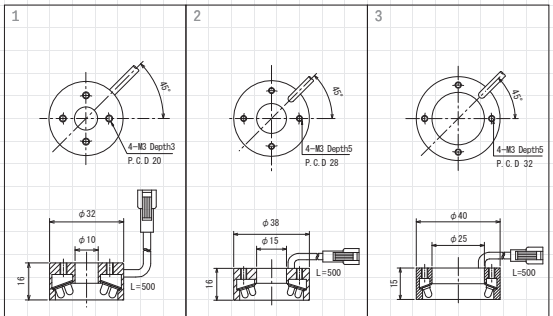
Luminance Distribution Chart(Reference Values)

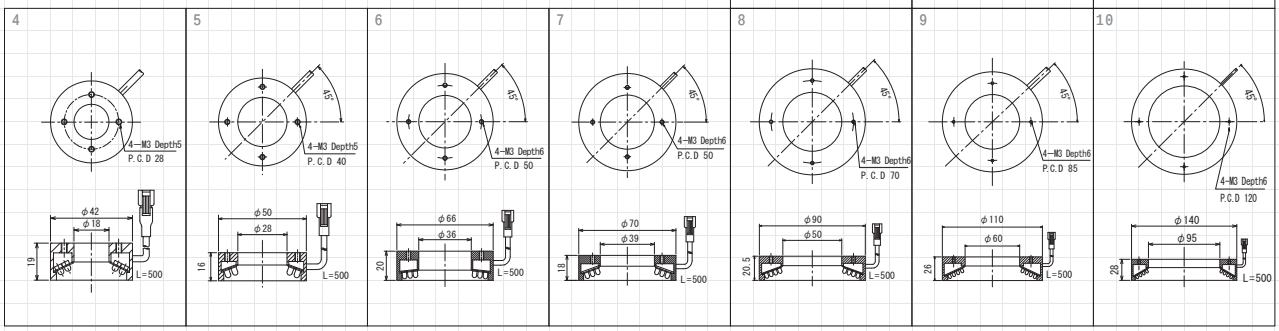


The lighting in the central area is intensified by inclining the LED.
Measurement model:IDR-110/60DW
WD:50mm

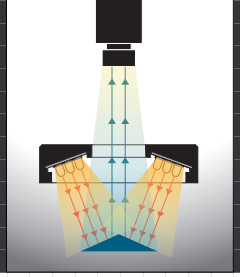


Measurement model:IDR-70/39DW





LIGHTING STRUCTURE



Effect Example of improved surface reflection on objects photographed using direct illumination from above.

IDR-110/60DW Direct Illumination | IDR-110/60DW with Diffusing Plate | IDR-110/60DW with Polarizing Plate

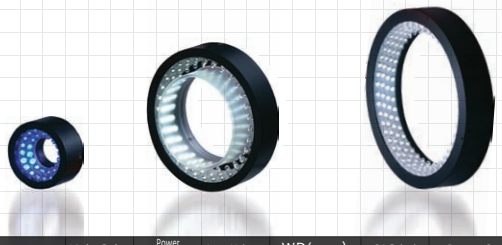
Ring Light

Low-angle Direct Ring Light

IDR-LA series

Suitable for edge detection and scratch inspection

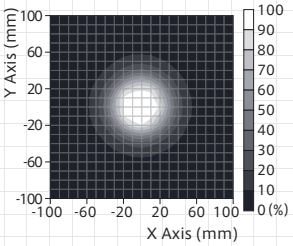
24V DC Models Available



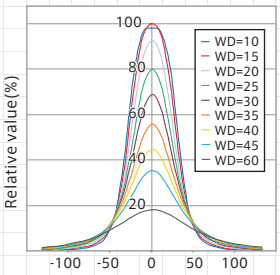
Model	Light Color	Power Consumption (W)	Input Voltage	WD(mm)	SAG (*)	Power Supply	Drawing
IDR-LA40/15□-2	DR	2.1	DC12V	5~10	D9	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	DW B G	2.2			FF		
IDR-LA50/24□-2-C01	DR	2.7		10~20	D1		2
	DW B G	2.9			FF		
IDR-LA74/48□	DR	5.4		15~30	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 diffusing ring can be mounted.
Excludes LA40/15.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

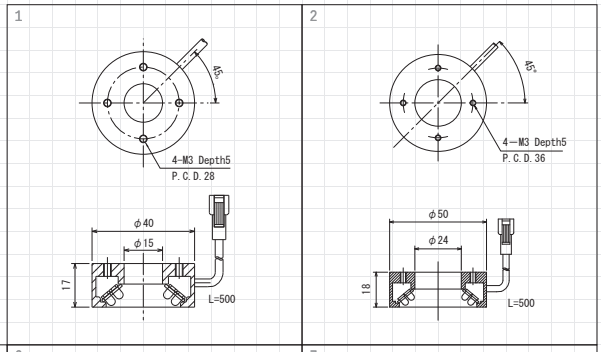
Luminance Distribution Chart (Reference Values)

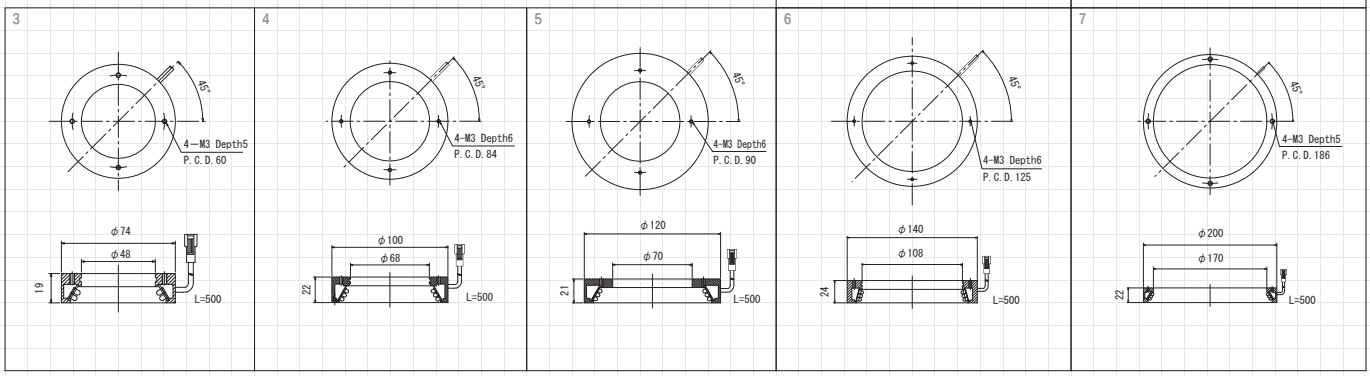


A wide area can be illuminated uniformly even at a distance close to the workpiece surface.
Measurement model:IDR-LA100/68DW-3
WD : 20mm



Measurement model:IDR-LA100/68DW-3



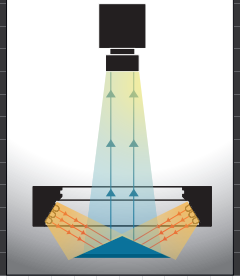


Effect Subject defects and outer edges can be detected by low-angle illumination from the periphery.

IDR-90/50B

IDR-LA100/68B-3

LIGHTING STRUCTURE



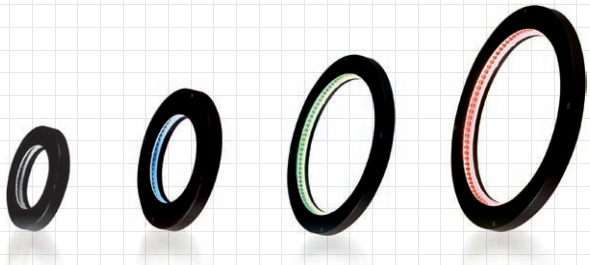
Ring Light

Horizontal Opposed Ring Light

IDRA-T series

Highlighting irregular surface profiles via horizontal illumination

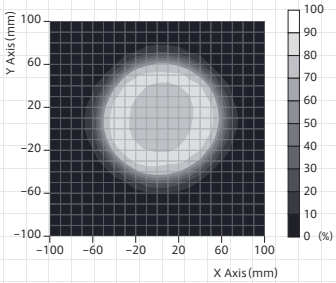
24V DC Models Available



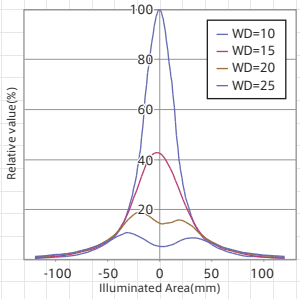
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDRA-T78/46□-1	DR	2.4	DC12V	C6	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	DW B G	2.9		FF		
IDRA-T84/54□-1	DR	3		C7		2
	DW B G	2.9		FF		
IDRA-T96/60□-1	DR	3.6		C7		3
	DW B G	3.6		FF		
IDRA-T122/92□-1	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 diffusing ring can be mounted.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

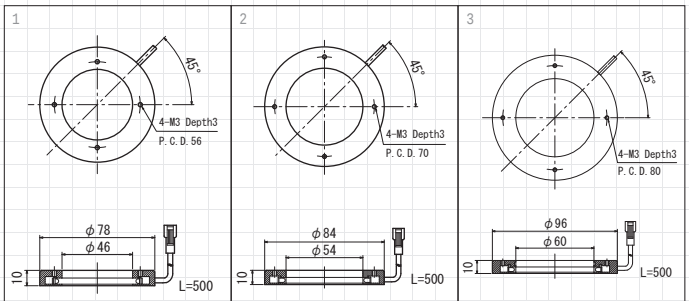
Luminance Distribution Chart (Reference Values)

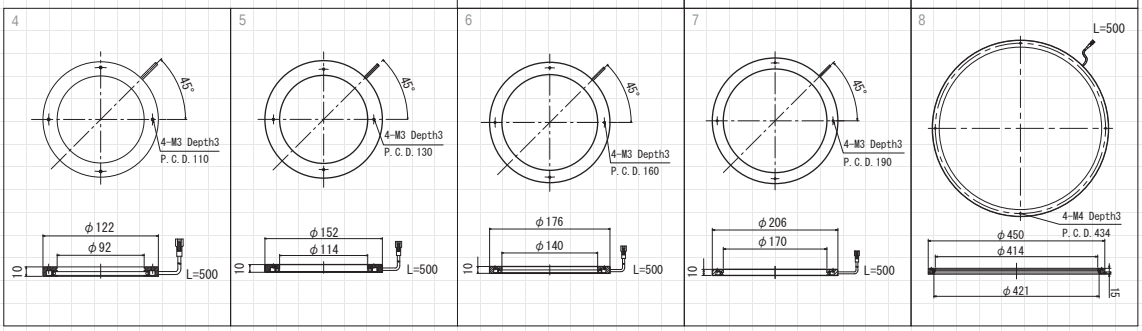


Work surface can be illuminated uniformly from a close distance.
Measurement model:IDRA-T176/140DW-1
WD:10mm



Variable working distance substantially limits illuminated area.
Measurement model:IDRA-T96/60DW-1





Effect Stamped characters and surface scratches can be detected without any LED shadow.

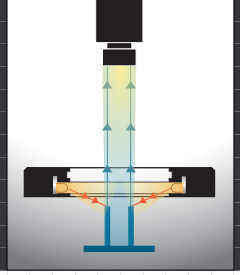

IDRA-T78/46B-1

IDRA-T96/60DR-1

Direct Ring Light

IDRA-T122/92DR-1

LIGHTING STRUCTURE



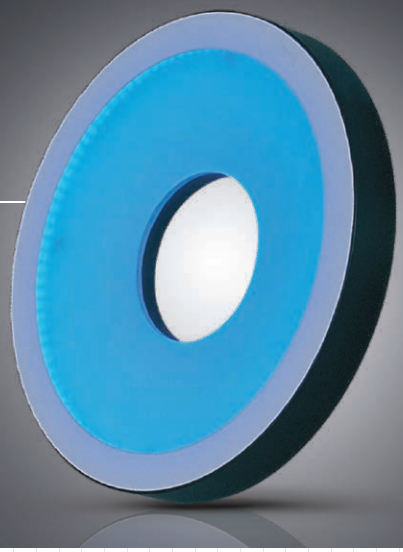
Ring Light

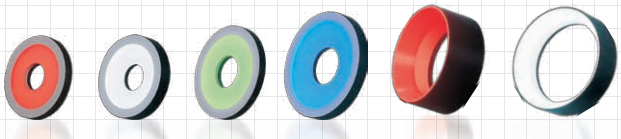
Shadow-less Ring Light

IFR・IPR series

Uniform illumination of workpieces with glossy or irregular surfaces

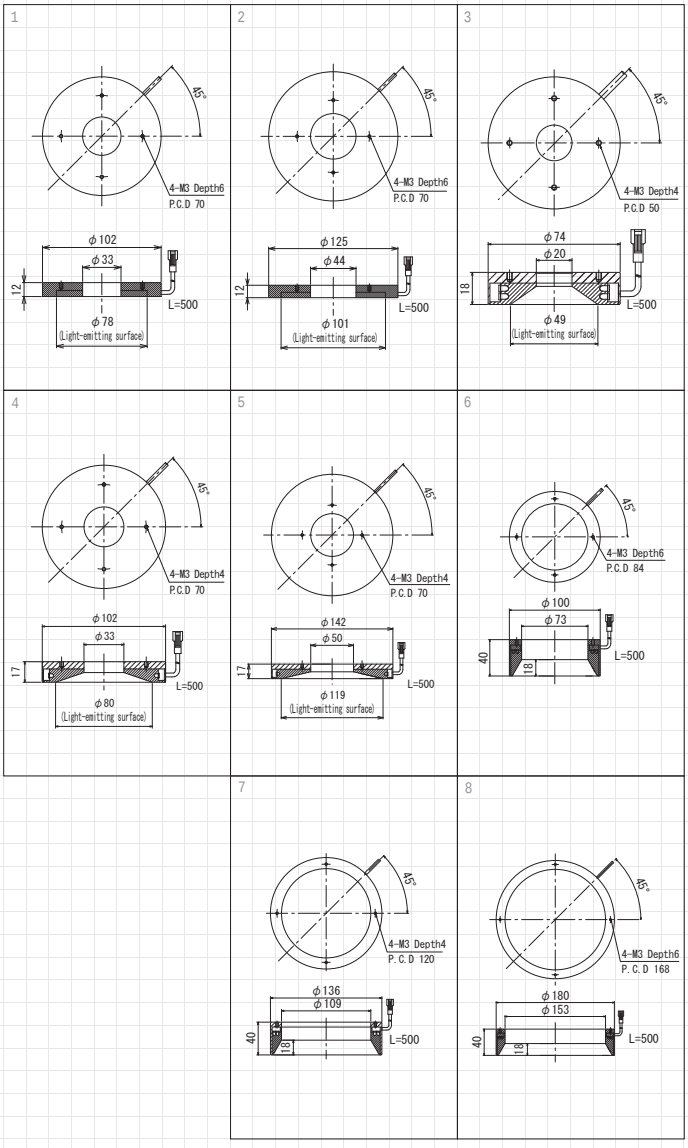
24V DC Models Available



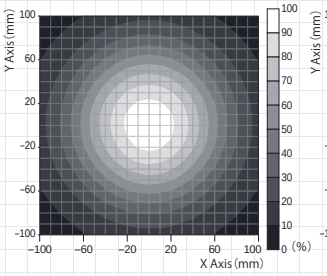


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IFR-100□	R	2.9	DC12V	6F	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	DW B G	4.4		FF		
IFR-130□	R	3.6		70		2
	DW B G	5.4		FF		
IFR-K74/20□	R	3.9		70		3
	DW B G	5.8		FF		
IFR-K100□	R	2.9		6F		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		

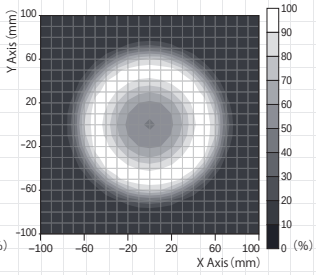
*□represents light color (R=Red, DW=White, B=Blue, G=Green)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Luminance Distribution Chart (Reference Values)



Soft illumination with excellent uniformity. The K model can illuminate the central area more brightly.
Measurement model:IFR-K150DW
WD:50mm

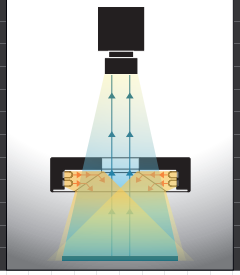


The illumination surface can be moved by changing the working distance.
Measurement model:IPR-136/109DW
WD:10mm

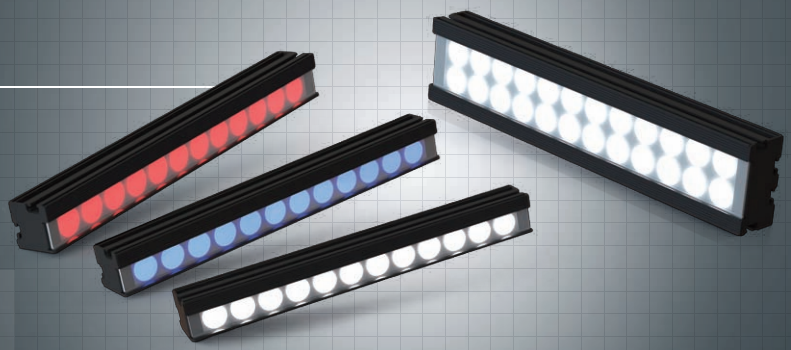
Effect Illumination via indirect light prevents halation.

Ring light | IFR-150DW | Ring diffusion light | IPR-136/109DW

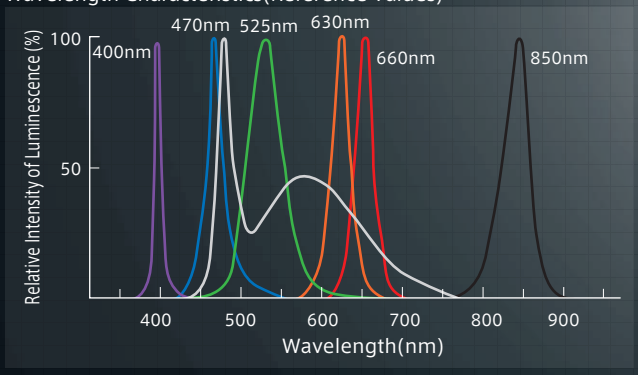
LIGHTING STRUCTURE

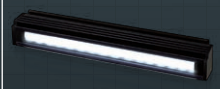
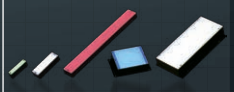


Bar Light



Wavelength Characteristics(Reference Values)



Series	IDBA-LEH2 series	IDBA-LEH series	IDBA-LE series	IDBA-SE series	IDBA series
Product image					
light distribution angle	narrow-angle・wide-angle	narrow-angle・wide-angle	narrow-angle・wide-angle	wide-angle	wide-angle
Recommended WD	80～5,000㎜	80～3,000㎜	80～1,500㎜	80～1,000㎜	10～300㎜
Light-emitting surface size	multiples of 150mm max. 1800mm	multiples of 150mm max. 1800mm	multiples of 75mm max. 1200mm	multiples of 50mm max. 800mm	High flexibility of shape
Shape size (Height × width)	36×68㎜	36×36㎜	34×33㎜	25×25㎜	Various
Comparison of brightness (white, size about 150mm)	3～4x	2～3x	1x	1x	0.6x
Light Color	Red/White/Blue	Red/White/Blue	Red/White/Blue/Green/Yellow Infrared850nm Ultraviolet400nm	Red/White/Blue	Red/White/Blue/Green Infrared Ultraviolet
The white color temperature	4,900K (typ)	4,900K (typ)	4,900K (typ)	6,200K (typ)	7,000K (typ)
Reference page	P.32	P.33	P.34	P.35	P.36

Note: The brightness should only be used as a reference. It does not guarantee the quality of the product.
Note:Color temperature (typ) has described a representative value. Please contact us for further details.

High-luminance B'C Line Light(double line specification)

IDBA-LEH2 series

Achieved about 3~4 times brighter than the conventional model by the using of original optical design.

Available up to maximum length 1800mm.
L type is able to be increment up to maximum 5,000mm for illumination of long length.

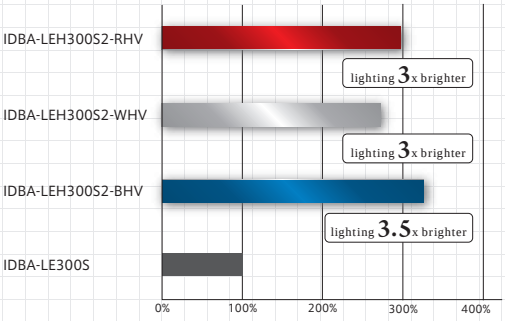
Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*) R	SAG (*) W	SAG (*) B	Power Supply
IDBA-LEH75□2-■	R W B	9	DC12V	B2	E3	E3	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.
IDBA-LEH150□2-■	R W B	18		B8	F0	F0	
IDBA-LEH225□2-■	R W B	27		BF	FF	FF	
IDBA-LEH150□2-■HV	R W B	18	DC24V				ILP-60M2-24 (P.85) IDGB-24 series (P.81)
IDBA-LEH300□2-■HV	R W B	36					
IDBA-LEH450□2-■HV	R W B	54					IWDV-100S-24 (P.80)
IDBA-LEH600□2-■HV	R W B	72					
IDBA-LEH750□2-■HV	R W B	90					IWDV-300S-24 (P.80) IWDV-600M2-24 (P.80)
IDBA-LEH900□2-■HV	R W B	108					
IDBA-LEH1050□2-■HV	R W B	126					
IDBA-LEH1200□2-■HV	R W B	144					
IDBA-LEH1350□2-■HV	R W B	162					
IDBA-LEH1500□2-■HV	R W B	180					
IDBA-LEH1650□2-■HV	R W B	198					
IDBA-LEH1800□2-■HV	R W B	216					

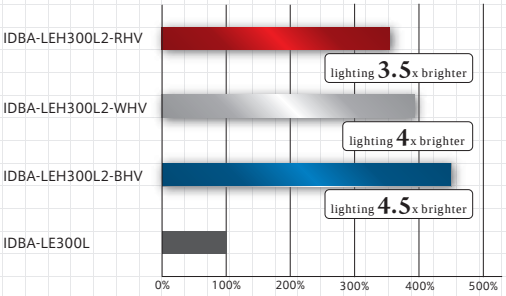
*□represents S (wide-distribution model) or L (narrow-distribution model).
*■represents light color (R=Red, W=White, B=Blue) *Polarizing plate can be attached to all sizes.
*Light with more than 70W power consumption have metal connecters. For the light, use extension cables on P.97 (for DC24V light)
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Brightness Comparison With Existing Models (Reference Value) size of LED light : 300mm

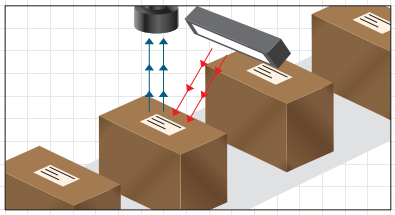
S type wide-distribution model (WD=100mm)

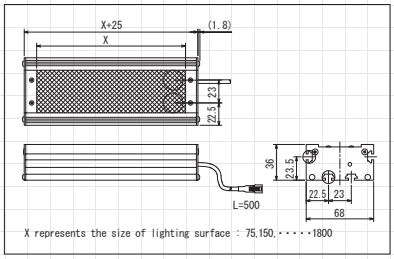


L type narrow (WD=100mm)



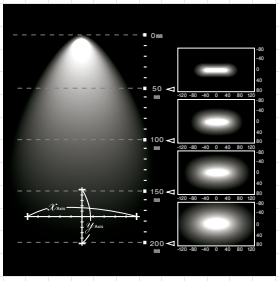
Label inspection on cardboard boxes

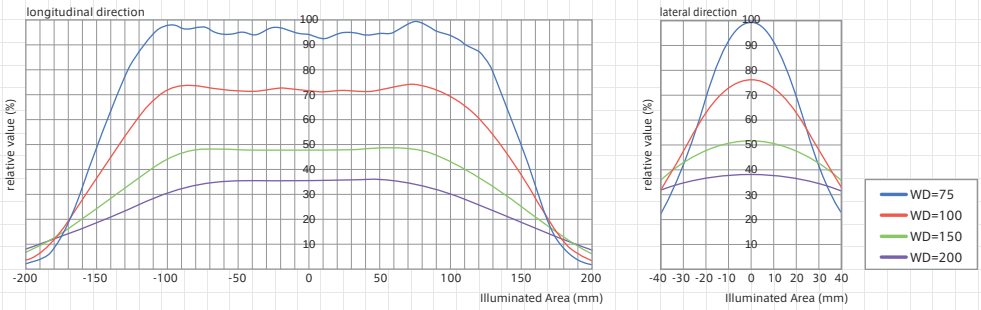




S type wide-distribution model - Illuminates a wide area at close distances (Reference Values)

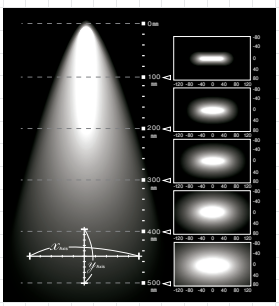
IDBA-LEH300S2-W

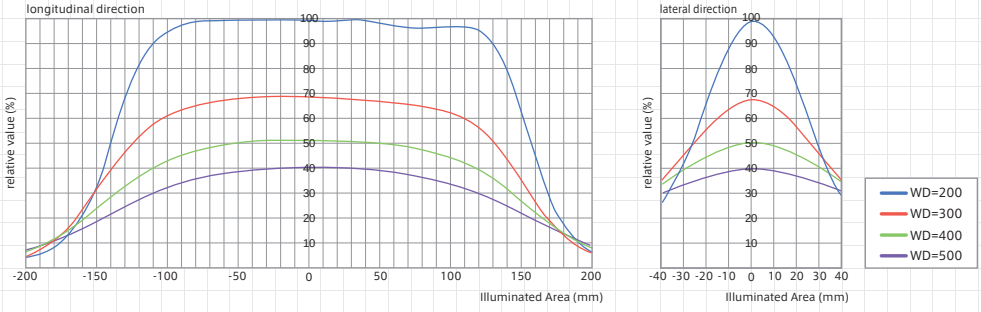




L type narrow-distribution model - Provides bright illumination at long distances (Reference Values)

IDBA-LEH300L2-W





Bar Light

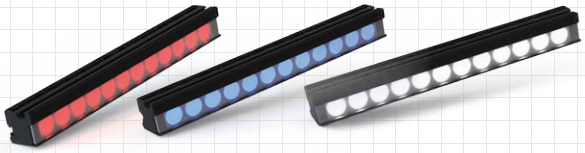
High-luminance B'C Line Light(single line specification)

IDBA-LEH series

Achieved about 2～3 times brighter than the Existing model by using original optical design.

Available up to maximum length1,800mm. L type is available to maximum 3,000mm for illumination long range.

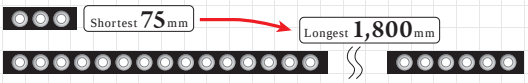
Power LEDs



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊) R	SAG (＊) W	SAG (＊) B	Power Supply
IDBA-LEH75□-■	R W B	6.5	DC12V	89	AB	AB	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.
IDBA-LEH150□-■	R W B	13		8C	B1	B1	
IDBA-LEH225□-■	R W B	19.5		8E	B7	B7	
IDBA-LEH300□-■	R W B	26		91	BD	BD	
IDBA-LEH150□-■HV	R W B	13	DC24V				ILP-60M2-24 (P.85) IDGB-24 series (P.81)
IDBA-LEH300□-■HV	R W B	26					
IDBA-LEH450□-■HV	R W B	39					IWDV-100S-24 (P.80)
IDBA-LEH600□-■HV	R W B	52					
IDBA-LEH750□-■HV	R W B	65					IWDV-300S-24 (P.80) IWDV-600M2-24 (P.80)
IDBA-LEH900□-■HV	R W B	78					
IDBA-LEH1050□-■HV	R W B	91					
IDBA-LEH1200□-■HV	R W B	104					
IDBA-LEH1350□-■HV	R W B	117					
IDBA-LEH1500□-■HV	R W B	130					
IDBA-LEH1650□-■HV	R W B	143					
IDBA-LEH1800□-■HV	R W B	156					

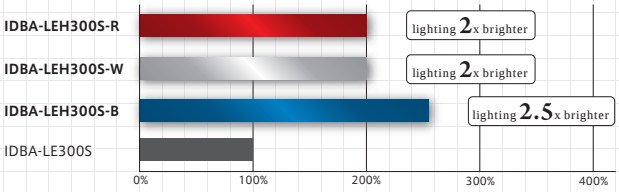
*□represents S (wide-distribution model) or L (narrow-distribution model).
*■represents light color (R=Red, W=White, B=Blue) *Polarizing plate can be attached to all sizes.
*Light with more than 70W power consumption have metal connecters. For the light, use extension cables on P.97 (for DC24V light)

Wide Selection of Sizes

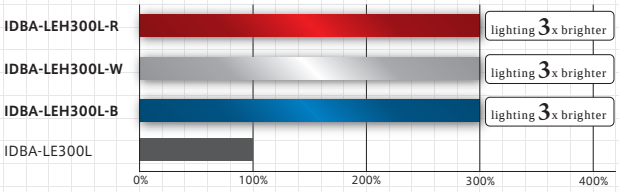


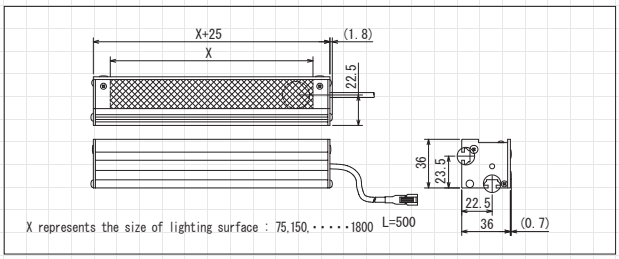
Brightness Comparison With Existing model (Reference Values) Size of LED light : 300mm

S type wide-distribution model (WD=100mm)



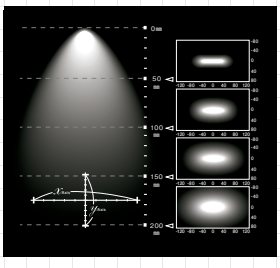
L type narrow (WD=300mm)

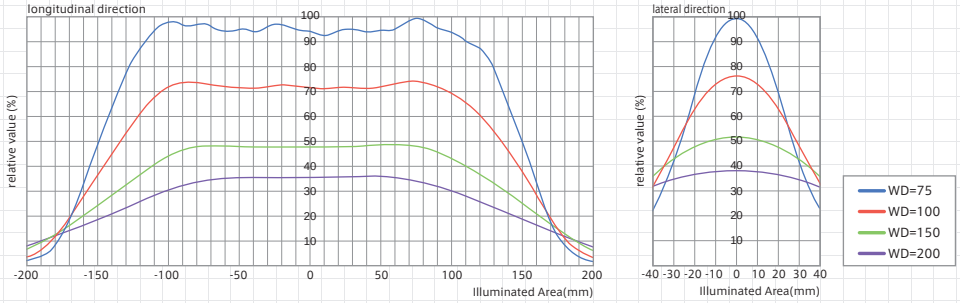




S type wide-distribution model - Illuminates a wide area at close distances (Reference Values)

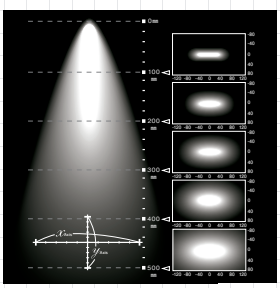
IDBA-LEH300S-W

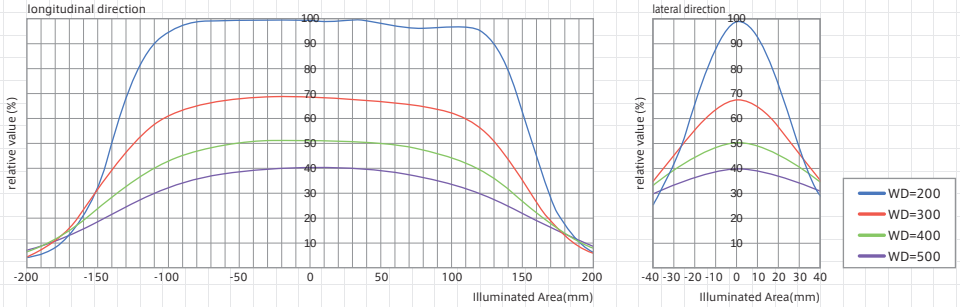




L type narrow-distribution model - Provides bright illumination at long distances (Reference Values)

IDBA-LEH300L-W





Bar Light

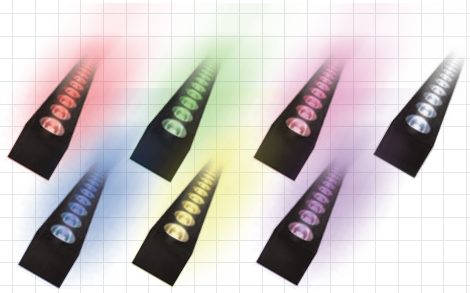
B′C Line Light

IDBA-LE series

For large objects and long-distance illumination

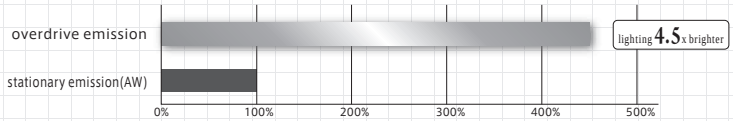
Lineup includes white, red, blue, green, yellow, infrared, and ultraviolet

Power LEDs | Low Cost | 24V DC Models Available



Brightness Comparison (Reference Values)

It's about 4.5 times brighter than normal at the overdrive.



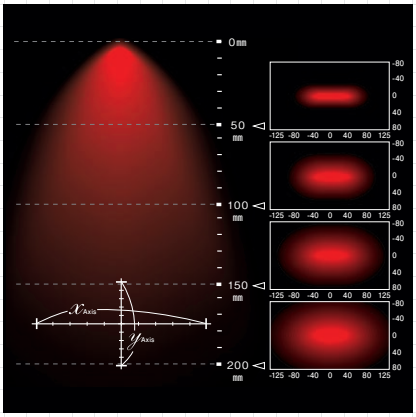
*See pages 89-92 for overdrive power supply.

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply
IDBA-LE75□-■	R AW B G Y IR(850) UV(400)	4.5	DC12V	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply 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-LE600□-■HV	R AW B G Y IR(850) UV(400)	36	DC24V	ILP-60M2-24 (P.85) IDGB-24 series (P.81)
IDBA-LE750□-■HV	R AW B G Y IR(850) UV(400)	45		
IDBA-LE900□-■HV	R AW B G Y IR(850) UV(400)	54		
IDBA-LE1050□-■HV	R AW B G Y IR(850) UV(400)	63		
IDBA-LE1200□-■HV	R AW B G Y IR(850) UV(400)	72		

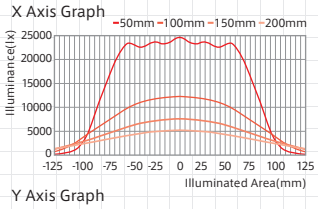
*□represents S (wide-distribution model) or L (narrow-distribution model).
*■represents light color (R = Red, AW = White, B = Blue, G = Green, Y = Yellow, IR-850 = Infrared, UV-400 = Ultraviolet).
*Standard diffusing plate has transmissivity of 90%. Optional diffusing plates are available with transmissivity of 80% or 60%.
*Polarizing plate can be attached to all sizes.
*Input voltage is 12 V DC, but 24 V DC models are also available.

S type wide-distribution model - Illuminates a wide area at close distances (Reference Values)

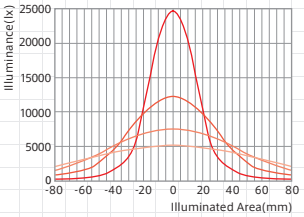
IDBA-LE150S-R



X Axis Graph

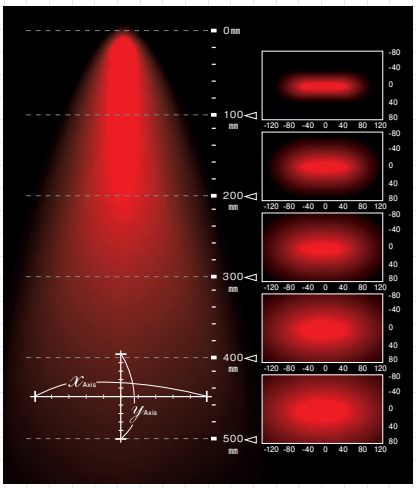


Y Axis Graph

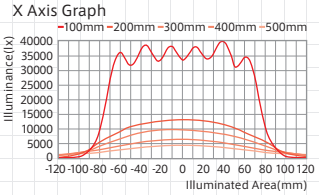


L type narrow-distribution model - Provides bright illumination at long distances (Reference Values)

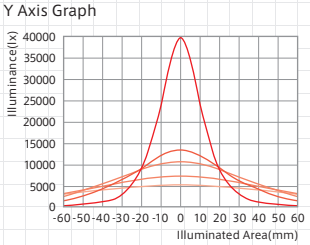
IDBA-LE150L-R



X Axis Graph



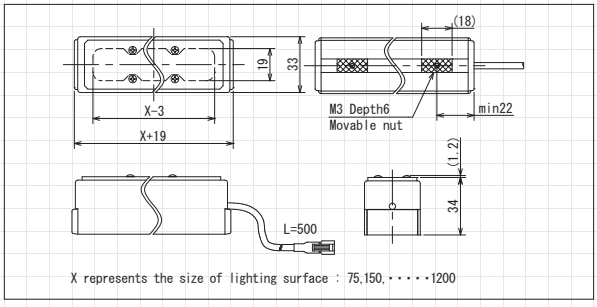
Y Axis Graph



The 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 power supplies. For details, see page 91.



Adjustable to suit your installation environment

Movable nuts have been employed to facilitate adjustment with mounting jigs.
The standard screw size is M3, but M4, M5, and M6 are also optionally available.

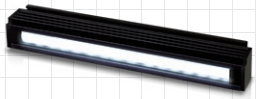
Bar Light

B′C Line Light

IDBA-SE series

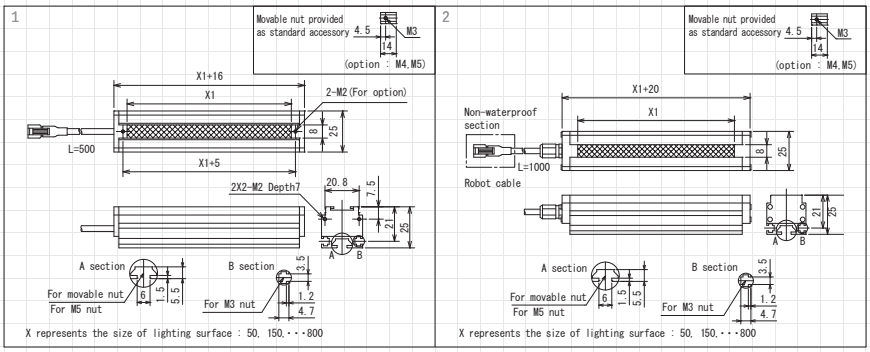
Optical design equivalent to IDBA-LE-S (wide angle)
Compact model

Low cost | Power LEDs | IP67 standard-compliant dust & water proof model is available

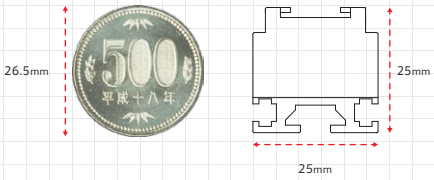


Model (Standard Type)	Model (Waterproof Type)	Light Color	Power Consumption (W)	Input Voltage	SAG (＊) R	SAG (＊) W	SAG (＊) B	Power Supply	Drawing
IDBA-SE50□	IDBA-SE50□-WP	R W B	3.5	DC12V	D8	A3	A6	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1 (Standard) 2 (Waterproof)
IDBA-SE100□	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.85) IDGB-24 series (P.81)	
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		—	—	—		

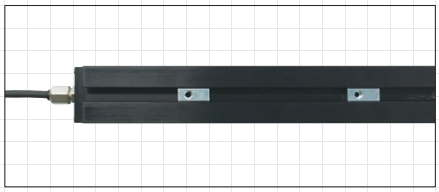
★□represents light color (R=Red, W=White, B=Blue)
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.
* The SAG value can only be set for 12 V model.



Compact design of 25 mm × 25 mm

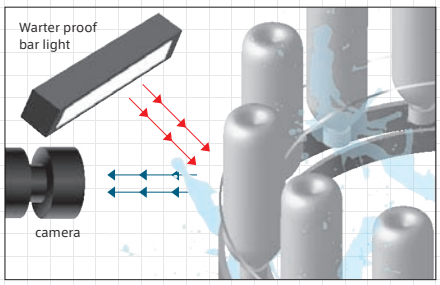


Easily Adjustable to Suit Installation Environment



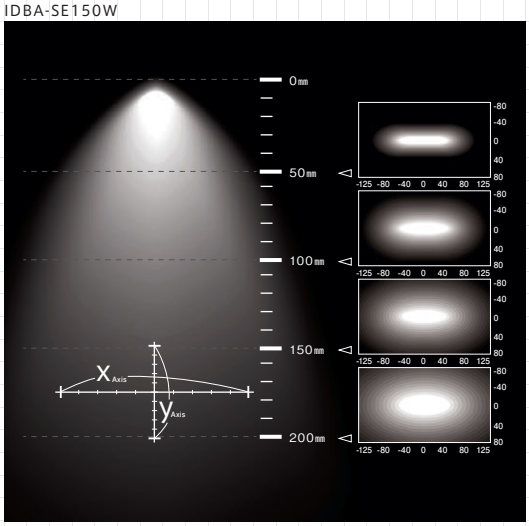
Movable nuts have been employed to facilitate adjustment with mounting jigs.
The standard screw size is M3, but M4, M5 are also optionally available.

Visual inspection of plastic bottles

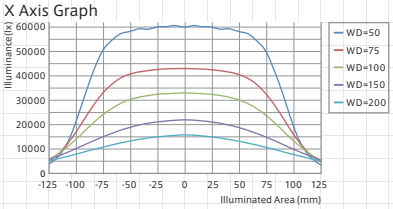


Wide-distribution model - Illuminates a wide area at close distances (Reference Values)

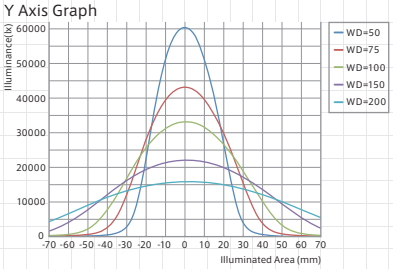
IDBA-SE150W



X Axis Graph



Y Axis Graph

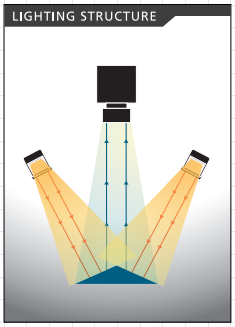


International Protection code

"6" for the first digit of the protection code indicates the degree of protection from the following:
• Dust-tight

"7" for the second digit of the protection code indicates the degree of protection from the following:
• Protection against effect of immersion in water under defined conditions of pressure and time
• The device (with a height less than 850 mm) can be located 1,000 mm below the surface of the water for 30 minutes consecutively

LIGHTING STRUCTURE

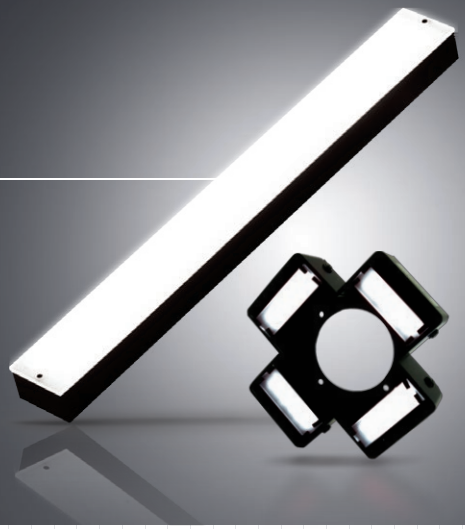


Bar Light

IDBA・IDBA-Q series

Used in everything from oblique lighting to back lighting applications

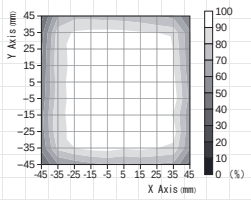
24V DC Models Available



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (✳)	Power Supply	Drawing
IDBA-C11/14□	DR	0.3	DC12V	C5	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply 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-Q230□	DR	2		—	IDGB-30M4 series (P.81-83) IJS-30M4-TP (overdrive power supply) (P.89)	18
	DW B G	3.2		—		
IDBA-Q230□S	DR	2		—		19
	DW B G	3.2		—		
IDBA-QC360□	DR	6		—		20
	DW B G	8.8		—		
IDBA-QC690□	DR	21.6		—		21
	DW B G	17.6		—		

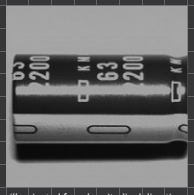
*□represents light color (DR=Red, DW=White, B=Blue, G=Green)
*Optional diffusing plate/polarizing plate can be mounted.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.
*The standard diffusing plate of the DR series will have a transmissivity of 60%.

Luminance Distribution Chart (Reference Values)

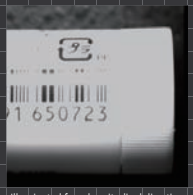


Delivers highly uniform, high-intensity light except within approximately 10 mm of the outer sides of the light-emitting surface.
Measurement model: IDBA-C100/100DWS

Effect Example of image photographed by changing the direction of illumination. Light used:IDBA-C72/24DW

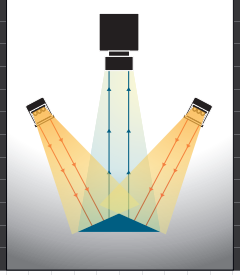

Illuminated from longitudinal direction


Illuminated from lateral direction


Illuminated from longitudinal direction

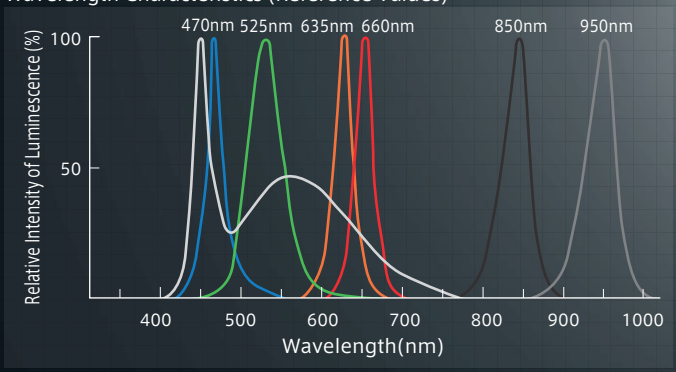

Illuminated from lateral direction

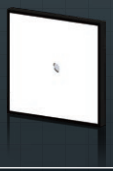
LIGHTING STRUCTURE



Transmissive Light

Wavelength Characteristics (Reference Values)



Series	IFLA series	IFL series	IDHM series	IHM series	IFPA series	IFPA-D series	IFD series
Product image							
Illumination method	Edge light type	Edge light type	Chip flat type	Chip flat type	Chip flat type	Chip flat type	Chip flat type
Thickness (Min)	5㎜	7㎜	11㎜	17㎜	45㎜	45㎜	35㎜
Light-emitting surface size	25×25㎜~ 30×80㎜	25×25㎜~ 150×200㎜	30㎜ square × n	25×30㎜~ 214×226㎜	100㎜ square × n (Under 400㎜)	100㎜ square × n (Under 500㎜)	100㎜ square × 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
The 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.38	P.38	P.39	P.40	P.41	P.42	P.43

Note: The brightness should only be used as a reference. It does not guarantee the quality of the product.
Note: Color temperature (typ) has described a representative value. Please contact us for further details.

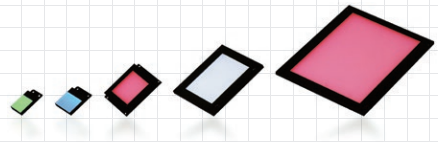
Transmissive Light

Square Edge-Light

IFLA・IFL series

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

24V DC Models Available



IFLA series

Thinner with higher uniformity than similar sizes in the IFL series

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFLA-25/25□	R	0.6	DC12V	FF	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply 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		

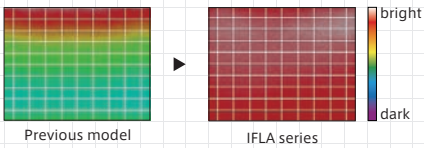
*□represents light color (R=Red, W=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

IFL series

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFL-50/50□	R	2	DC12V	6E	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply 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		

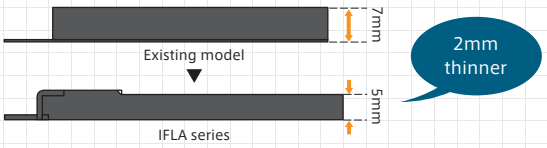
*□represents light color (R=Red, DW=White, B=Blue, G=Green)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

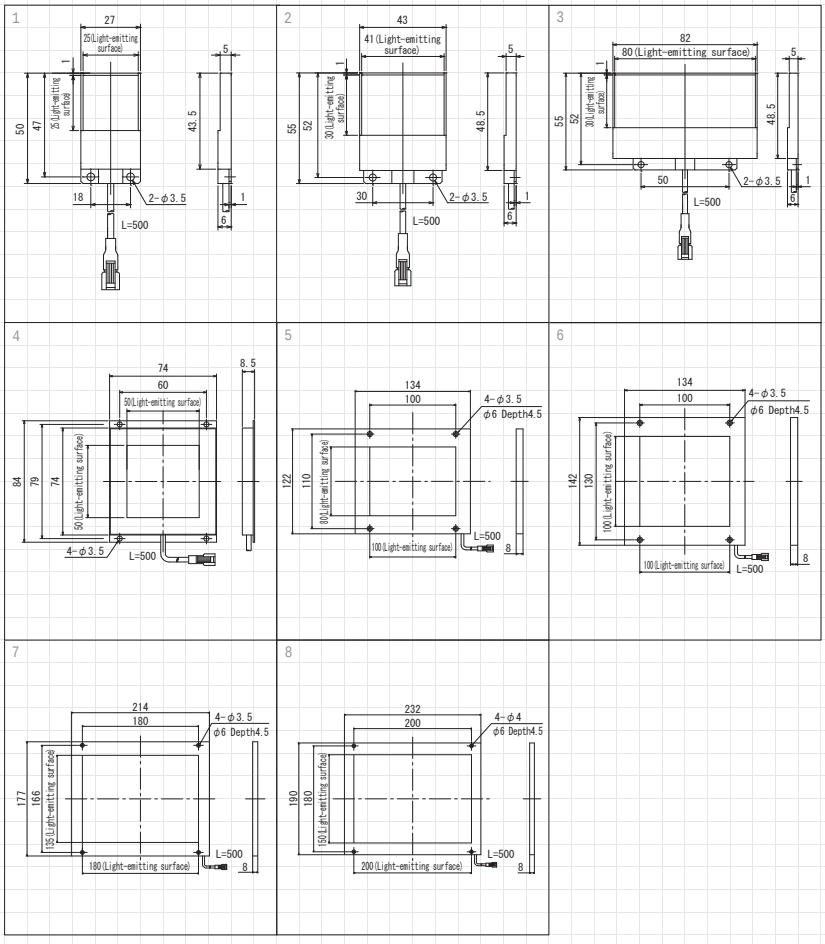
Luminance Distribution Chart (Reference Values)



Previous model　　IFLA series

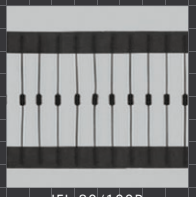
IFLA 5mm thick light-emitting surface





Effect　Clear silhouette images can be obtained simply by backlighting the subject.

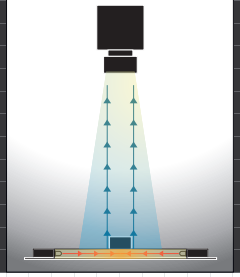

IFL-50/50B


IFL-80/100R


IFL-80/100B


IFL-80/100B

LIGHTING STRUCTURE



Transmissive Light

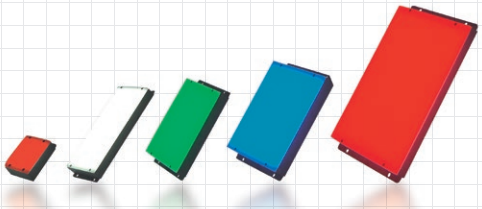
Chip LED Surface Light

IDHM series

Highly uniform, high-intensity thin-surface light

Sizes available in multiples of 30mm□

24V DC Models Available

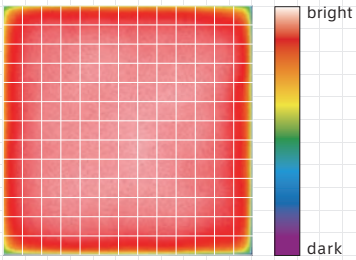


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDHM-32/32HRT	R	1.5	DC12V	74	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
IDHM-32/32DWT	DW	1.8		FF		
IDHM-32/32□T	B G	1.8		DC		
IDHM-32/62HRT	R	2.9		75		2
IDHM-32/62DWT	DW	3.6		FF		
IDHM-32/62□T	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		9
IDHM-92/92□T	B G	16.2		E6		
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)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Luminance Distribution Chart (Reference Values)

Light is soft and uniform except around edges.
Measurementmodel: IDHM-122/122DWT



Effect Clear silhouette images can be obtained by backlighting the subject with high-intensity, uniform illumination.

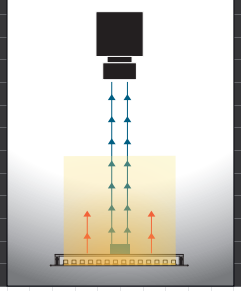

IDHM-92/92BT


IDHM-92/92BT


IDHM-62/62DWT

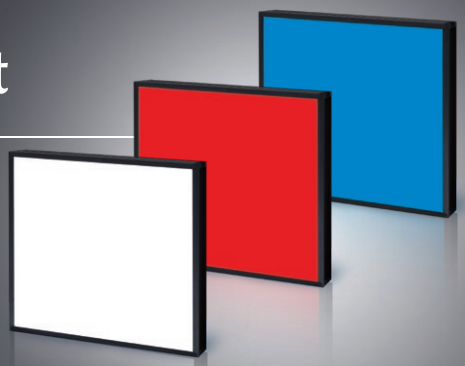

IDHM-62/62DWT

LIGHTING STRUCTURE



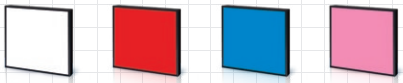
High-intensity Chip LED Surface Light

IHM・IHM infrared series



The IHM series is a chip-type transmissive lighting solution that delivers high output at an affordable price in a lightweight package.
Extensive lineup of 850, 950-nm infrared series

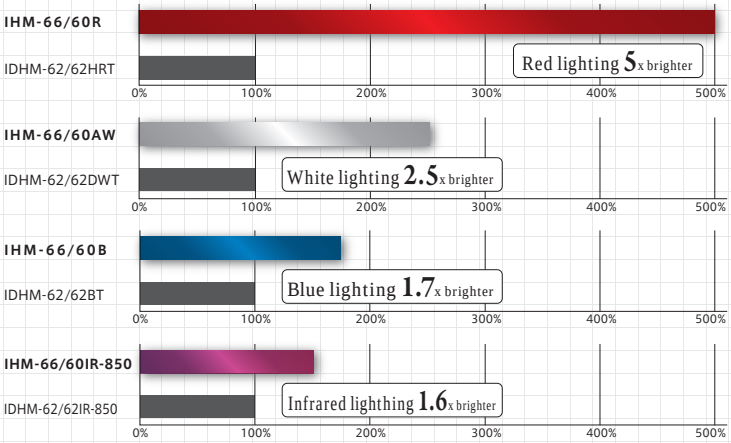
24V DC Models Available

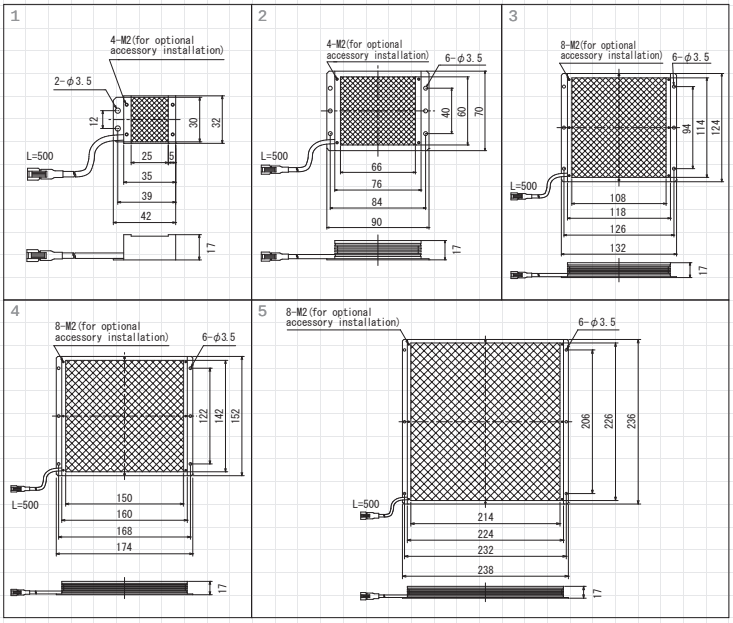


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IHM-25/30□	R	2	DC12V	9A	ILP-30M2 (P.85) IDGBseries (P.81) other, overdrive power supply etc.	1
	AW			F9		
	B			98		
	IR(850)			E3		
	IR(950)			E3		
IHM-66/60□	R	7.5		F5		2
	AW			FF		
	B			B3		
	IR(850)			FF		
	IR(950)			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.85) IDGB-24 series (P.81)	5
	AW					
	B					
	IR(850)					
	IR(950)					

*□represents light color (R=Red, AW=White, B=Blue, IR850 or 950=Infrared)
*Optional polarizing plate and light control film can be attached. For details, see page 102.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Drastically Increased Brightness Comparison of colors using IHM-66/60 sizes (reference values)

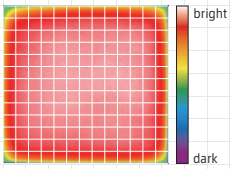




Luminance Distribution Chart

(Reference Values)

Light is highly uniform except around edges.
Measurement model:IHM-108/114AW

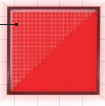


Functional Characteristics

FEATURES

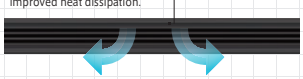
Dense concentration of high-intensity power LEDs

High-intensity power LEDs are mounted densely to provide extremely bright, more even transmissive lighting.



Heat-dissipating fins

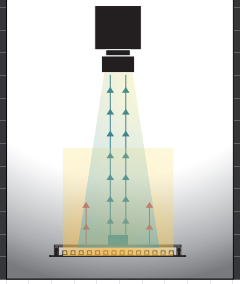
An original heat-dissipating structure provides drastically improved heat dissipation.



Effect Comparison using shutter speed of 1/10,000 (100% modulated light)

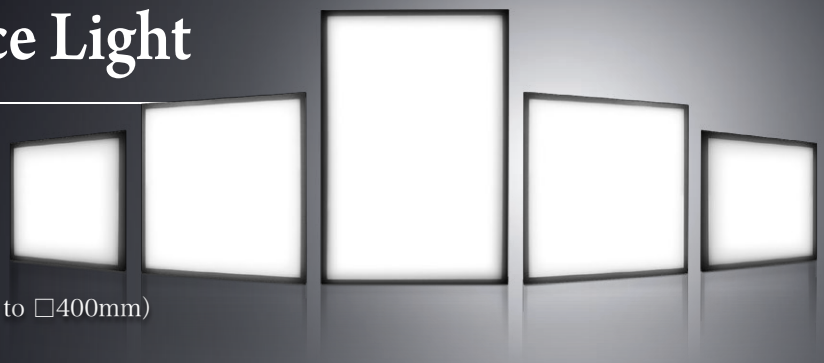
IDHM-62/62HRT ▶ IHM-66/60R

LIGHTING STRUCTURE



Transmissive Light

Realux Large Flat-surface Light

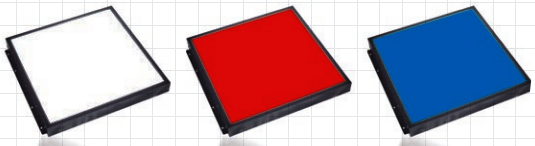


IFPA series

Large, uniform surface lighting

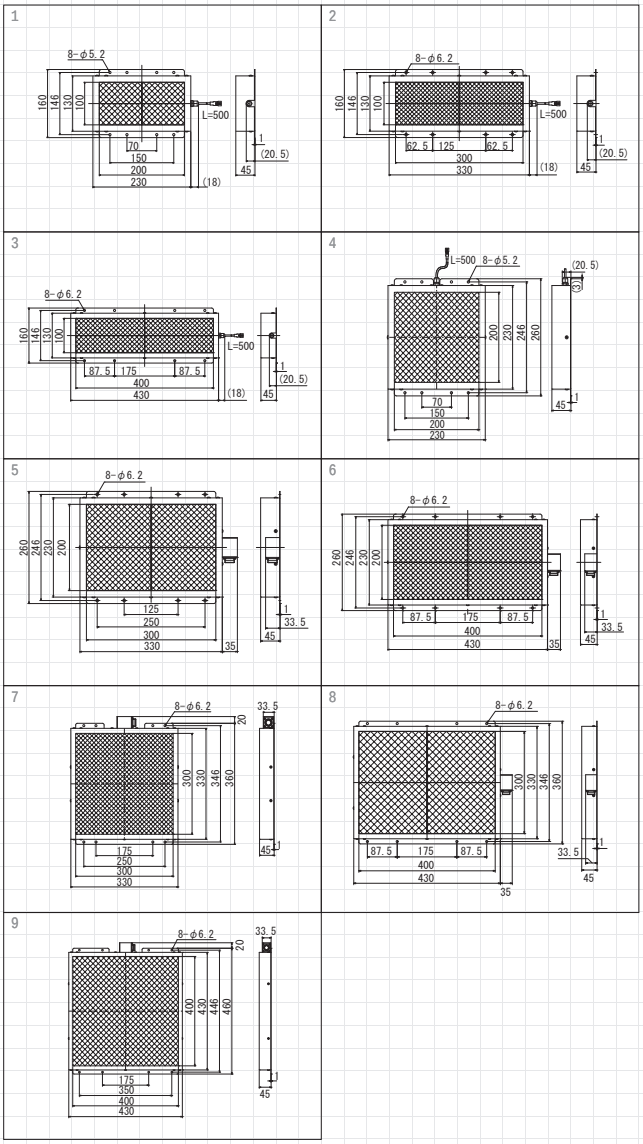
Size available in multiples of □100mm. (Standard is up to □400mm)

24V DC Specifications | Power LEDs



Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IFPA-200/100□HV	R AW B	20	DC24V	ILP-60M2-24 (P.85) IDGB-24 series (P.81)	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.80)	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.80)	8
IFPA-400/400□HV	R AW B	160			9

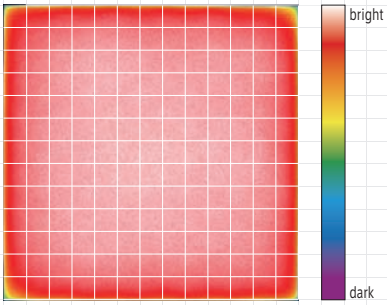
*□represents light color (R=Red, AW=White, B=Blue)
*Input power supply is 24 V DC.
*Please use the extension cable which discribe in the P.97 · 98 in case using the light less than 60W power consumption.
*Light with more than 60W power consumption have metal connecters. For the lightings, use extension cables on P.97 (for DC24V light)



Luminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 10% except within approximately 30 mm of the outer sides of the light-emitting surface.

Measurement model:
IFPA-300/300AWHV



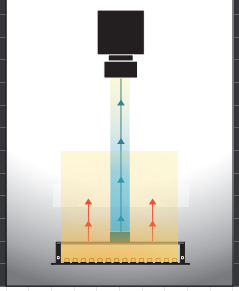
Effect Ideal for visual inspection of large workpieces.


IFPA-400/400AWHV


IFPA-400/400AWHV


IFPA-200/200AWHV

LIGHTING STRUCTURE



NEW

Transmissive Light

Large Flat-surface Light with a Opening

IFPA-D series

Large and high uniform flat-surface Light corresponding to camera imaging

Lineup 2 opening size depending on lens size

24V DC Specifications | Power LEDs | Low Cost

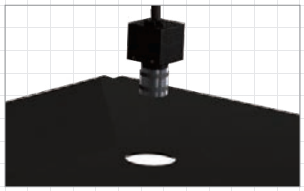
・Light emission surface size:from 200×100mm (minimum) to 500×500mm (maximum) in 100mm increments are available.
・2 opening size:ϕ35mm or ϕ55mm, in the center of the light emission surface.
・Various customize is available
  ・Opening position: Can be changed in vertical and horizontal directions in units of 50mm from the center of the light emission surface.
  ・Connector position: The connector position can be changed to the short side or the long side.

Model	Light Color	Power Consumption (W)	Input Voltage	Power supply type	Power Supply	Drawing
IFPA-200/100□HV-(X1)D	R AW B	15	DC24V	A	【Power supply typeA】 ILP-60M2-24(P.85) IDGB-24 series(P.81) etc.	1
IFPA-200/200□HV-(X1)D	R AW B	35		A		2
IFPA-300/100□HV-(X1)D	R AW B	25		A		1
IFPA-300/200□HV-(X1)D	R AW B	55		A		
IFPA-300/300□HV-(X1)D	R AW B	85		B		4
IFPA-400/100□HV-(X1)D	R AW B	35		A		1
IFPA-400/200□HV-(X1)D	R AW B	75		B	【Power supply typeB】 IWDV-100S-24 (P.80)	3
IFPA-400/300□HV-(X1)D	R AW B	115		C		
IFPA-400/400□HV-(X1)D	R AW B	155		C		4
IFPA-500/100□HV-(X1)D	R AW B	45		A	【Power supply typeC】 IWDV-300S-24 (P.80)	1
IFPA-500/200□HV-(X1)D	R AW B	95		B		3
IFPA-500/300□HV-(X1)D	R AW B	145		C		
IFPA-500/400□HV-(X1)D	R AW B	195		C		
IFPA-500/500□HV-(X1)D	R AW B	245		C		4

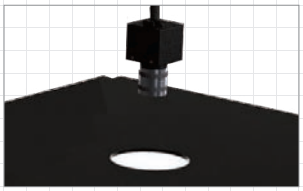
*□represents light color(R=Red, AW=White, B=Blue)
*The X1 represents the opening diameter(35=35mm,55=55mm).
*Please use the extension cable which discribe in the P.97 · 98 in case using the light less than 70W power consumption.
*Light with more than 70W power consumption have metal connecters. For the lightings, use extension cables on P.97 (for DC24V light)

Lineup 2 opening size

Lineup 2 opening size depending on lens size

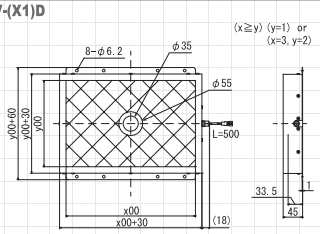


ϕ35mm



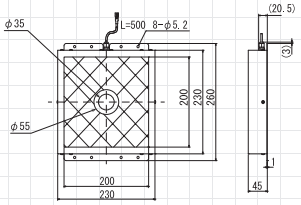
ϕ55mm

1 **IFPA-x00/y00□HV-(X1)D**

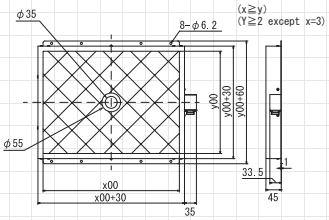


(Model:IFPA-300/200□HV-(X1)D)

2 **IFPA-200/200□HV-(X1)D**

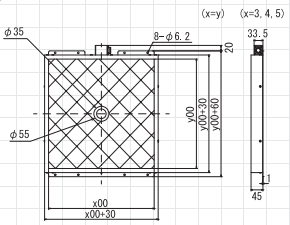


3 **IFPA-x00/y00□HV-(X1)D**



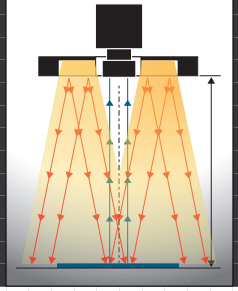
(Model:IFPA-400/300□HV-(X1)D)

4 **IFPA-x00/y00□HV-(X1)D**

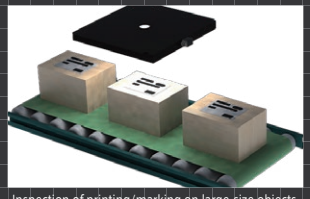


(Model:IFPA-400/400□HV-(X1)D)

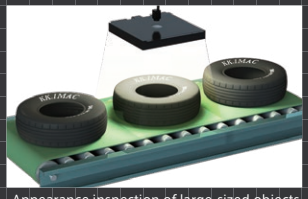
LIGHTING STRUCTURE



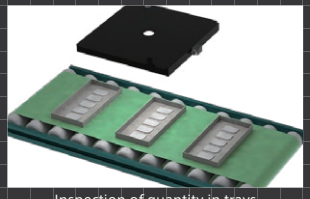
Effect Suitable for appearance inspection of large-sized objects



Inspection of printing/marking on large-size objects



Appearance inspection of large-sized objects



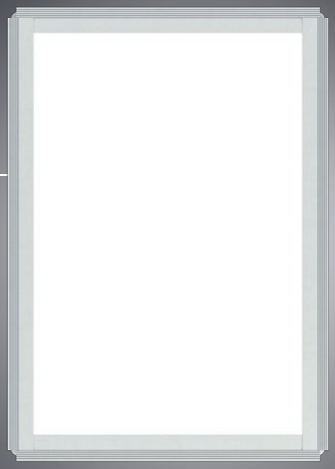
Inspection of quantity in trays

Transmissive Light

Large Flat-surface Light

IFD series

Replacable from fluorescent transmissive light



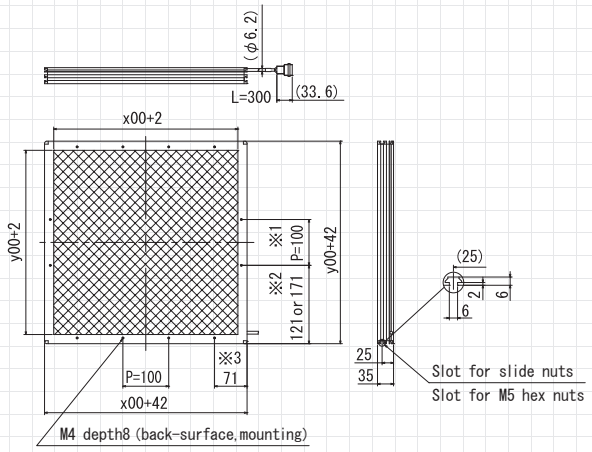
48V DC Specifications　Low Cost

A4 to A0 size is standard in the line-up. Achieve the high uniformity.
It is possible to product in 100mm unit if you need more than 500mm. The maximum size of 2400mm × 900mm.

size	Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply
A4	IFD-300/200W	W	30	DC48V	IWDV-300SL-48 (P.78) (Analog) IWDV-300S-48 (P.77) (Digital)
A3	IFD-400/300W	W	60		
A2	IFD-600/400W	W	120		
A1	IFD-800/600W	W	240		
A0	IFD-1200/800W	W	480		IWDV-600SL-48 (P.78)　IWDV600S-48 (P.77)

IFD-x00/y00W

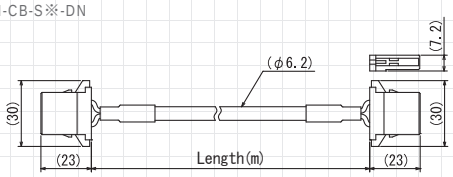
(x≧y)　(x=1, 2, 3, ⋯, 24)
(y=1, 2, 3, ⋯, 9)



※1　Limited to y≧4(if y is smaller than 4,y direction of the mounting hole is nothing.)
※2　y odd number=121　y even number=171
※3　Limited to x≧2(if x equals 1,x direction of the mounting hole is nothing.)

Dedicated extension cable for IFD

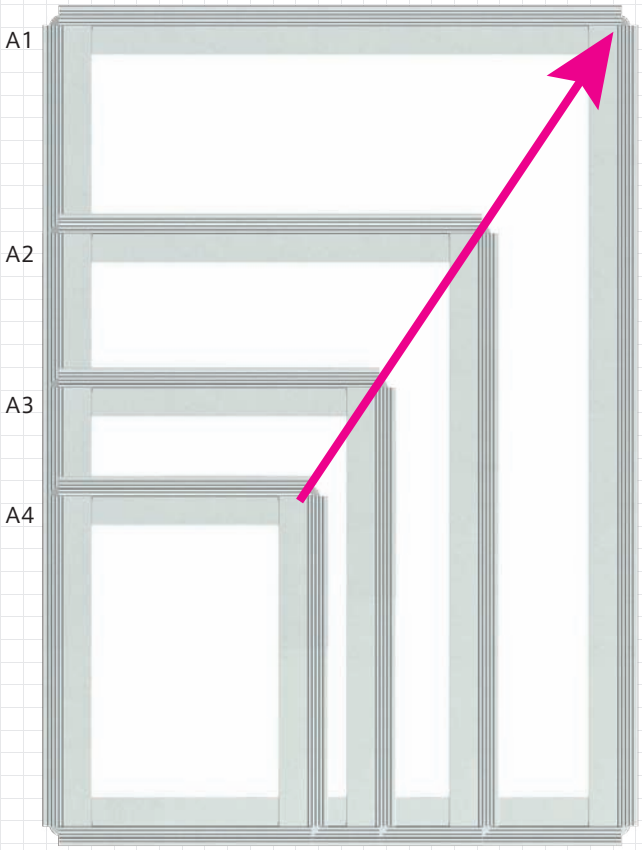
I-CB-S※-DN



※ represents length.

Model	length(m)
I-CB-S1-DN	1
I-CB-S2-DN	2
I-CB-S3-DN	3
I-CB-S5-DN	5
I-CB-S10-DN	10

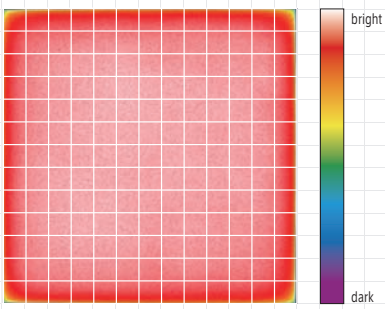
A4 to A0 size is standard in the line-up.



Luminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 2.5% except within approximately 50 mm of the outer sides of the light-emitting surface.

Measurement model:
IFD-400/400W

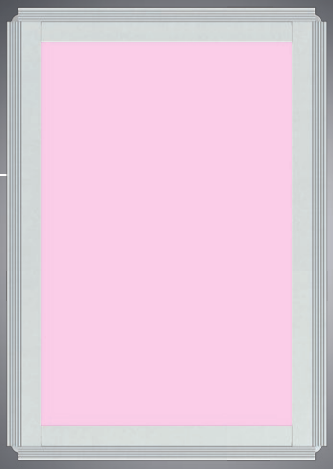


Transmissive Light

Large Flat-surface Light

IFD Infrared series

Large IR LED surface light



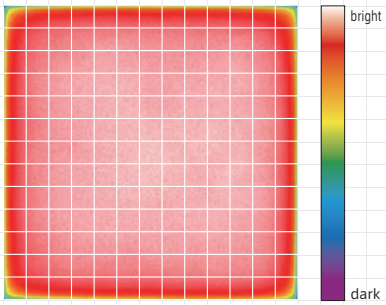
24V DC Specifications | Power LEDs | Low Cost

Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply
IFD-200/100IR-850	IR(850)	16	DC24V	IWDV-100S-24 (P.80)
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.80)
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		

Luminance Distribution Chart (Reference Values)

Delivers light with uniformity of within 10% except within approximately 50 mm of the outer sides of the light-emitting surface.

Measurement model:
IFD-400/400IR-850

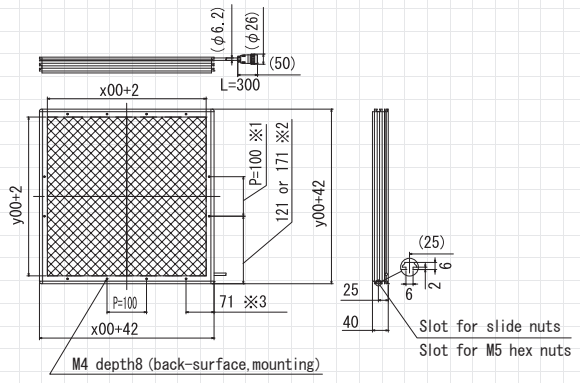


Available to 100mm increment !

〈Maximum avilable size〉
·100mm×2400mm ·200mm×1500mm ·300mm×1000mm
·400mm×700mm ·500mm×600mm

IFD-x00/y00IR-850

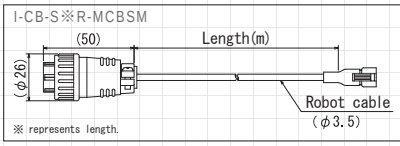
(x≧y) (x=1, 2, 3, ⋯, 24)
(y=1, 2, 3, ⋯, 9)



※1 Limited to y≧4(if y is smaller than 4,y direction of the mounting hole is nothing.)
※2 y odd number=121 y even number=171
※3 Limited to x≧2(if x equals 1,x direction of the mounting hole is nothing.)

Extension Cable (For connecting to ILP-60M2-24 and IDGB-24)

I-CB-S※R-MCBSM

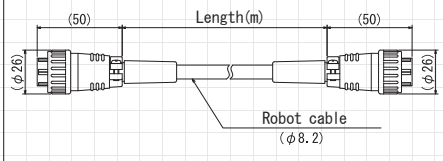


Model	length(m)
I-CB-S1R-MCBSM	1
I-CB-S2R-MCBSM	2
I-CB-S3R-MCBSM	3
I-CB-S5R-MCBSM	5
I-CB-S10R-MCBSM	10

Capacity is MAX 70W.

Extension Cable (For connecting to IWDV power supply)

I-CB-S※R-MCB

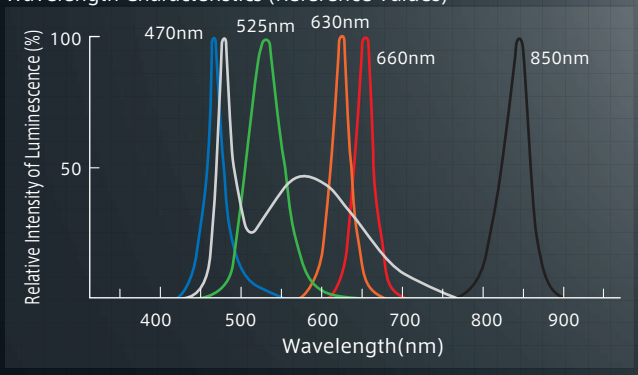


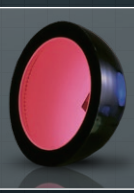
Model	length(m)
I-CB-S1R-MCB	1
I-CB-S2R-MCB	2
I-CB-S3R-MCB	3
I-CB-S5R-MCB	5
I-CB-S7R-MCB	7
I-CB-S10R-MCB	10

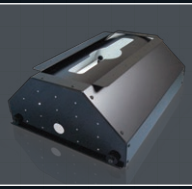
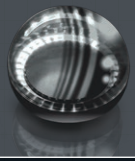
*For details of the extension cable, see P97.

Dome Light

Wavelength Characteristics (Reference Values)



Series	IPQC series	IFHA series	IDDA-KH series	IDD-K series
Product image				
Features	Removing reflective plate enables to emit shadowless light	It can be installed small space by the thickness 8mm	High intensity dome light	Models with a coaxial light are available
Thickness	30mm	8mm	Over 30mm	Over 39mm
Light-emitting surface size	□12～□108mm	100×100mm～200×200mm	φ28～φ300mm	φ54～φ114mm
WD (between light and object)	Short - Medium	Short	Short	Short
Light Color	Red/White/Blue	Red/White/Blue	Red/White/Blue	Red/White/Blue/Green
The White color temperature	4,900K(typ)	5,000K(typ)	4,900K(typ)	7,000K(typ)
Reference page	P.46	P.47･48	P.49	P.50

Series	IDD series	IDD-CB series	IQD・IQDH series	IMDH series
Product image				
Features	Condensing type dome light	16CH-division Dome Light	Indirect dome half pipe type	Dome light for inspecting inside of a subject
Thickness	Over 39mm	Over 40mm	Over 30mm	86.2mm
Light-emitting surface size	φ60～φ102mm	φ55.8～φ113mm	30×65mm～220×350mm	φ80mm
WD (between lighting and object)	Short	Short	Short	Short
Light Color	Red/White/Blue/Green	White	White	Red/White/Blue/Green
The White color temperature	7,000K(typ)	7,000K(typ)	7,000K(typ)	8,000K(typ)
Reference page	P.51	P.52	P.53	P.54

Note: The brightness should only be used as a reference. It doe s not guarantee the quality of the product.
Note: Color temperature (typ) has described a representative value. Please contact us for further details.

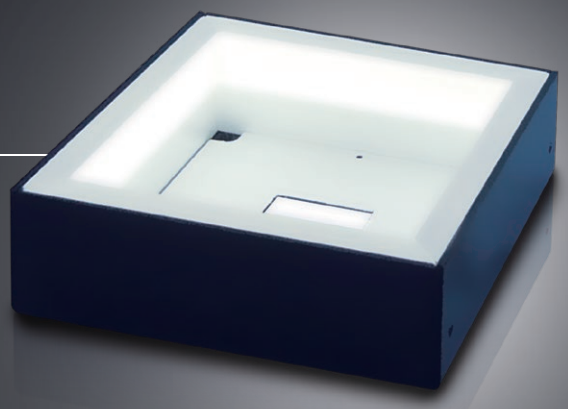
Dome Light

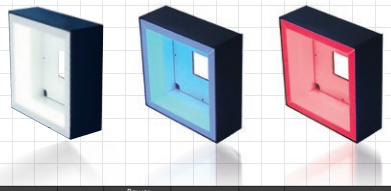
Square Flat-surface Light

IPQC series

Indirect light with high luminance
and uniform oblique light

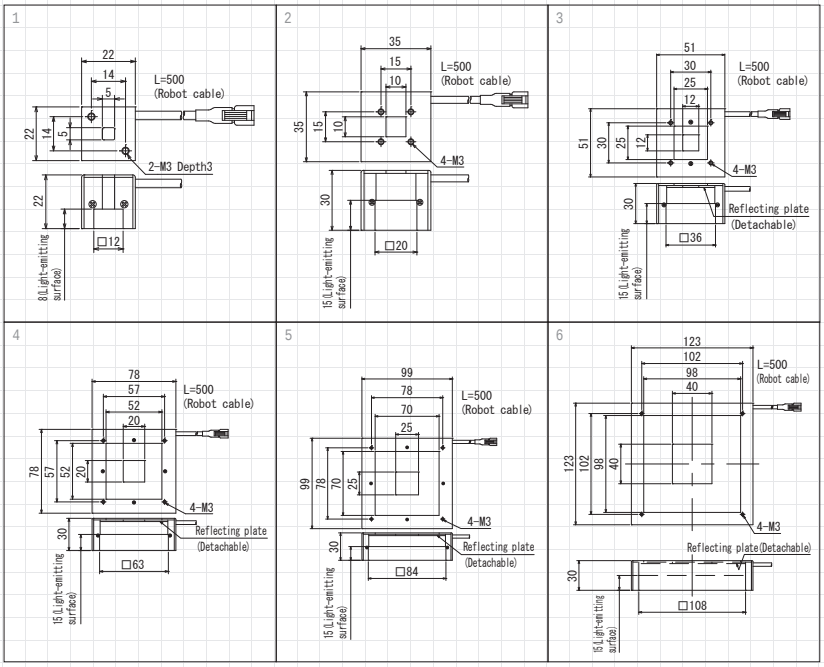
24V DC Models Available | Power LEDs



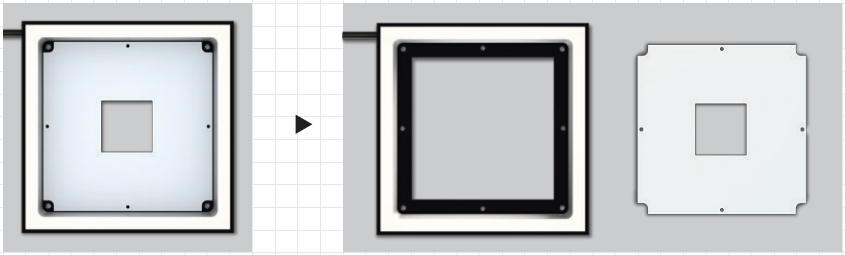


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IPQC-22□	R	2.1	DC12V	FF	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
	W	2.1				
	B	2.1				
IPQC-35□	R	4.2		FF		2
	W	4.7				
	B	4.7				
IPQC-51□	R	6.5		FF		3
	W	6.8				
	B	6.8				
IPQC-78□	R	11.5		FF		4
	W	12.5				
	B	12.5				
IPQC-99□	R	16.5		FF		5
	W	19		FA		
	B	18		FF		
IPQC-123□	R	21		FF		6
	W	24		D8		
	B	22.5		E9		

*□represents light color (R=Red, W=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
* The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Shadowless lighting from the dome lighting

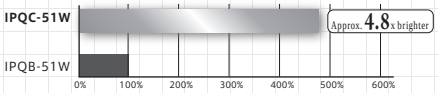


Standard Type

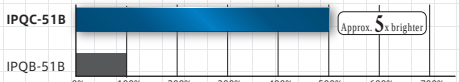
Removing reflective plate changes to shadowless lighting from the dome lighting

Brightness Comparison With Existing model (Reference Values)

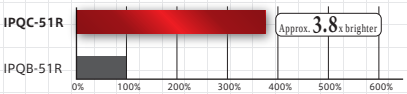
White lighting (WD10mm)



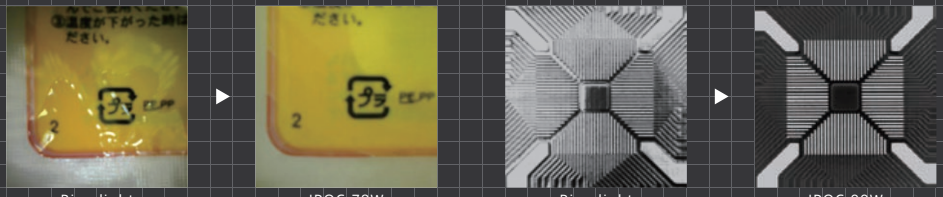
Blue lighting (WD10mm)



Red lighting (WD10mm)

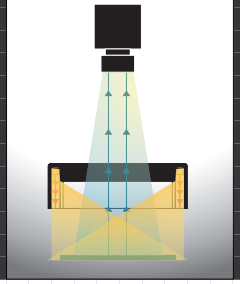


Effect An image without surface reflection can be obtained by illuminating the subject with uniform oblique light.



Ring light | IPQC-78W | Ring light | IPQC-99W

LIGHTING STRUCTURE



NEW

Dome Light

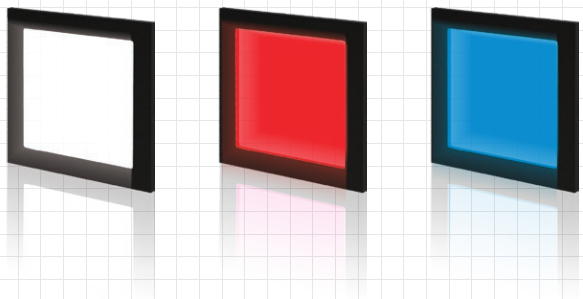
Square Dome Light

IFHA series

Lightweight, thin 8-mm dome lighting
Much brighter and clearer imaging is possible. Its no camera window design enables wide range and high uniform irradiation!

24V DC Models Available

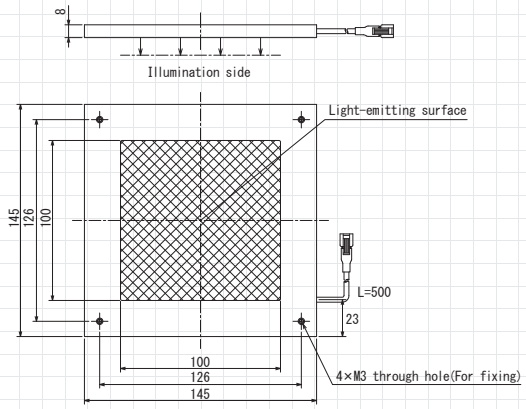
Patent Pending



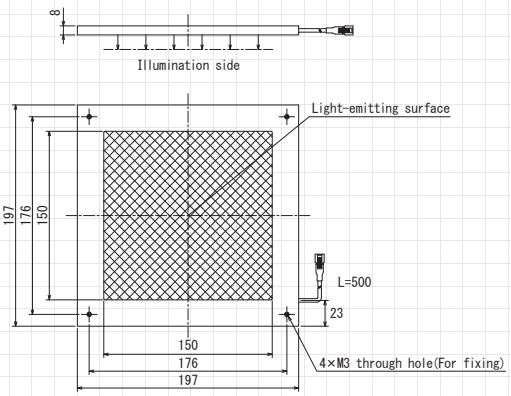
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFHA-100□	R W B	T.B.D	DC12V	T.B.D	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
IFHA-150□	R W B	30		R=DA W=B8 B=B6		2
IFHA-200□HV	R W B	33	DC24V	—	ILP-60M2-24 (P.85) IDGB-24 series (P.81)	3

*□represents the color, R(Red), W(White) or B(Blue).
*Input voltage is DC12V, but DC24V models are also available.
*See P74 for 24V DC models.
*Sizes other than those above are also available.
*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

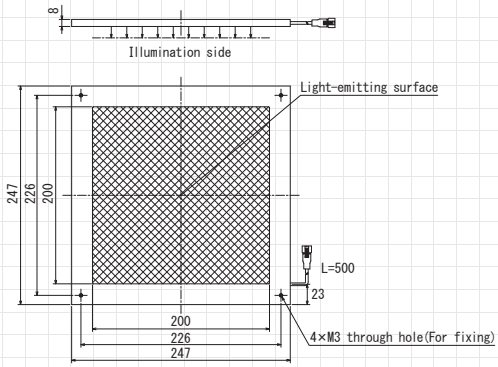
1



2

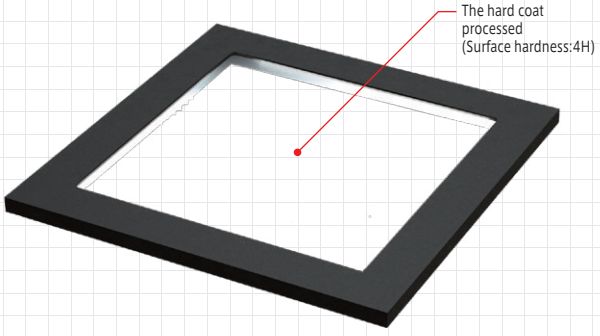


3



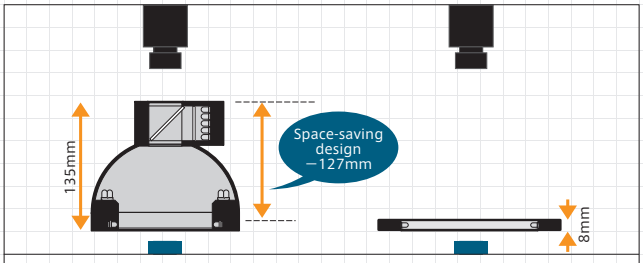
The hard coat processed

The acrylic surface is hard coat processed (4H), and has better scratch resistance than normal acryl.



CAUTION:Dirt, dust and scratches on the acrylic surface may affect imaging.
When dust and dirt are adhered on the surface, remove them with an air blow.

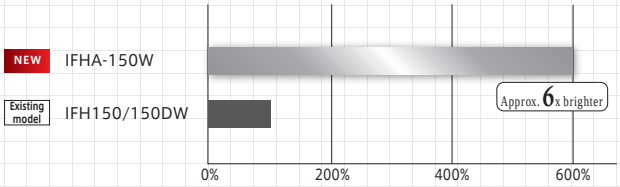
Light and thin. Easy installation



•Space-saving design allows situations where installation locations are restricted.
•Workpieces can be photographed from a close distance without troublesome reflected lighting.

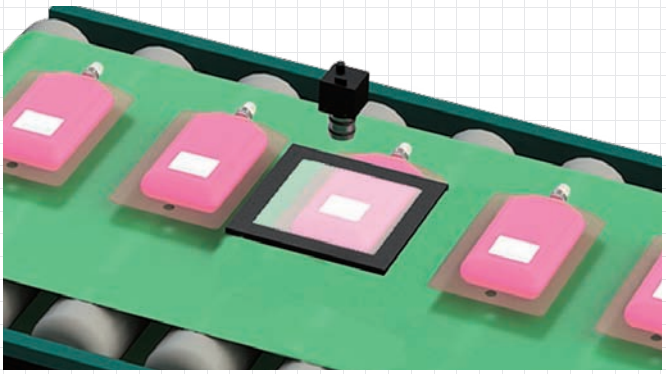
Compared to existing model, it is approximately 6 times brighter

Improvement of light guide plates achieved 6 time higher brightness (Compared to existing model).



Suitable for inspections of glossy objects

Suitable for inspections of objects with unevenness and shininess.



Transparency of the acrylic is greatly improved

The printing can clearly be seen, and that makes inspection of blurring of printing easy.

Object: a package of coffee

IFH-150DW (Existing model)

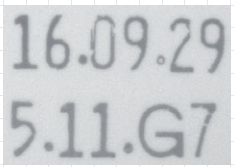
IFHA-150W

Barcode

The bar codes can be clearly seen. That makes recognition of space between codes and width of them easy.

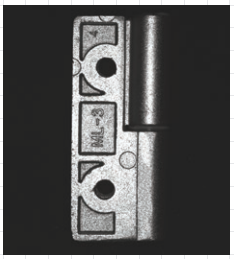
Printing

Camera:
monochrome camera
USB3.0
Shutter speed:1/1000
Lens:25mm
Aperture:4



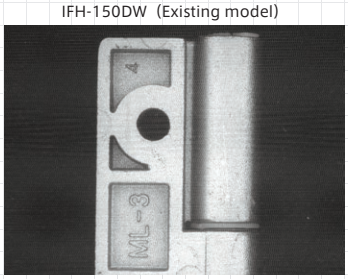
Camera:
monochrome camera
USB3.0
Shutter speed:1/1000
Lens:25mm
Aperture:6

The printing can clearly be seen, and that makes inspection of blurring of printing easy.

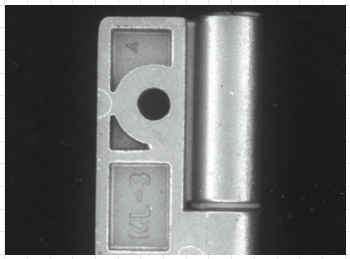


Object: metallic hinge

IFH-150DW (Existing model)

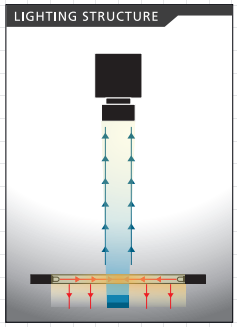


IFHA-150W



It can clearly emphasis unevenness of sprues and curving condition of glossy metallic objects

LIGHTING STRUCTURE



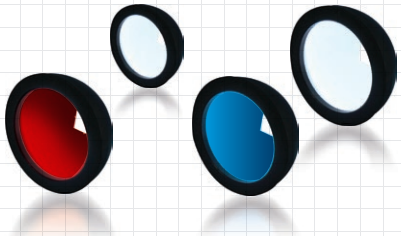
Dome Light

NEO Dome Light

IDDA-KH series

High-intensity dome light
Extensive lineup available from ϕ60 to ϕ350

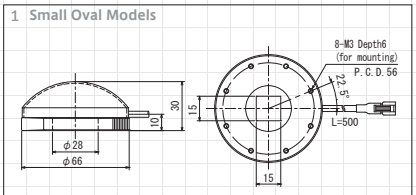
Power LEDs | 24V DC Models Available



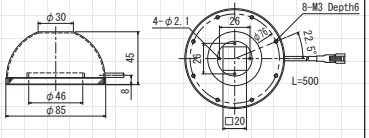
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDDA-KH60□	R / AW / B	6.5	DC12V	FF	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	1
IDDA-KH80□	R / AW / B	9	DC12V	FF	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	2
IDDA-KH120□	R / AW / B	13.5	DC12V	FF	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	3
IDDA-KH150□	R / AW / B	18	DC12V	FF	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	4
IDDA-KH220□	R / AW / B	28.5	DC12V	FF / C3 / BC	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	5
IDDA-KH270□HV	R / AW / B	34	DC24V	—	ILP-60M2-24(P.85) IDGB-24 series (P.81)	6
IDDA-KH350□HV	R / AW / B	44	DC24V	—	ILP-60M2-24(P.85) IDGB-24 series (P.81)	7

*□represents light color(R=Red, AW=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

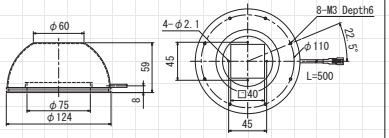
1 Small Oval Models



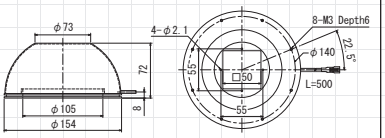
2



3



4



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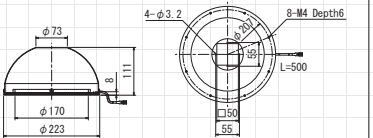
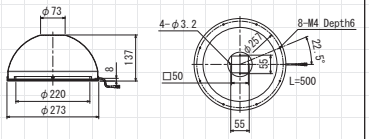
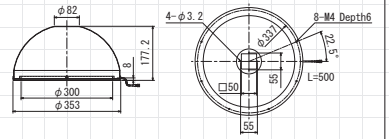


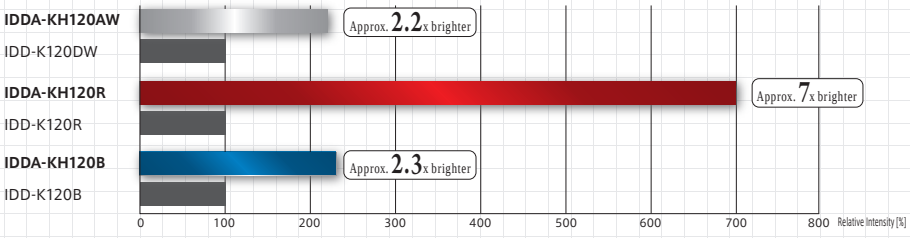
6



7

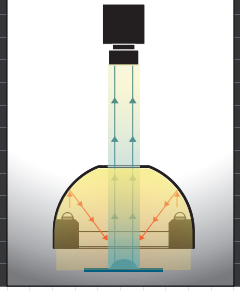


Illuminance Comparison with Existing model (Reference Values) (WD=50mm)



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

LIGHTING STRUCTURE



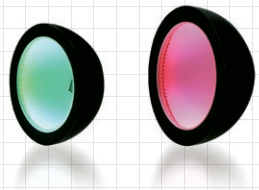
Dome Light

IDD-K・IDU-C series

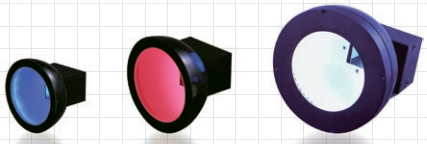
Uniform dome irradiation with reflective coaxial light

24V DC Models Available

IDD-K series

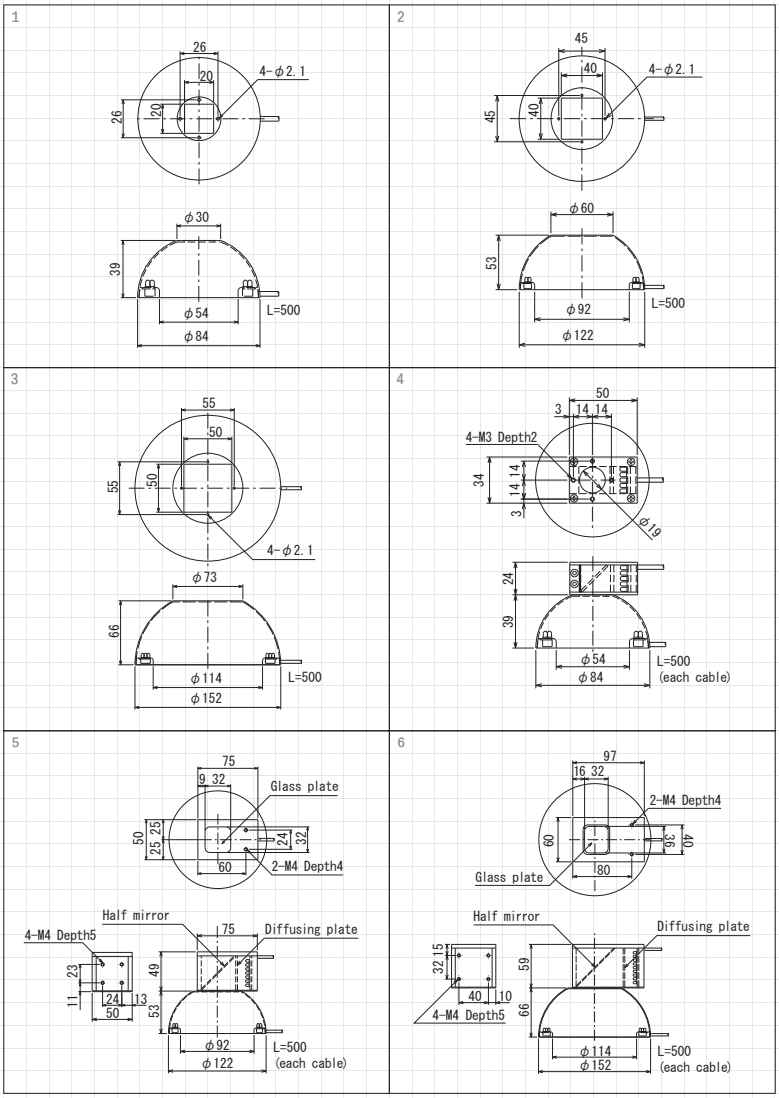


IDU-C series



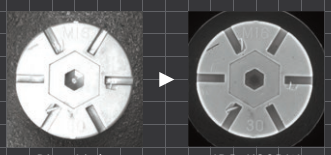
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDD-K80R	R	3.9	DC12V	70	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply, etc.	1
IDD-K80□	DW B G	4.4		FF		
IDD-K120R	R	6.3		72		2
IDD-K120□	DW B G	7.2		FF		
IDD-K150R	R	10.8		75		3
IDD-K150□	DW B G	13		FF		
IDU-C80R	R	5.1		–		4
IDU-C80□	DW B G	6.1		–		
IDU-C120R	R	9		–		5
IDU-C120□	DW B G	10.3		–		
IDU-C150R	R	15.6		–		6
IDU-C150□	DW B G	17.9		–		

*□represents light color (DW=White, B=Blue, G=Green)
*Top plates for IDD-K models are available with a circular hole or a square hole.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*Models with a horizontal opposed ring are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



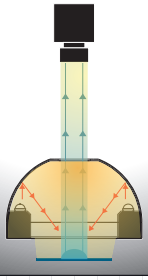
Effect Uniform illumination from every direction reduces surface reflections, which enables to acquire images with high S/N ratio.

Photographed example of IDD-K



Ring Light ▶ IDD-K80DW

LIGHTING STRUCTURE

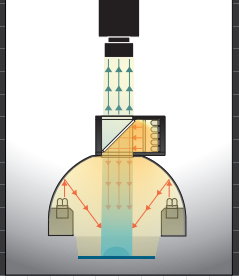


Effect With specularly reflected light component of Pseudo-coaxial light and dome effect, only the solder section can be highlighted.

Photographed example of IDU-C

Ring Light ▶ IDU-C150DW

LIGHTING STRUCTURE



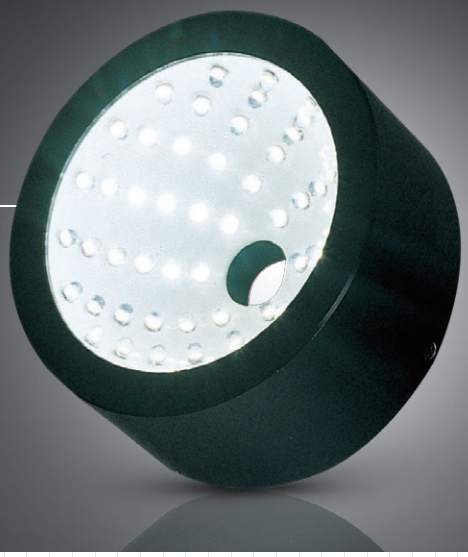
Dome Light

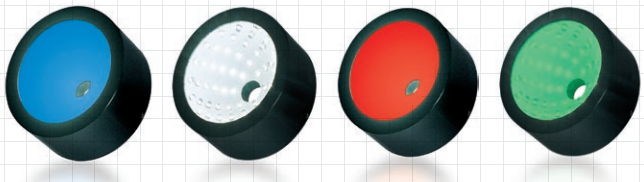
Direct Dome Light

IDD series

Strong illumination from all directions

24V DC Models Available

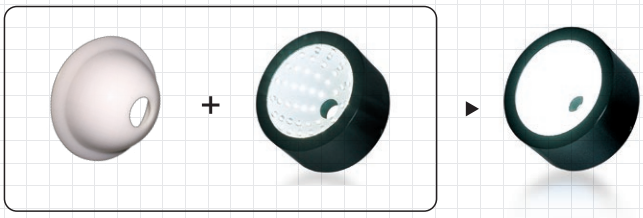


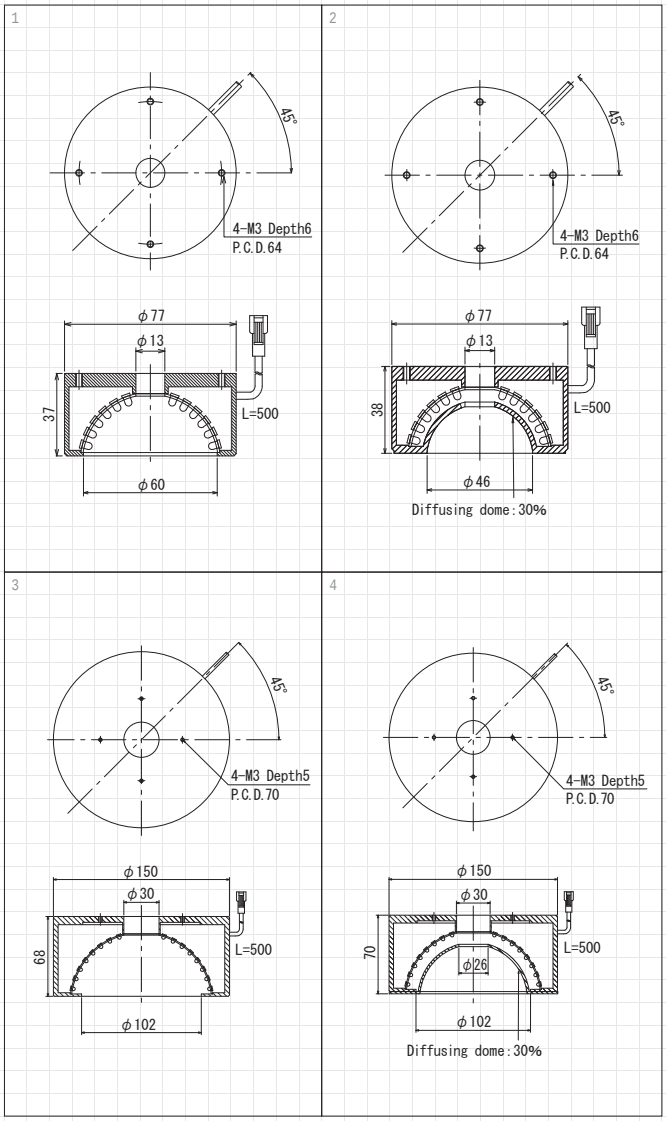


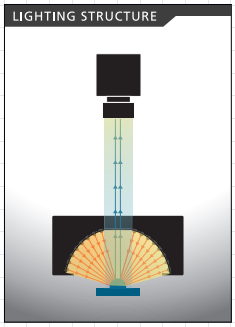
Model	Light Color	Power consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDD-60/13□	R	2.7	DC12V	6F	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply, etc.	1
	DW B G	4		FF		
IDD-60/13□S(30%)	R	2.7		6F		2
	DW B G	4		FF		
IDD-120/30□	R	12.5		76		3
	DW B G	18.8		FF		
IDD-120/30□S(30%)	R	12.5		76		4
	DW B G	18.8		FF		

*□represents light color(R=Red, DW=White, B=Blue, G=Green)
*A diffusing dome (transmissivity of 30%, 60%, or 80%) can be mounted.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Option (diffusing dome can be mounted)



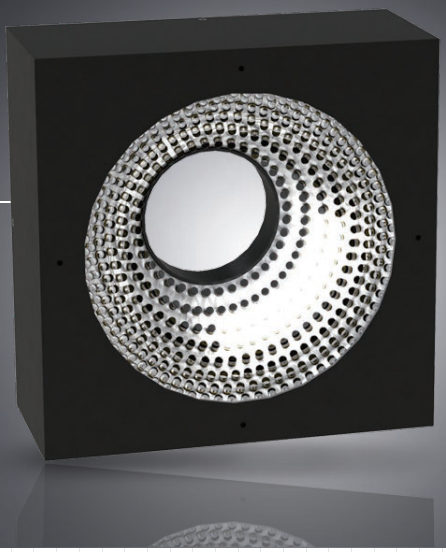




16CH-division Dome Light

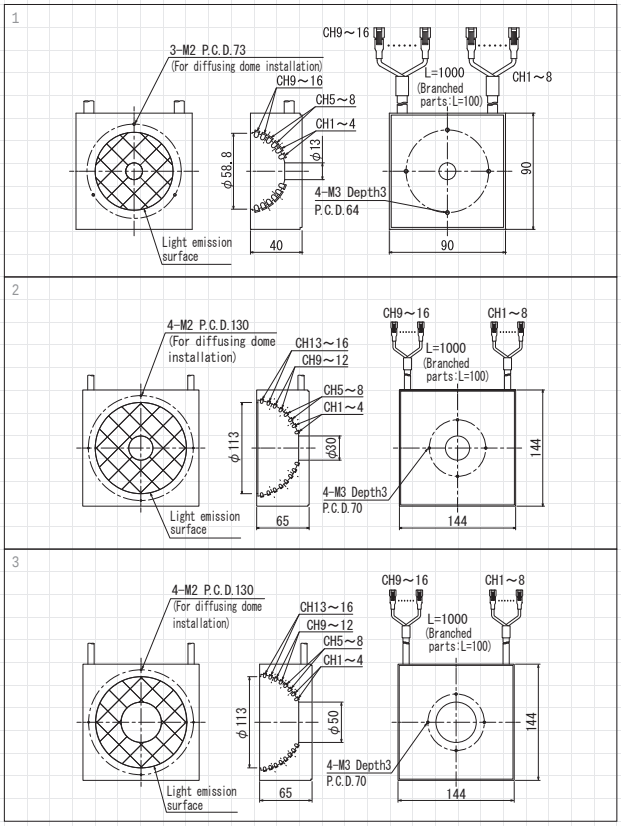
IDD-CB series

Multi-channel irradiation can emphasize scratches and dents that are difficult to detect.



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IDD-CB60/13DW-16CH	DW	7.6	DC12V	FF	IDGB-30M8-TP/PI IJS-40M8-TP Both power supplies are used by each 2 of composition	1
IDD-CB120/30DW-16CH	DW	18		FF		2
IDD-CB120/50DW-16CH	DW	18.8		FF		3

*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Irradiation from 16 direction can emphasize various defects. No need to choose lights depending on object shape.

IDD-CB60/13DW-16CH has 3 stages, IDD-CB120 series 4 stages.
It can irradiate from high to low angles.

<IDD-CB120/50DW-16CH>
16CH All channel light up

CH1 Lighting state

CH5 Lighting state

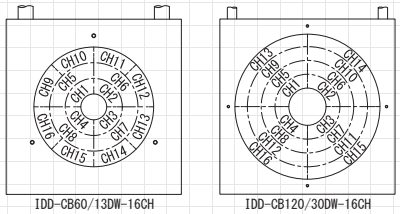
CH9 Lighting state

CH13 Lighting state

Easy inspection with PC software.

PC sample software for IDGB series and IJS series are available.
It can control both of all and each channel(dimming and on/off).
The software can control the dimming and on/off of all channels with checking the imaging with a PC.
※Sample software is available in our website.

Arrangement of channels



IDD-CB60/13DW-16CH

IDD-CB120/30DW-16CH
IDD-CB120/50DW-16CH

Image samples with irradiation from each stage <Light used:IDD-CB120/50DW-16CH>

Object:Coin

<CH1-4 Lighting up>

<CH5-8 Lighting up>

<CH9-12 Lighting up>

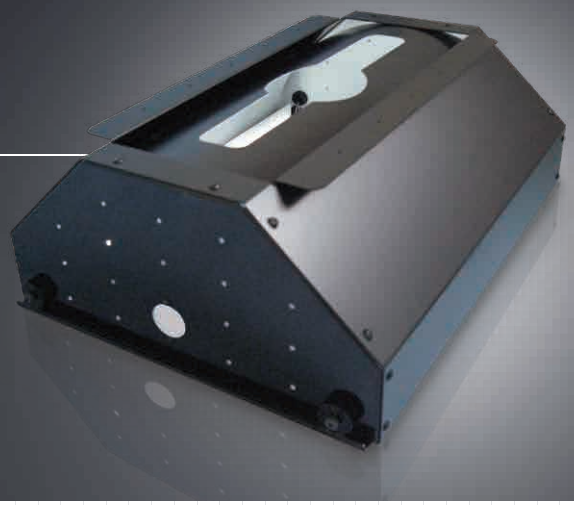
<CH13-16 Lighting up>

It is suitable for inspection of objects with irregularities on a flat surface. High angle irradiation(CH1-4)→suitable for outside diameter measurement and surface inspection. Middle angle irradiation(CH5-8)→suitable for objects with shallow unevenness scratchs. etc. Low angle irradiation(CH9-12)→roughening of the surface, and refined scratchs. etc. Horizontal irradiation(CH13-16)→outward form recognition of the whole mold, and edge recognition of a height. etc.

Dome Light

Half-pipe Light

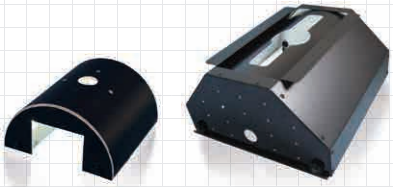
IQD・IQDH series

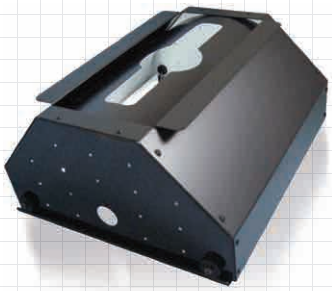


Uniform illumination of spherical surfaces, irregular surfaces, and long workpieces.

Full-color RGB model also available

Power LEDs *IQDH only





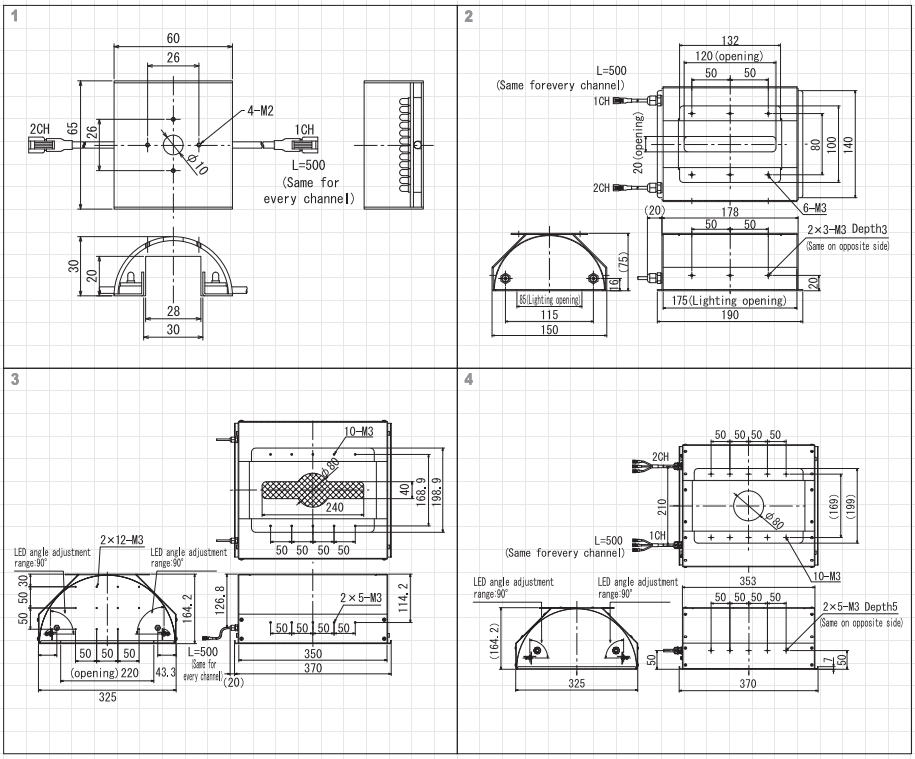
Uniform illumination from a close distance reduces surface reflections on a package

Ring diffusion light

IQDH-K320/350W

Model	Light Color	Power Consumption (W)	Drawing
IQD-K60/65DW	DW	1CH 0.8W 2CH 0.8W Total:1.6W	1
IQDH-K150/175W	W	1CH 10.8W 2CH 10.8W Total:21.6W	2
IQDH-K320/350W	W	1CH 26W 2CH 26W Total:52W	3
IQDH-K320/350RGB	R B G	1CH R,B,G:each13W 2CH R,B,G:each13W Total:78W	4

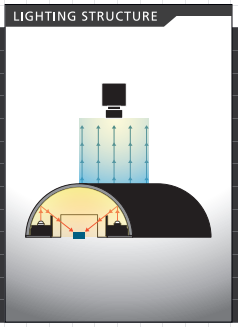
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models.
*Sizes other than those above are also available.
*For line use, please refer to the IQDH-LSR series(P.17).



Effect Example image photographed using blended RGB light. Light used:IQDH-K320/350RGB

Red, Green, and Blue LED illumination | Red LED illumination | Green LED illumination | Blue LED illumination

LIGHTING STRUCTURE



Dome Light

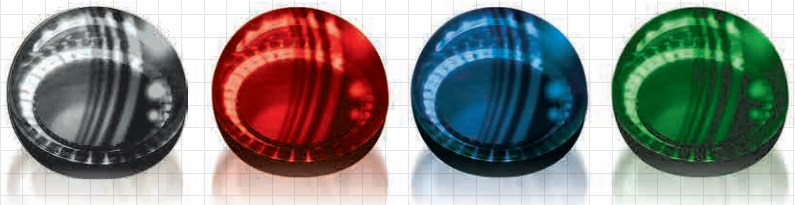
Magic Dome Light

IMDH-180 series

Dome light without camera hole

A single light enables simultaneous photography with multiple cameras.

Patent registered | Special Optical Design | Power LEDs

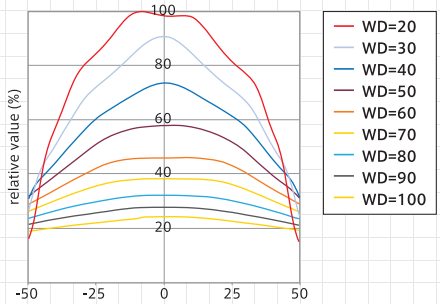


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply
IMDH-180□D	W	16	DC12V	CB	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply, etc.
	R	16		F8	
	B	16		8A	
	G	16		80	

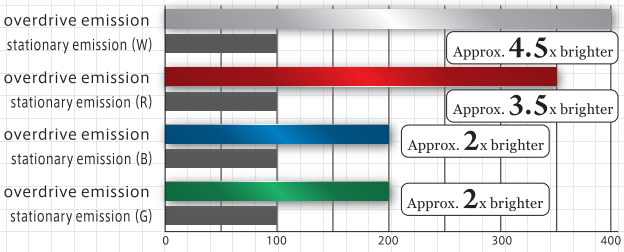
*□represents light color(W=White, R=Red, B=Blue, G=Green)

*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

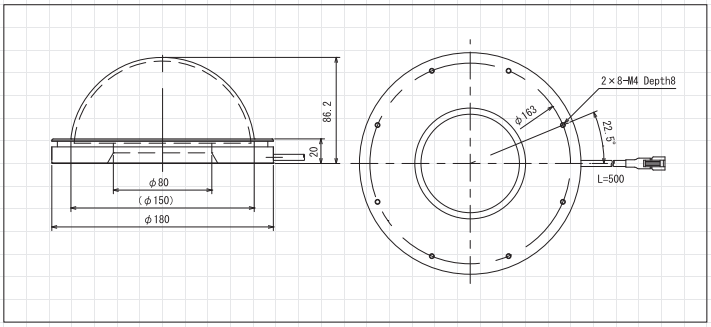
Luminance Distribution Chart (Reference Values)



Comparison of brightness (Reference Values)



*For overdrive power supply, please refer to 89~92.

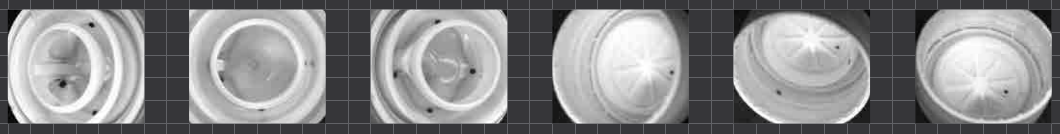


Light turned off

When the light is turned on, it is possible to see parts of the dome that were not visible.

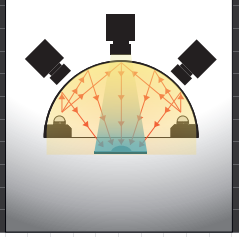
Light turned on

Effect Ideal for visual inspection and defect inspection of inner surfaces of bottle caps and similar applications. Light used:IMDH-180WD



It is recommended that the distance between the lens and dome is less than 5 mm in order to reduce reflections caused by ambient light. Shield the ambient light to ensure a head clearance inside the dome.

LIGHTING STRUCTURE



NEW

Coaxial Light

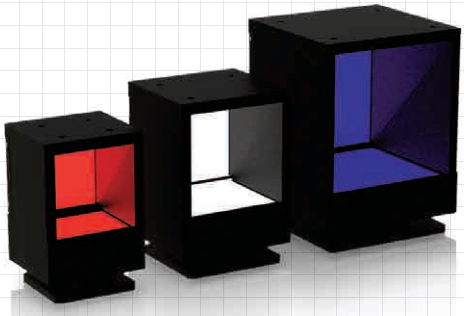
Narrow-angle light distribution coaxial Light

IFVA series

High illuminance, High uniformity and Compact coaxial Light

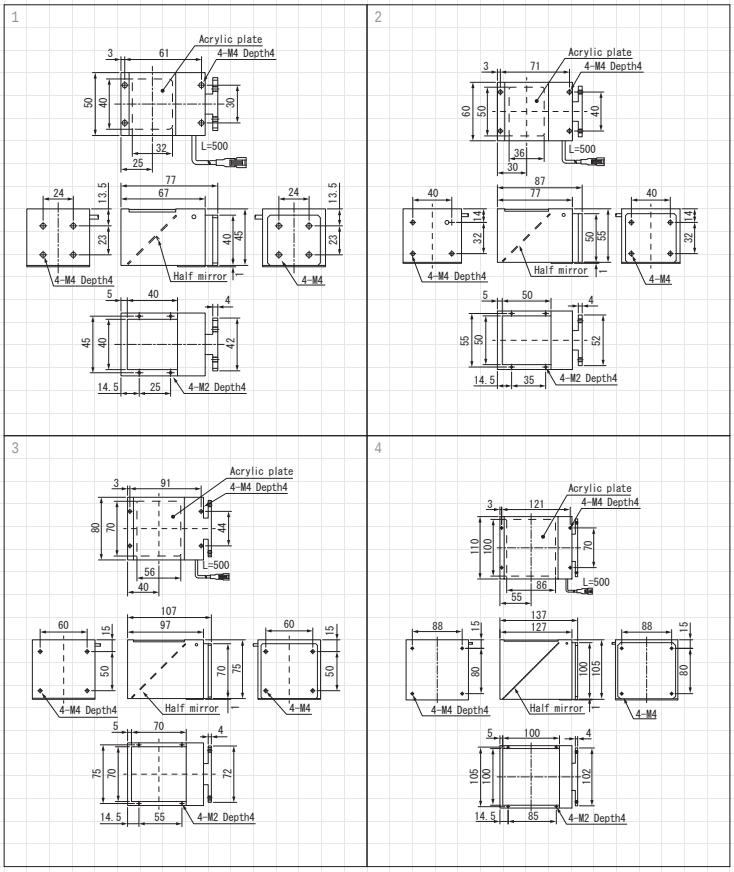
24V DC Models Available

Design application already



Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFVA-40□	W	10.5	DC12V	98	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply etc.	1
	R			AA		
	B			98		
IFVA-50□	W	14		A7		2
	R			B9		
	B			A7		
IFVA-70□	W	24		B9		3
	R			D9		
	B			B9		
IFVA-100□HV	W	32	DC24V	-	ILP-60M2-24(P.85) IDGB-24 series(P.81) other, overdrive power supply etc.	4
	R					
	B					

*□represents the color, R(Red), W(White) or B(Blue).
*Input voltage is DC12V, but DC24V models are also available.
*Optional polarizing plate can be attatched. The plate can reduce glares and reflection of objects.
*The SAG value means the maximum voltage setting for SAG power supplies. For details, see page 91.



Narrow-angle light distribution character

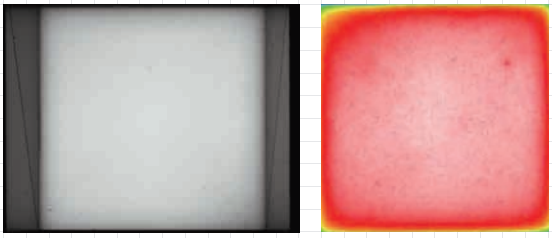
Diffusing type
IFV series

Narrow-angle light distribution type
IFVA series

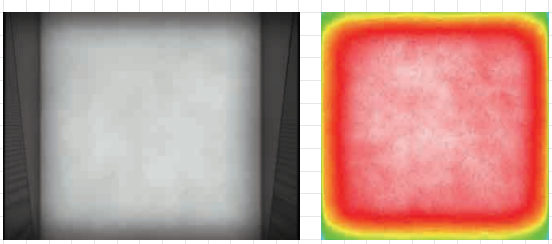
High parallelism radiation can clearly emphasis defects and features of objects.

High uniformity

Narrow-angle light distribution type
IFVA-50W



Diffusing type
IFV-C50DW

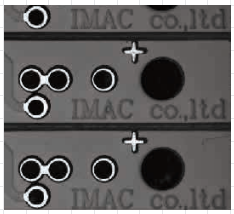


High uniformity: Wider areas can be irradiated.

Comparison of the illuminance

Diffusing type
IFV-C50DW

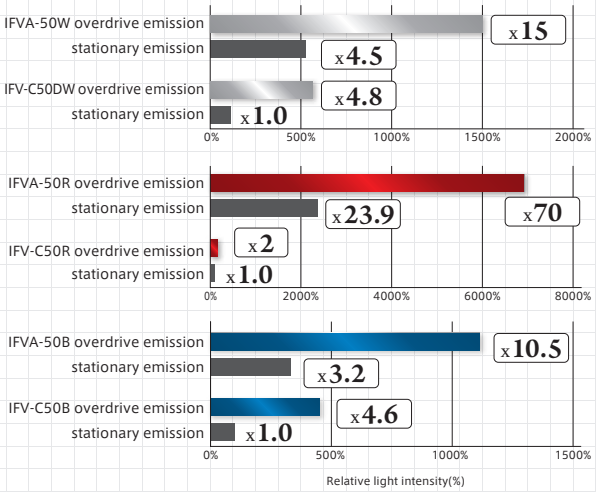
Shutter speed:1/10,000
Stationary light emission:100%



Narrow-angle light distribution type
IFVA-50W

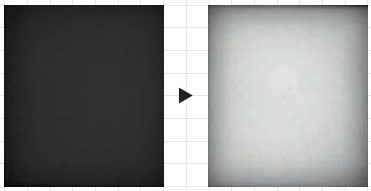
Shutter speed:1/10,000
Stationary light emission:100%

Light intensity comparison with same window size.



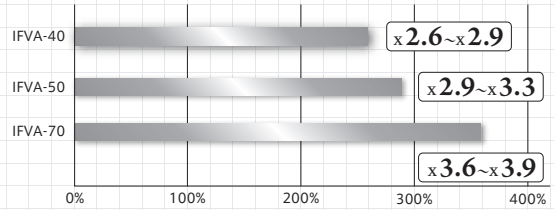
Overdrive power supply enable 250% higher illuminance(than stationary light emission)

Overdrive power supply
IJS series, etc.

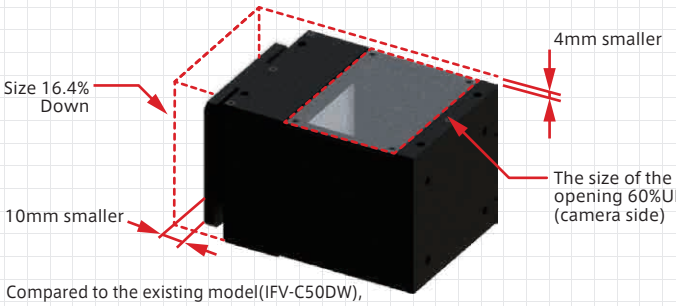


Stationary light emission ▶ overdrive emission

Light intensity comparison of stationary light and overdrive light (WD=100mm, stationary light is taken for 100%)



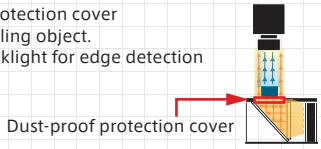
Signigficant improvement of the housing design. Much more compact and higher-function!



Compared to the existing model(IFV-C50DW),
①The body is 16.4% smaller thanks to chip LED.
②Broad view field:The opening(camera side) is 60% larger.
③Easier installation:No overhangs of screws on the body(camera side).
④Higher heat dissipation, thanks to the all aluminum body and its special heat sink design
※Please note that the case gets hot.

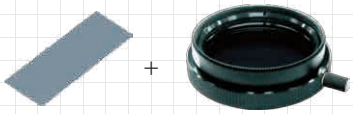
Abundant option and various usage

①Dust-proof protection cover
For dust and falling object.
Suitable for backlight for edge detection



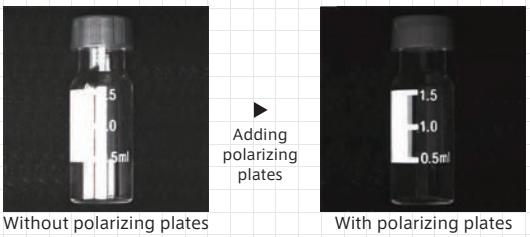
Model	Light Used
IKFVA-40-PRC	IFVA-40□
IKFVA-50-PRC	IFVA-50□
IKFVA-70-PRC	IFVA-70□
IKFVA-100-PRC	IFVA-100□HV

②Polarizing plate
Its high illuminance improves the effect of polarizing plates. By using polarizing filter for lens (IMPL series), it can be used in much wider use scene



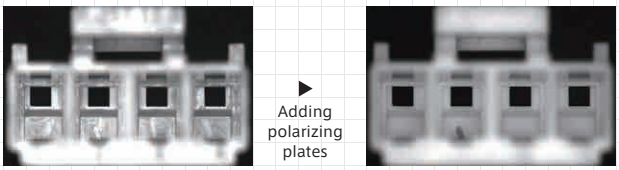
Model	Light Used
IKFVA-40-PL	IFVA-40□
IKFVA-50-PL	IFVA-50□
IKFVA-70-PL	IFVA-70□
IKFVA-100-PL	IFVA-100□HV

Optional polarizing plate can remove glares on a curved surface



Without polarizing plates ▶ With polarizing plates

Without polarizing plates, halation is generated on the bottle surface, and printing inspection is difficult. However, with polarizing plates, halation can be removed, and printing inspection is easy.



Without polarizing plates ▶ With polarizing plates

Without polarizing plates, the contrast between inside of the connecter and defect is not clear. With polarizing plates, the contrast between them is clear, and recognition of detects is easy.

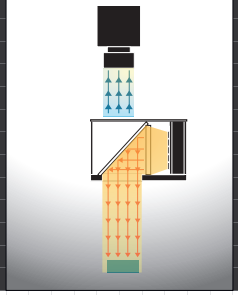
Effect Iuminance comparison under shutter speed
1 / 10,000 (Stationary light is regarded as 100%)

IFV-C50DW ▶ IFVA-50W

Imaging sample

Button Cell | Alignment mark | Connector

LIGHTING STRUCTURE



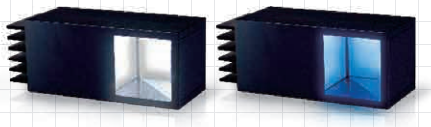
Coaxial Light

Ultra-high Luminance Coaxial Light

IFVH series

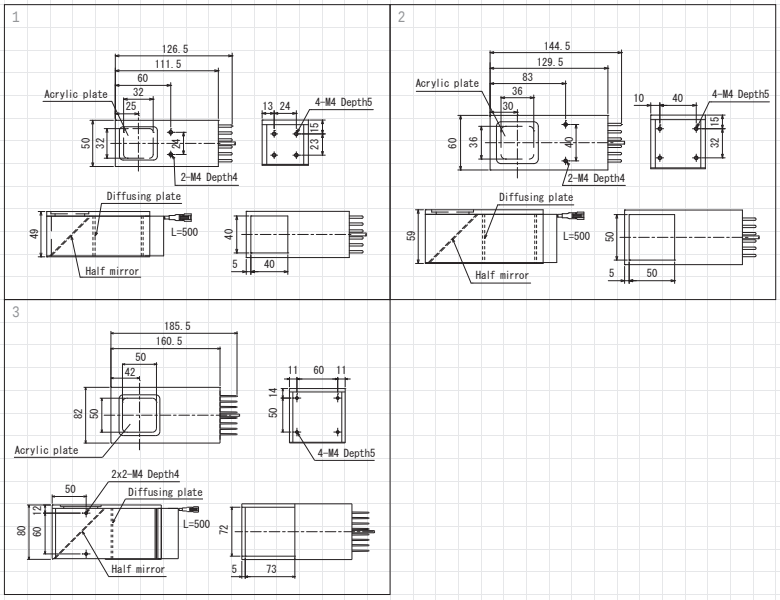
Making high-speed inspection possible

24V DC Models Available



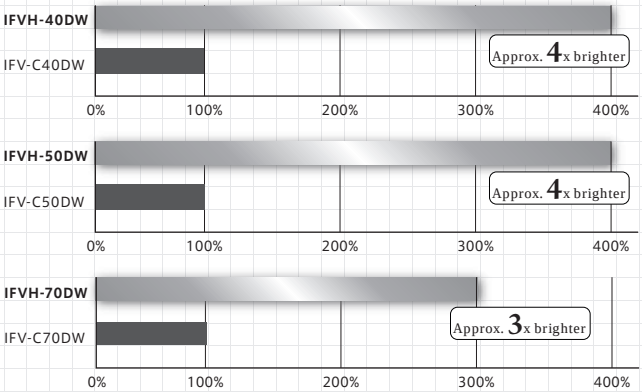
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFVH-40□	DW	7.2	DC12V	C8	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply etc.	1
	B			C5		
IFVH-50□	DW	9.6		C9		2
	B			C7		
IFVH-70□	DW	23.1		D1		3
	B			CF		

*□represents light color (DW=White, B=Blue)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*Optional light control film, which increases the parallelism of the light, can also be attached. For details, see page 102.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

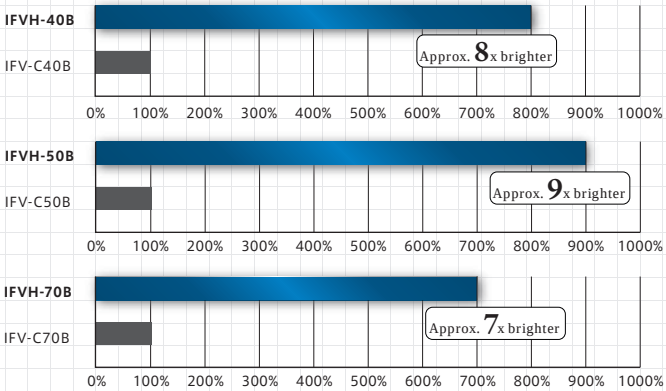


Brightness Comparison With Existing model (Reference Values)

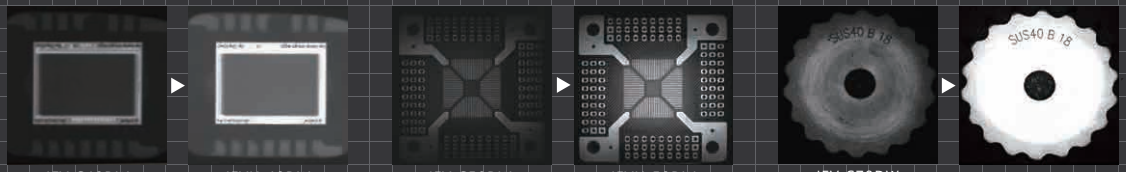
White lighting (WD150mm)



Blue lighting (WD150mm)

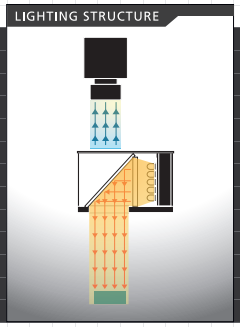


Effect Comparison using shutter speed of 1/10,000 (100% modulated lighting)

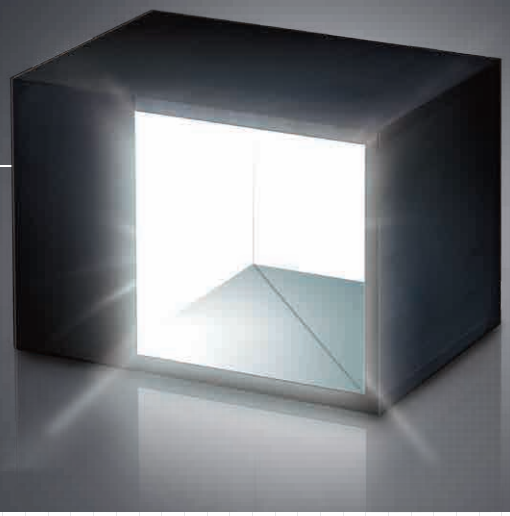


IFV-C40DW | IFVH-40DW | IFV-C50DW | IFVH-50DW | IFV-C70DW | IFVH-70DW (With light control film)

LIGHTING STRUCTURE



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 (*)	Power Supply	Drawing
IFV-C13□-HM	DR	0.3	DC12V	C5	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply 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 (Beam Splitter Type) Models

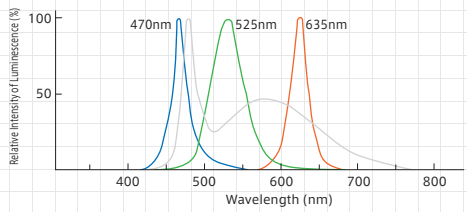
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFV-C18□-BS-C01	DR	1.2	DC12V	C6	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	8
	DW B G	1.3		FF		
IFV-C28□-BS-C01	DR	2.2		C7		9
	DW B G	3.5		FF		

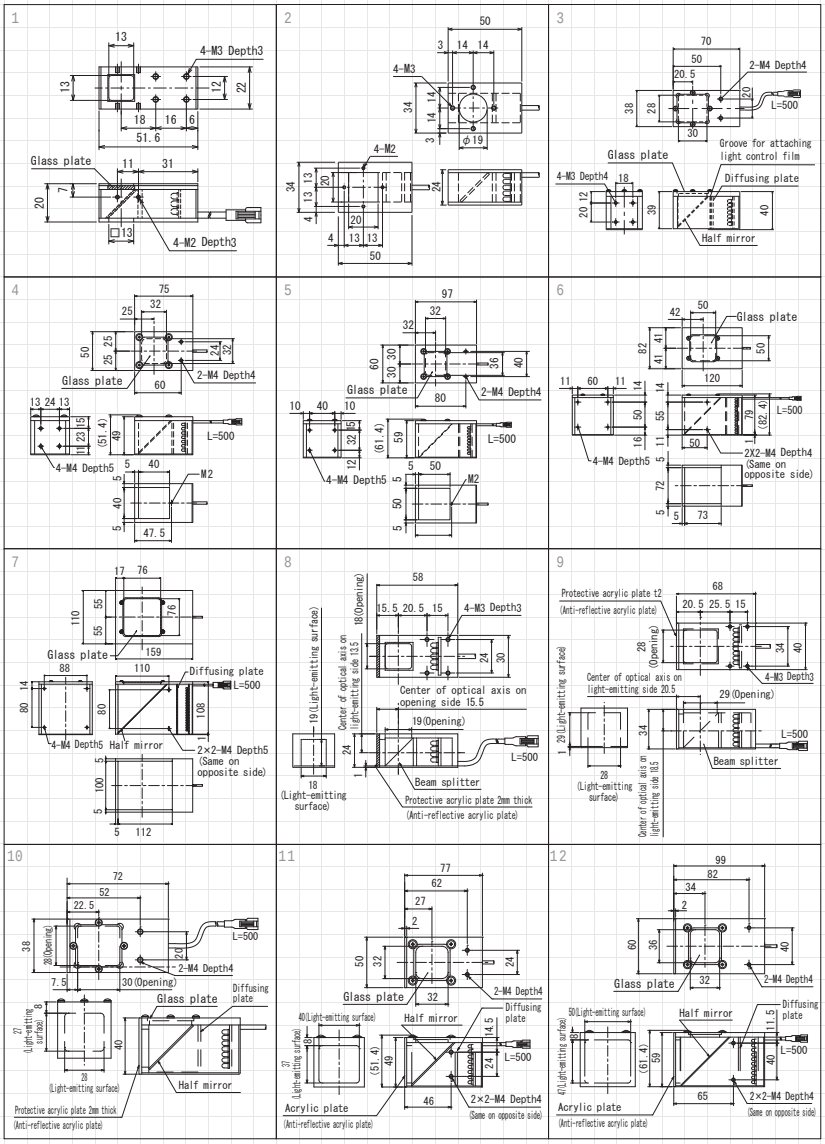
Straight Coaxial (Half-Mirror Type) Models

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Power Supply	Drawing
IFV-C32□-C01	DR	2.4	DC12V	C6	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply 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)
*Input voltage is 12 V DC, but 24 V DC models are also available.
*See page 74 for 24 V DC models. *Sizes other than those above are also available.
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Wavelength Characteristics





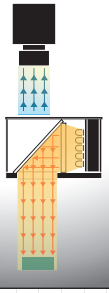
Effect Defects can be easily identified using regular reflection when illuminating the subject from the optical axis.

Bar light

IFV-C50DR

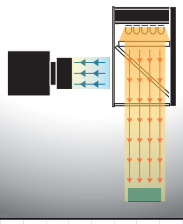
LIGHTING STRUCTURE

Coaxial Light



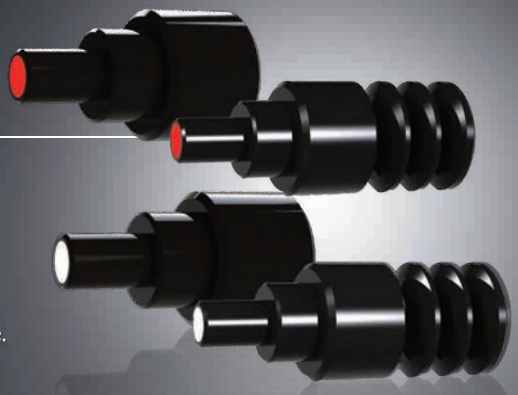
LIGHTING STRUCTURE

straight coaxial light



Coaxial Light

Coaxial Spot Light



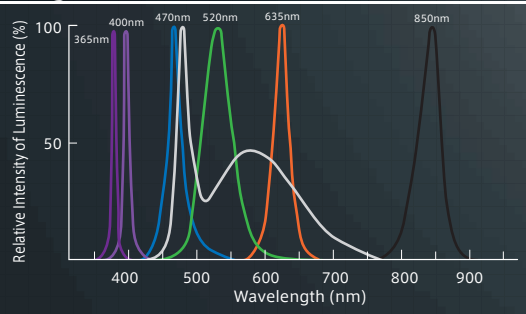
IV-14・IV-30・IHV-20
IHVD-22・IHVE-21 series

Ultra high-intensity coaxial light Infrared 850nm UV 365・400nm are available.

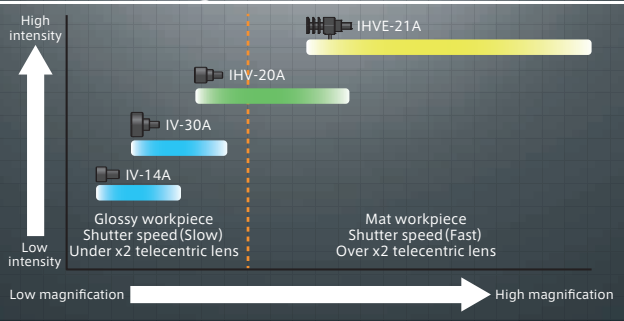
Design registered | Power LEDs

*Mounted on IV-30, IHV, IHVD, and IHVE

Wavelength Characteristics (Reference Values)

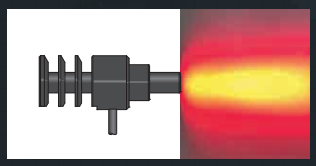


Recommended range

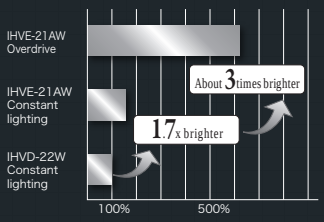


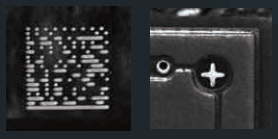
IHVE-21A

Achieved the top class brightness in industry, by our original optical design ! It's suited for high magnification.



Imaging of two-dimensional codes of circuit boards



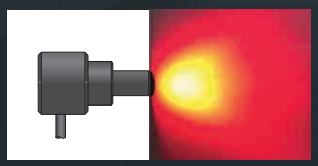


Light used:IHVE-21AW

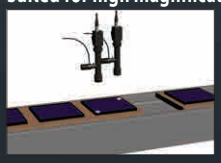
White color temperature:6,500K(typ)

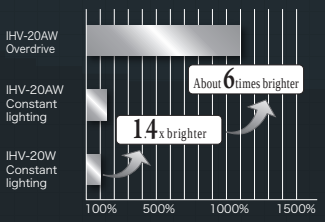
IHV-20A

Compact and high output! Avaliable up to 8 times brightness by overdrive. It's able to use high and low magnification range.



Suited for high magnification lens





Light used:IHV-20AW

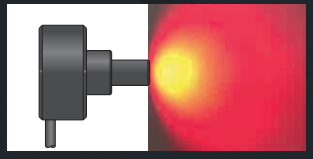
White color temperature:6,500K(typ)

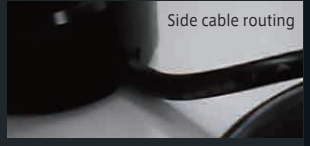
IV-30A

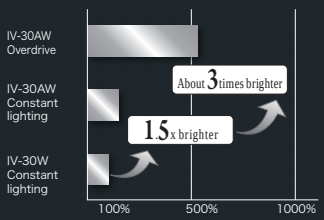
Achived high output of DC12V by our original optical design. It's useful for several case.

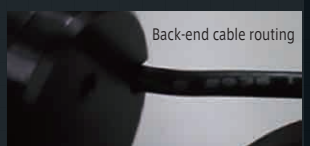
Cable capable of 90° movement

IV-30・IV-30A series







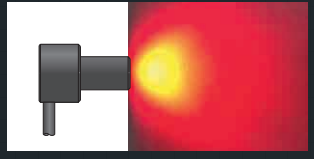


White color temperature:4,900K(typ)

IV-14A

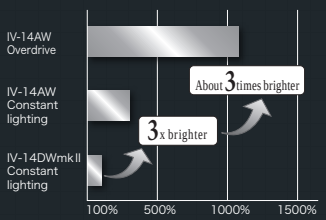
Achived the smallest ring light in the industry by our original optical design.

Mass 15g



Smallest size in the industry

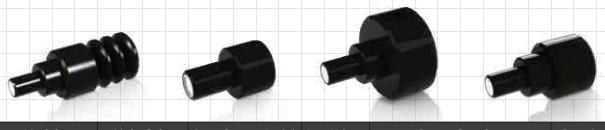
IV-14A series



Compact installation space

White color temperature:4,900K(typ)

Note: Color temperature (typ) has described a representative value. Please contact us for further details.



Model	Light Color					Power Consumption (W)	Input Voltage	Power Supply	Drawing
IV-14□mkII	R	DW	B	G		0.24	DC12V	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply etc.	1
IV-14A■	R	W	B	G		1			2
IV-30■	R	W	B	G		1.5			3
IV-30A■	R	W	B	G		2			

Model	Light Color					Input Current	Power Supply	Drawing
IHV-20■	R	W	B	G	-	350mA	ILC-350M2-VI (P.88) IDCA series (P.87)	4
IHV-20A■	R	W	B	G	-			
IHVD-22■	R	W	B	G	Y	700mA	ILC-700M2-VI (P.88) IDCA series (P.87)	5
IHVE-21A■	R	W	B	G	-			6

*□represents light color (R=Red, DW=White, B=Blue, G=Green)
*■represents light color (R=Red, W=White, B=Blue, G=Green, Y=Yellow)
*Notes on the IHV/IHVD/IHVE series
•Due to individual differences in the peak wavelength of LEDs used in this series, slight color variation may be evident even when using identical models.

IR·UV Coaxial Spot Light

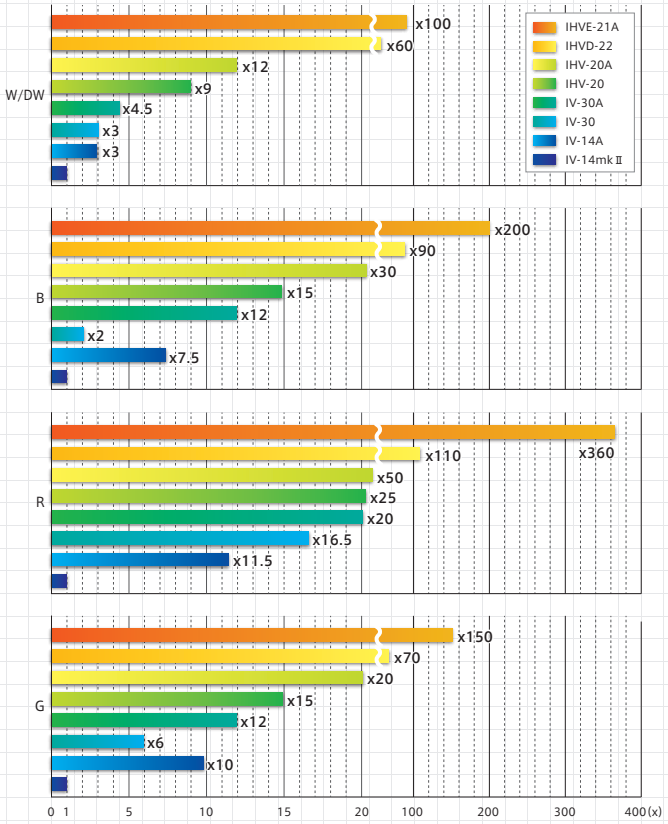
Model	Light Color	Input Current	Power Supply	Drawing
IHVD-24IR-850	IR(850)	700mA	ILC-700M2-VI (P.88) IDCA series (P.87)	7
IHVD-22UV-365	UV(365)	700mA		8
IHV-20UV-400	UV(400)	350mA	ILC-350M2-VI (P.88) IDCA series (P.87)	4

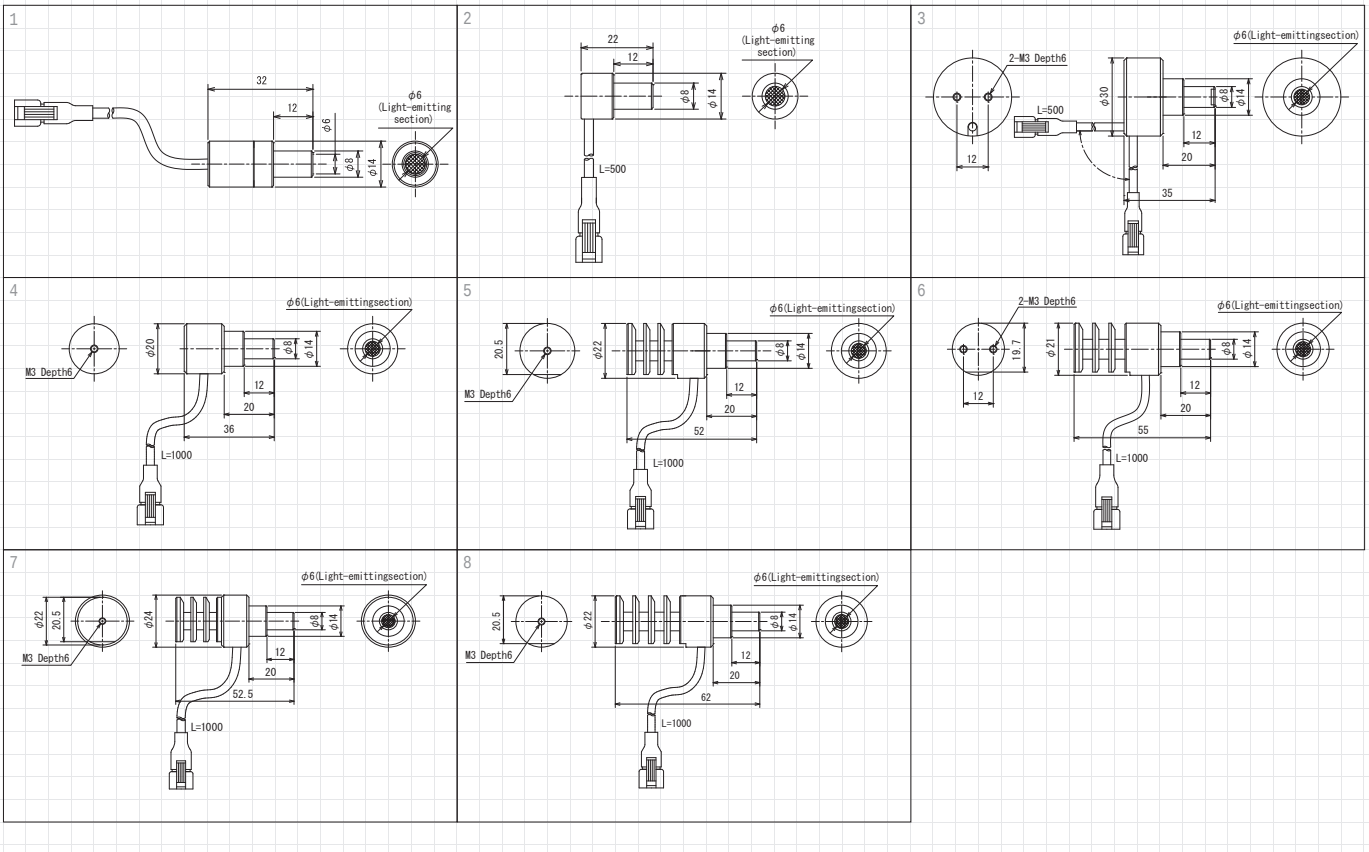
Optional resistance Box (IHV/IHVD/IHVE)

Need it at the time of using DC 12V output power supply.
Required when using the IHV or IHVD, IHVE series with a 12V DC output powersupply such as the ILP or IDGB series.
It is also required when you use overdrive power supply.

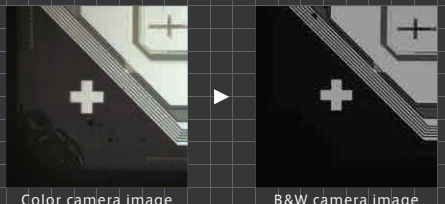
For details, see page 63.

Luminance Comparison (Reference Values) Relative brightness (IV-14mkII standard)



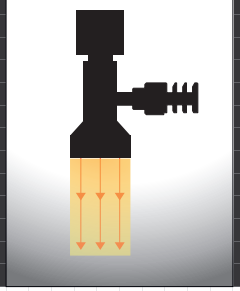


Effect Can be used to capture images with a shutter speed of 1/20,000. Light used: IHVE-21AW



Color camera image　　B&W camera image

LIGHTING STRUCTURE



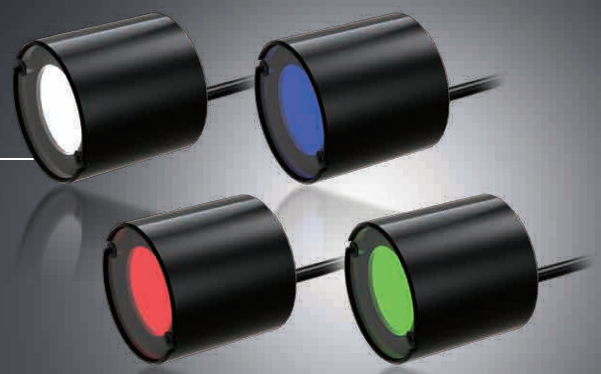
NEW

Special light

Mini Spot Light

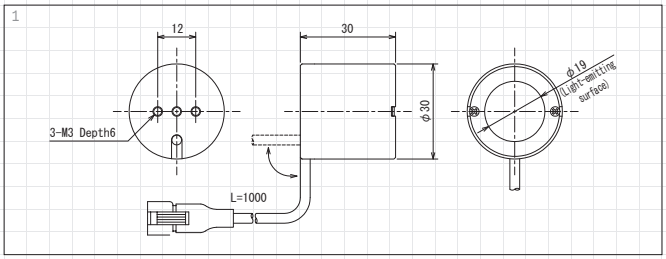
IHVA-SP series

Mini Spot Light that can be installed on various place.



Model	Light Color	Input Voltage	Input Current	Power Supply	Drawing
IHVA-SP30■-□	R W B G	-	700mA	ILC-700M2-VI(P.88) IDCA series(P.87)	1

*IHVA-SP can be connected to a not applied power supply if you use the resistance BOX.
*■represents S(wide-distribution model) or L(narrow-distribution model).
*□represents the color, R(Red), W(White), B(Blue) or G(Green).

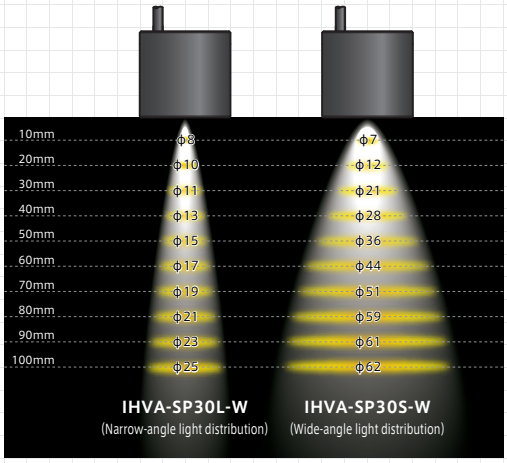


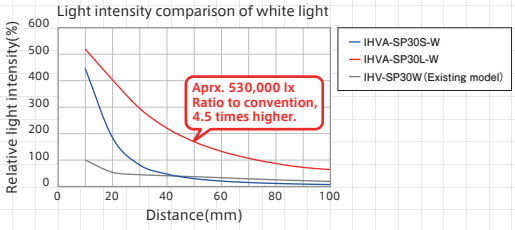
Mini and light spot lighting

Compact and light! Sizeϕ30 ×30mm(Height), Weight: 60g
Suitable for scene when small, light and high power lightings required, eg. irradiation at the tip of a robot arm.

Lineup 2 types: narrow-angle light type and wide-angle light type

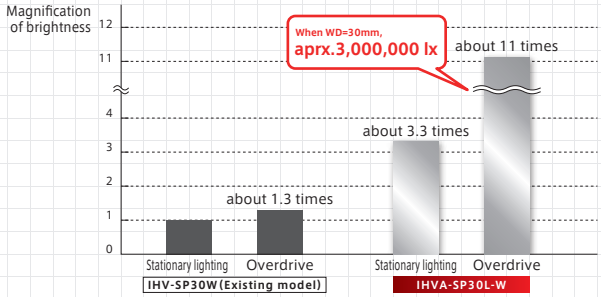
Lineup 2 types, narrow-angle light distribution type (IHVA-SP30L), and wide-angle light distribution type (IHVA-SP30S). Light distribution of IHVA-SP30L and IHV-SP30 (Existing model) is almost equal to each other. IHVA-SP30S has wider irradiation area than IHV-SP30.





Significant increase of light intensity by overdrive ※Reference value

With resistance Box for overdrive lightings, its brightness can get approx.. 3.5 times higher. (Compared to stationary light emission)
Compared to the stationary light of the existing model (IHV-SP30W), it is about 11 times brighter, to existing overdrive light, about 8 times brighter. It suits for replacement of xenon for high-speed inspection.



Optional resistance BOX (Overdrive・Stationary lighting)

With resistance box, it can be used with non-applicable power supply (e.g. ILP and IDGB). Moreover, with resistance box for overdrive lightings, its brightness can get approx. 3.5 times higher. (Compared to stationary light emission)

Optional resistance BOX for Stationary lighting

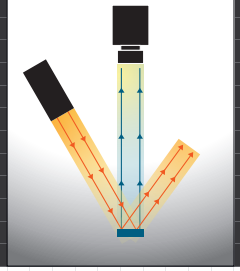
Lighting model	Light Color	Resistance box model
IHVA-SP30■-□	R	RBOX3W-15R
	W B G	RBOX3W-12R

Optional resistance BOX for Overdrive

Lighting model	Light Color	Resistance box model	SAG (*)
IHVA-SP30■-□	R W B G	RBOX-SAG	FF

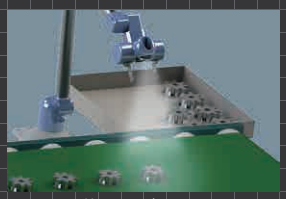
*■represents S(wide-distribution model) or L(narrow-distribution model).
*□represents the color, R(Red), W(White), B(Blue) or G(Green).
*The SAG value meanss the maximum voltage setting for SAG power supplies. For details, see P91.

LIGHTING STRUCTURE



Effect It can be installed to various environments, eg. inside of machine, tips of robot arms and stereoscopic microscopes.


Print inspection of transparent containers.


Mount to robot arms

Collimate Light

IBF series

LED Parallel light source Brightness conventional ratio 1.5 times

Capable of illuminating objects several dozen meters away

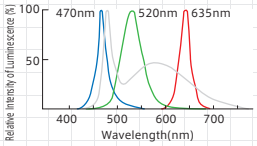
Special Optical Design | Power LEDs

Model	Light Color	Input Voltage	Input Current	Power Supply	Drawing
IBF-LXS30□	AR AW AB AG IR (850)	-	700mA	ILC-700M2-VI(P.88) IDCA series(P.87)	1
IBF-LX30□					2
IBF-LX40□					3
IBF-LX60□					4
IBF-LXS30UV-400	UV (400)	-	350mA	ILC-350M2-VI(P.88) IDCA series(P.87)	-
IBF-LX30UV-400					
IBF-LX40UV-400					
IBF-LX60UV-400					
IBF-CB100■	R W B G IR (860,950)	DC12V	Power consumption 9.5W	ILP-30M2(P.85).etc	5

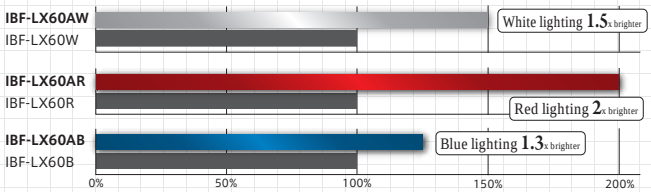
*IBF-LXS and IBF-LX can be connected to a not applied power supply if you use the resistance BOX.
*□ represents light color (AR=Red, AW=White, AB=Blue, AG=Green, IR(850)=Infrared).
■ represents light color (R=Red, W=White, B=Blue, G=Green, IR(860,950)=Infrared).
*Due to individual differences in the peak wavelength of LEDs used in this light, slight color variation may be evident even when using identical models.
*White color temperature is 6500 K(typ).Color temperature (typ) has described a representative value. Please contact us for further details.

Replacement of laser pointer (For visual inspection)

Wavelength Characteristics



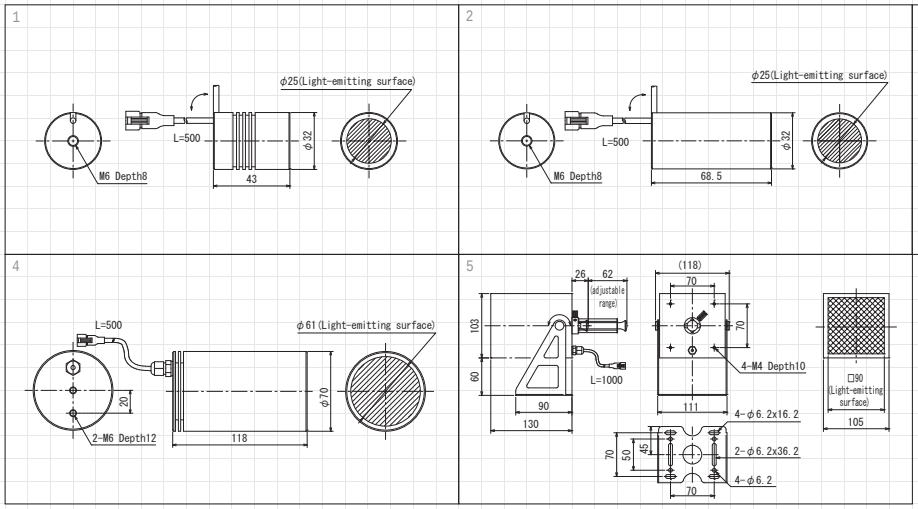
Brightness Comparison With Previous Models (Reference Values)



Optional resistance Box (IBF-LXS/LX)

Required when using the 12V DC out put power supply
With resistance box, it can be used with non-applicable power supply (e.g. ILP and IDGB).
It is also required when you use overdrive power supply.

For details, see page 63.



Used as a backlight, with no wraparound silhouette (size, shape, measurement)

Workpiece: LED | Lighting:IDHM-122/122DWT | Lighting:IBF-LX60AW

For workpiece with a lens effect, since it is possible to prevent the incident to the camera be irradiated in parallel light, it can accurately capture the exact dimensions measuring the silhouette.

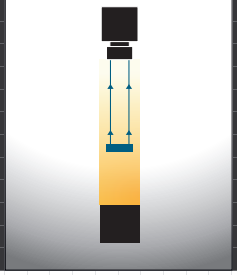
Effect

Illuminating parallel light to an edge of two irregular objects with some depths can only highlight the illuminated edge.

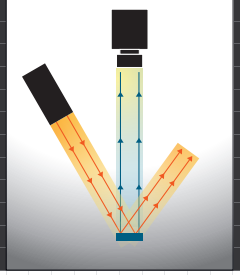
Object : Screw | Lighting:IDHM-122/122DWT | Lighting:IBF-LX60AW

In the case of diffusing light, cannot accurately project on a silhouette because light go around an object, but you can measure the dimensions by using parallel light.

LIGHTING STRUCTURE



LIGHTING STRUCTURE



Special Light

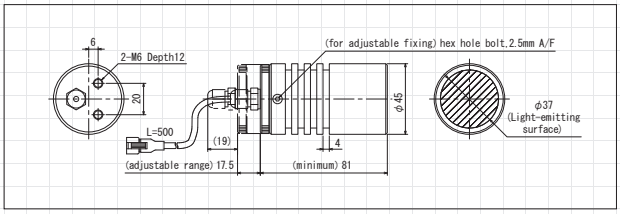
Adjustable Ultra-bright Spot Light IHV-FX series

Used in everything from point concentrator to long-distance illumination.
Realize brightness equivalent to halogen! Brightness conventional ratio 1.5 times!

Special Optical Design | Power LEDs

Model	Light Color	Input Current	Power Supply
IHV-FX100A□	R W B G	700mA	ILC-700M2-VI (P.88) IDCA series (P.87)

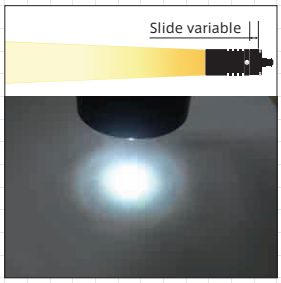
*By using a Resistance BOX, it can be connected to power supply units other than applicable power supply.
*□represents light color (R=Red, W=white, B=Blue, G=Green)
*Due to individual differences in the peak wavelength of LEDs used in this light, slight color variation may be evident even when using identical models.

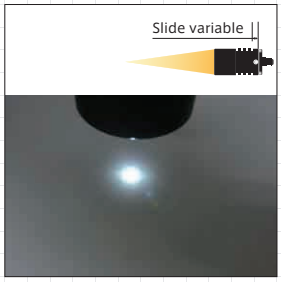


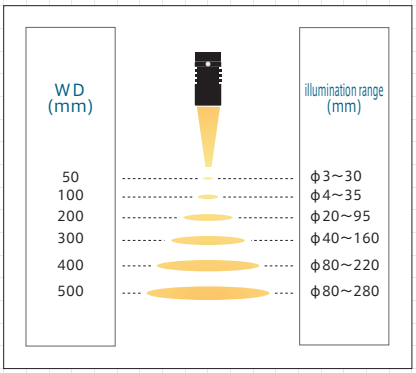
Optional resistance Box

Required when using the 12V DC out put power supply
With resistance box, it can be used with non-applicable power supply (e.g. ILP and IDGB)
It is also required when you use overdrive power supply.

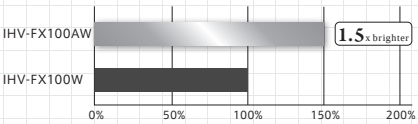
Lighting image







Brightness Comparison With Existing model (Reference Values)



Optional Parts

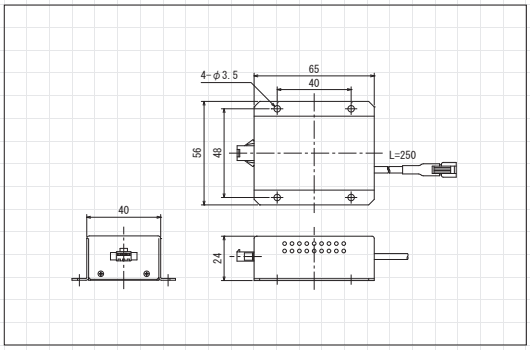
Resistance Box RBOX series

Please use it when you use lights, such as a coaxial spot light and a collimated light, with DC12V power supply.

Light Used	Models of stationary light	Light Used	Power consumption at the time of Resistance BOX connection	Models of overdrive power supply	SAG (＊)
IHV-20□	RBOX-24R	W B G R	4.5	RBOX-SAG	—
IHV-20A□	RBOX-27R	R	4.5		FF
	RBOX-24R	W B G	4.5		FF
IHVD-22□	RBOX3W-12R	W B G R Y	9		—
IHVE-21A□	RBOX3W-15R	R	9		FF
	RBOX3W-12R	W B G	9		FF
IBF-LXS30□	RBOX3W-15R	AR	9		FF
	RBOX3W-12R	AW AB AG	9		FF
IBF-LX30□	RBOX3W-15R	AR	9		FF
	RBOX3W-12R	AW AB AG	9		FF
IBF-LX40□	RBOX3W-15R	AR	9		FF
	RBOX3W-12R	AW AB AG	9		FF
IBF-LX60□	RBOX3W-15R	AR	9		FF
	RBOX3W-12R	AW AB AG	9		FF
IHV-FX100A□	RBOX3W-15R	R	9		FF
	RBOX3W-12R	W B G	9		FF

*□represents light color (W=white, AW=White, B=Blue, AB=Blue, G=Green, AG=Green, R=Red, AR=Red, Y=Yellow)
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

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



*Resistance BOX of when to connect the overdrive power supply is RBOX-SAG

Connection image

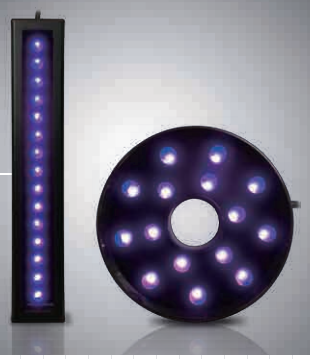
DC12V Power Supply series

Resistance BOX

Light

Special Light

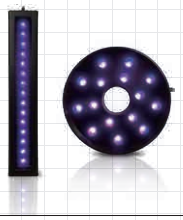
Ultraviolet Light Ultraviolet series



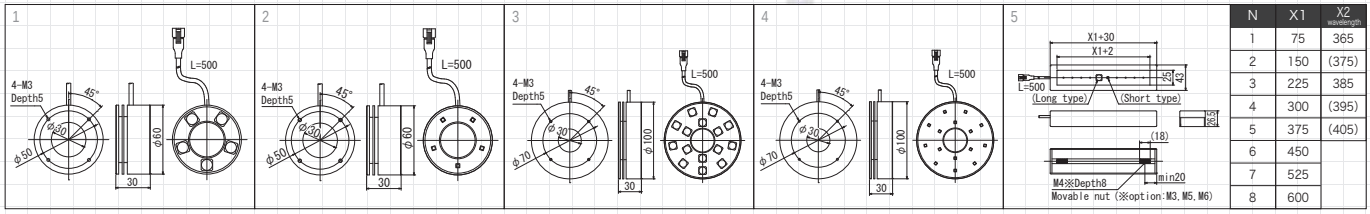
Light mounted with high output UV_LED for exciation of fluorescent material.

Power LEDs

Model	Light Color	Power Consumption (W)	Input Voltage	Wavelength (nm)	Power Supply	Drawing
IDHR-60L-UV-(X2)	UV	8	DC24V	365 (375) 385 (395) (405)	ILP-60M2-24 (P.85) IDGB-24 series (P.81)	1
IDHR-60S-UV-(X2)	UV					2
IDHR-100L-UV-(X2)	UV	15.4				3
IDHR-100S-UV-(X2)	UV					4
IDBA-CH(X1)L-UV-(X2)	UV	7.5×N				5
IDBA-CH(X1)S-UV-(X2)	UV					



- The standard is 365 and 385 nm. Lights with wavelengths of 375, 395, and 405 can also be custom-manufactured.
- Available for S type(wide-distribution), or L type (narrow-distribution).

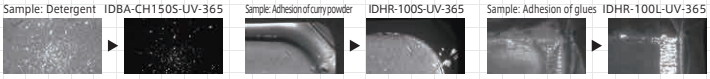


N	X1	X2 wavelength
1	75	365
2	150	(375)
3	225	385
4	300	(395)
5	375	(405)
6	450	
7	525	
8	600	

Example of photographed objects

Effect: Optimum for excitation of fluorescent material and inspection of minor scratches.

Sample: Detergent IDBA-CH150S-UV-365 Sample: Adhesion of curry powder IDHR-100S-UV-365 Sample: Adhesion of glues IDHR-100L-UV-365



Precautions for use of ultraviolet light

- Do not look into direct light or mirror-reflected light from the light source.
- When using a UV light source, be sure to wear protective goggles.
- Do not turn on the power to the light-emitting section while it points at somebody's eyes.
- Wear long-sleeve shirt or gloves to protect your skin from direct contact with illumination.

Option (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

Special Light

Ultraviolet Light UV-CAN series

Possible to inspect clearly than visible lighting. The AUV series is twice higher output than previous model.

24V DC Models Available

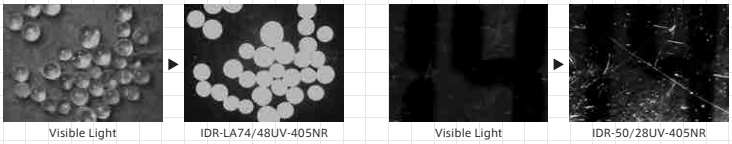
·405nm Light are also available of the same shape as the visible light

Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Wavelength (nm)	Power Supply	Drawing
IDR-50/28UV-405NR	UV	2.9	DC12V	6A	405	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply, 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

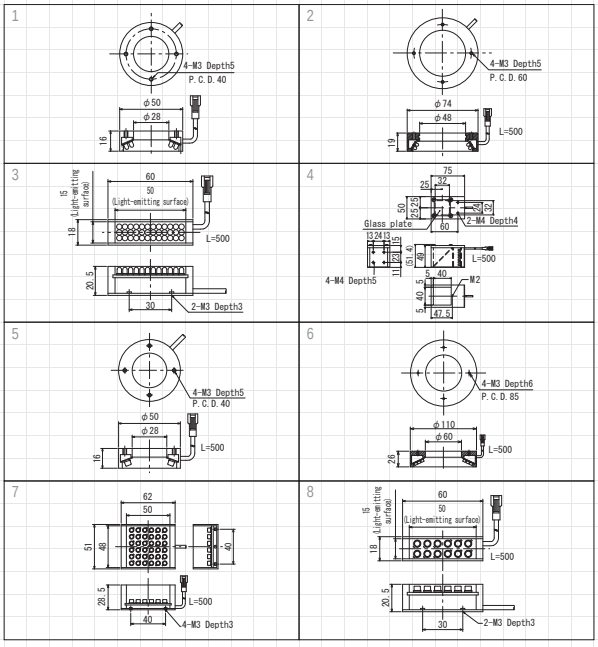
*Contact IMAC if you require a lighting shape other than those described here. *Input voltage is 12 V DC, but 24 V DC models are also available.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Example of photographed objects

Effect: UV lighting is suited for excitation and fine scratches inspection of the particles.



Visible Light IDR-LA74/48UV-405NR Visible Light IDR-50/28UV-405NR



Special Light

Infrared Light

Infrared series

Suitable for transmissive inspection of packages, liquids, and print

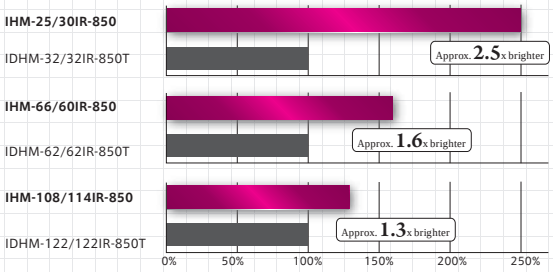
Lineup includes a wide range of peak wavelengths other than 850 nm (780/810/890/940 nm)

24V DC Models Available

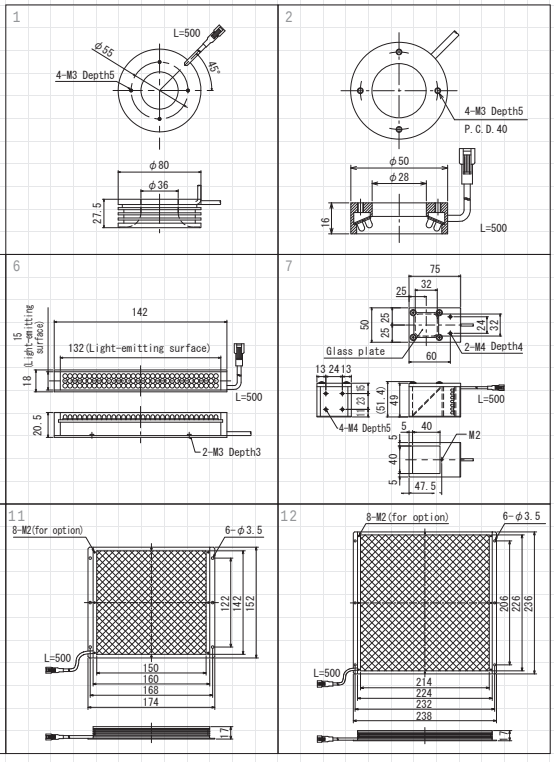
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (＊)	Power Supply	Drawing
IMAR-80IR-850	IR(850)	7	DC12V	BC	ILP-30M2 (P.85) IDGB series (P.81) other, overdrive power supply, etc.	1
IMAR-80IR-950	IR(950)	7		DA		
IDR-50/28AIR-850	IR(850)	2.2		FF		2
IDR-90/50AIR-850	IR(850)	4.4		FF		3
IDBA-C50/15AIR-850	IR(850)	1.5		FF		4
IDBA-C72/24AIR-850	IR(850)	2.8		FF		5
IDBA-C132/15AIR-850	IR(850)	3.9		FF		6
IFV-C40AIR-850	IR(850)	2		FF		7
IHM-25/30IR-850	IR(850)	2		E3		8
IHM-66/60IR-850	IR(850)	7.5		FF		9
IHM-108/114IR-850	IR(850)	14.7		FF		10
IHM-150/142IR-850	IR(850)	24		E5		11
IHM-214/226IR-850HV	IR(850)	47	DC24V	-	ILP-60M2-24 (P.85) etc.	12

*In addition to the above models, infrared models are also available in the same shapes as visible light versions.
*Input voltage is 12 V DC, but 24 V DC models are also available.
*Please contact us for wavelengths other than above.
＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

Comparison With Previous Models (Reference Values)



Longer wavelengths have small scattering ratios, and are suited for back-light application.
Scattering rateindicates how easy it is for light to change direction upon hitting the surface of the work or another object. The higher the scattering ratio, the easier it is for light to scatter on hitting a surface, so wavelengths with a higher scattering ratio are ideal for surface inspections. If, on the other hand, the scattering ratio is low, it is easier for light to pass through the surface of the work, therefore making it ideal for transmissive applications.



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

NEW

Special Light

Infrared Light [1200nm&1450nm]

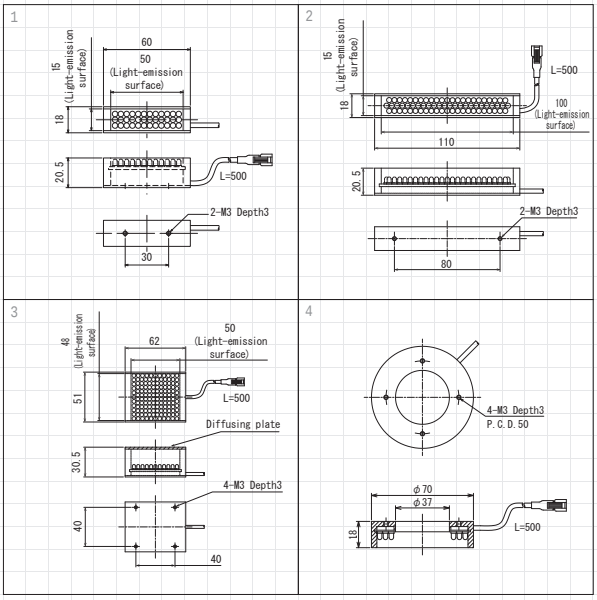
Infrared series

This makes possible inspections that conventionally have been difficult, such as the detection of foreign substance in a workpiece and the visualization of water content.

24V DC Models Available

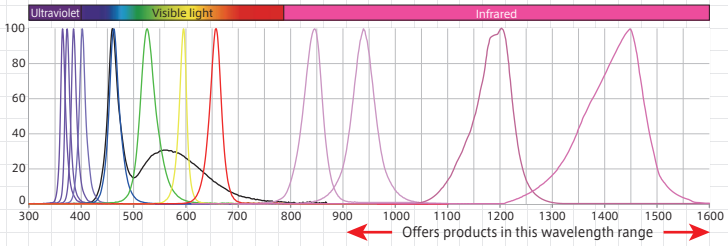
Model	Light Color	Power Consumption (W)	Input Voltage	Power Supply	Drawing
IDBA-C50/15IR-1200	IR(1200)	1.5	DC12V	ILP-30M2(P.85) IDGB series(P.81) other, overdrive power supply, etc.	1
IDBA-C100/15IR-1200	IR(1200)	3.4			2
IDBA-C50/50IR-1200S	IR(1200)	6.8			3
IDR-F70/37IR-1450	IR(1450)	4			4
IDBA-C50/15IR-1450	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 versions.



Character depending on IR wavelength range

In comparision with ultraviolet light and visible light, infrared light has a high transmittance due to its very small scattering rete and penetrates liquid and ink. In addition, as its wavelength range is limited unlikehalogen, light-sensitive workpieces are not affected by it. Due to use of InGaAs camera that has a high sensitivity in the wavelength range of 900 to 1700nm, the IR-1200 series / IR-1450 series can handle workpieces that cannot be inspected by means of visible light illumination.



Effect IR transmission enables recognition of the state and species discrimination in the liquid. In addition, IR light can transmit letters and printing, so it makes appearance inspection easy.

Water absorbs light with a 1,450nm wavelength and appears black.
The 850nm and visible light penetrates it.

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

IHM-108/114W
(Visible light)

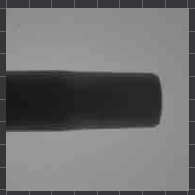
IFD-200/200IR-850
(850nm)

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

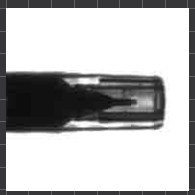
Visible light and 850nm infrared light cannnot penetrate the cap and the pen tip is not visible.
1,450nm infrared light penetrates the cap as well and it is possible to inspect the pen tip.

Oily marker
Body part:recycled resin
Cap:PP

IHM-108/114W
(Visible light)



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



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

As visible light and 850nm infrared light do not penetrate the bottle, it is not possible to judge the presence of content.
As 1,450nm infrared light penetrates the bottle and does not penetrate the content (liquid), it is easy to judge the presence and amount of the content.

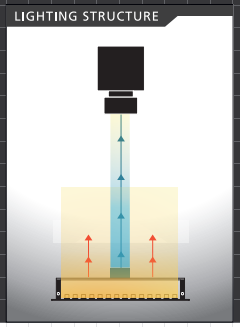
Handsoap
Bottle:PE

IHM-108/114W
(Visible light)

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

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

LIGHTING STRUCTURE

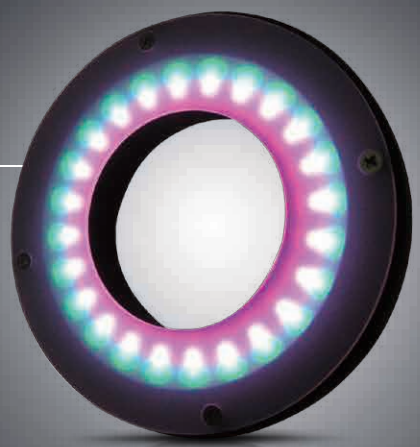


Special Light

RGB Full-color Light

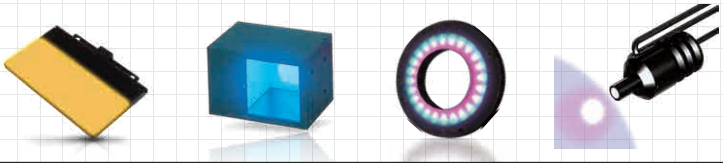
RGB 3-Color series

Blend lighting colors to suit the purpose of the inspection



Power LEDs*

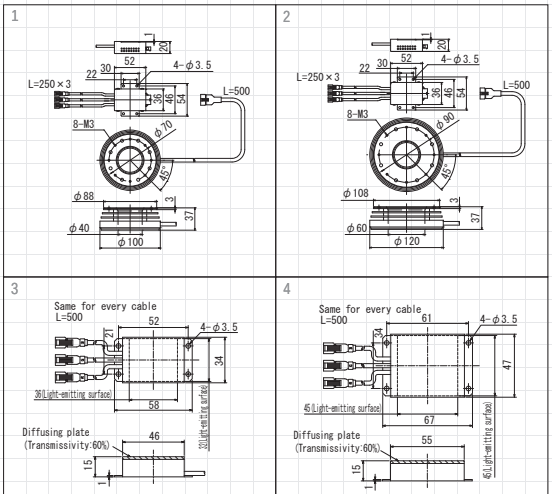
*IHRGB only



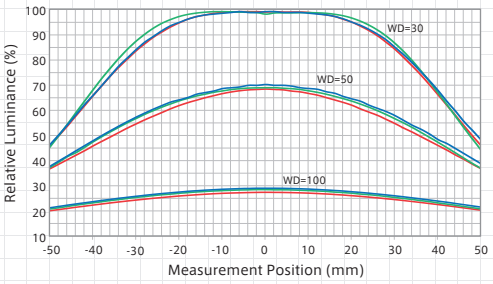
Model	Power Consumption (W)			Input Voltage	SAG (*)			Power Supply	Drawing
	R	G	B		R	G	B		
IHRGB-100-MIX	4.5	4.5	4	DC12V	FF	8D	A1	IDGB-30M4 series (Stationary lighting) (P.81) IJS-40M4-TP (Overdrive lighting) (P.89)	1
IHRGB-120-MIX	5.5	5.5	5		FF	99	B1		2
IDHM-32/36RGB	1.2	1.2	1.2		FF	CB	AF		3
IDHM-45/45RGB	1.5	2	2		FF	E3	BF		4
IDHM-55/55RGB	2.2	2.9	2.9		FF	FF	E0		5
IFLA-25/25RGB	0.3	0.3	0.3		FF	EB	E5		6
IFLA-30/41RGB	0.5	0.5	0.5		FF	E6	D3		7
IFLA-30/80RGB	1	1	1		FF	E3	D3		8
IFV-C32RGB-CP	1.2	1.2	1.2		FF	CB	AF		9
IFV-C40RGB-CP	1.5	2	2		FF	E3	BF		10
IFV-C50RGB-CP	2.2	2.9	2.9		FF	FF	E0		11

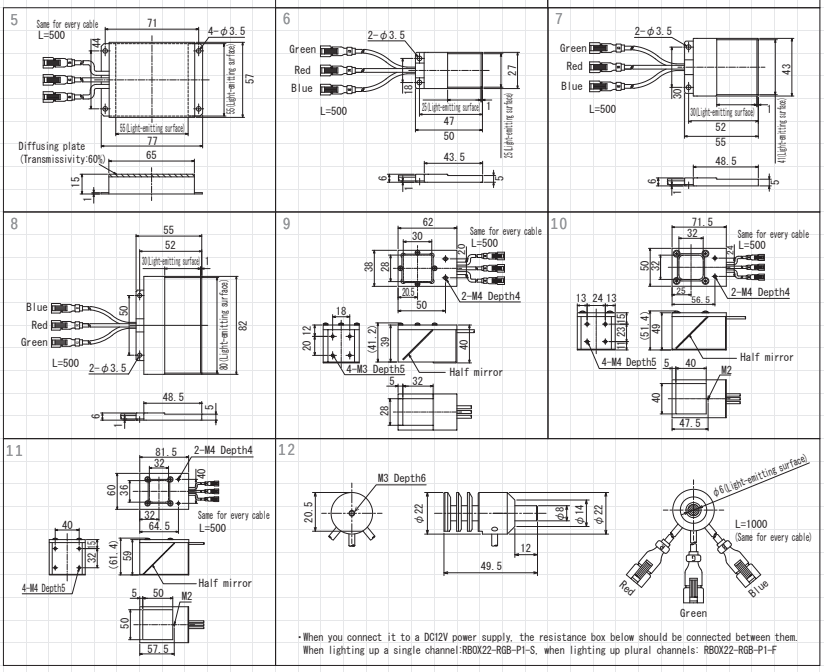
Model	Input Current	Input Voltage	Power Supply	Drawing
IHV-22RGB-P1	200mA	-	IDCA series(P.87)etc.	12

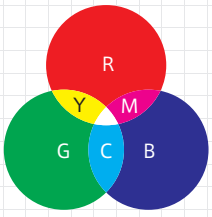
*The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.



Luminance Distribution Chart (Reference Values) **Measurement model: IHRGB-100**



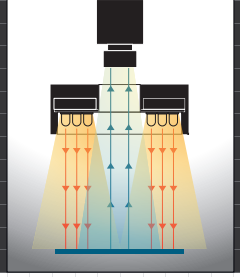




By mixing the red, green, and blue,it can be created the yellow, magenta, and cyan.
It can be used in a variety of scenes, such as contrast enhancement due to the difference in the emission color.

*When you connect it to a DC12V power supply, the resistance box below should be connected between them. When lighting up a single channel:RBOX22-RGB-P1-S, when lighting up plural channels: RBOX22-RGB-P1-F

LIGHTING STRUCTURE



Effect Example image photographed using blended RGB light. Light used: IHRGB-120

Red, Green, and Blue LED illumination | Red LED illumination | Green LED illumination | Blue LED illumination

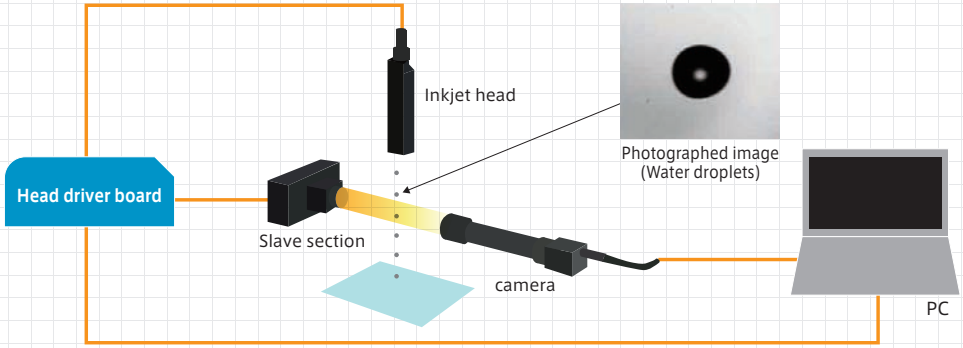
Inkjet Droplet Observation Light Source

ISU series

Nano-second emission makes it possible to image the flight state of even one droplet of inkjet.

Special Optical Design　Power LEDs

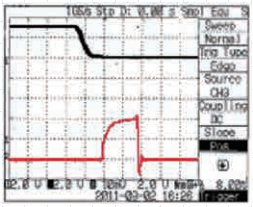
Structure



Compatible with one to multiple head nozzles. Up to 18 units can be controlled.

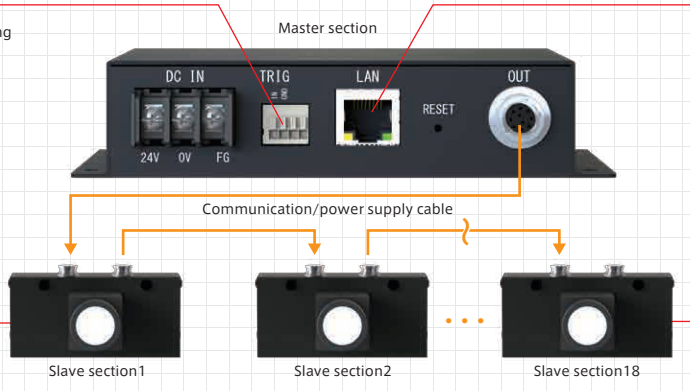
Trigger signal

150nsec responsiveness before the start of lighting
250nsec responsiveness before stabilization



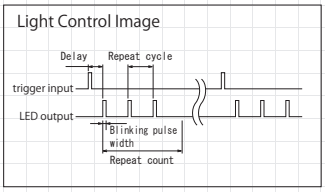
Adopted the power LED

Min. 100nsec
Light is emitted by high-speed overdrive lighting (max.1μsec).
Image of even one liquid droplet can be photographed.



Other function

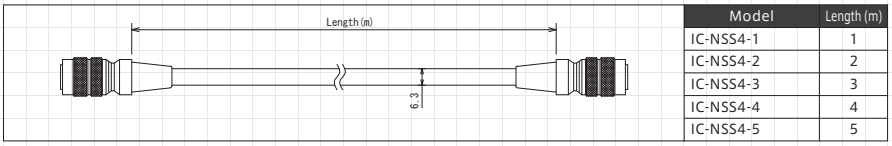
The delay (0 to 5 ms) and repeated lighting (1 to 100 times/trigger) functions are mounted as standard, which enables observation in various occasions.



Slave section

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

Master / slave connection cable

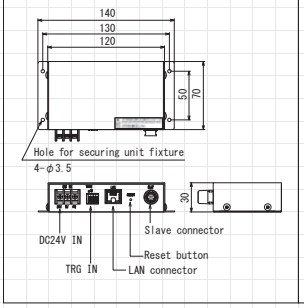


Model	Length (m)
IC-NSS4-1	1
IC-NSS4-2	2
IC-NSS4-3	3
IC-NSS4-4	4
IC-NSS4-5	5

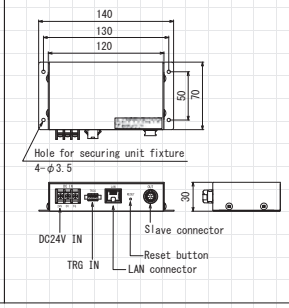
Item	Type
Model	Master section : ISU-NSMST-TP (TTL) Master section : ISU-NSMST-TP-OC (Open collector) Slave section : ISU-NSSL-LX30AW
Output control method	Variable strobe voltage (256 levels)
Input Voltage	DC24V　4A (MAX)
Output Voltage	3A (MAX) / 1Unit
Light Color	White
No. of slave units	Max. of 18 units/master unit
External trigger	TTL/Open collector
External trigger interlock	Duty: 5% or less
No. of repeat times for LED lighting	1 to 100 times/trigger
Lighting Cycle	2～20μs (1μs step)
Width	100ns～1μs (100 ns-step) ※
Delay	0～5ms (1μs step)

※Less than 200ns might becomes unstable

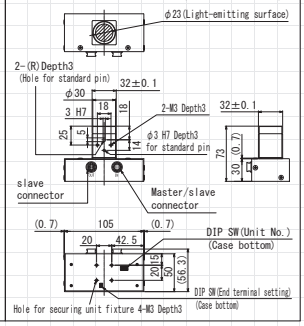
ISU-NSMST-TP (Master section)



ISU-NSMST-TP-OC (Master section)



ISU-NSSL-LX30AW (Slave section)



NEW

Special Light

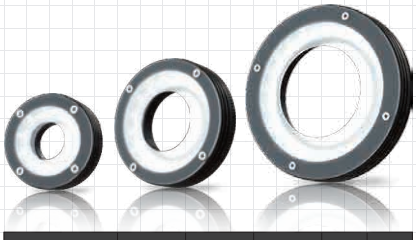
Overdrive Light

IS series

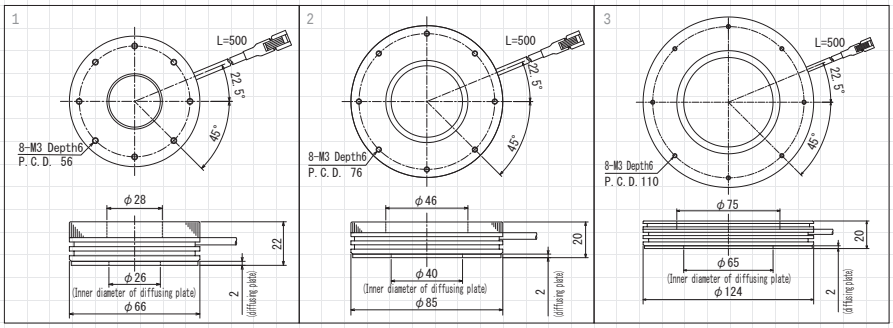
Super high illuminance: 26 times brighter than stationary light emission models!

24V DC Models Available

Ring type:ISHRA series

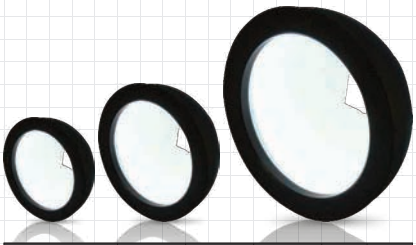


Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Drawing
ISHRA-60WS	W	10	DC36V	FF	1
ISHRA-80WS	W	10		FF	2
ISHRA-120WS	W	15		FF	3

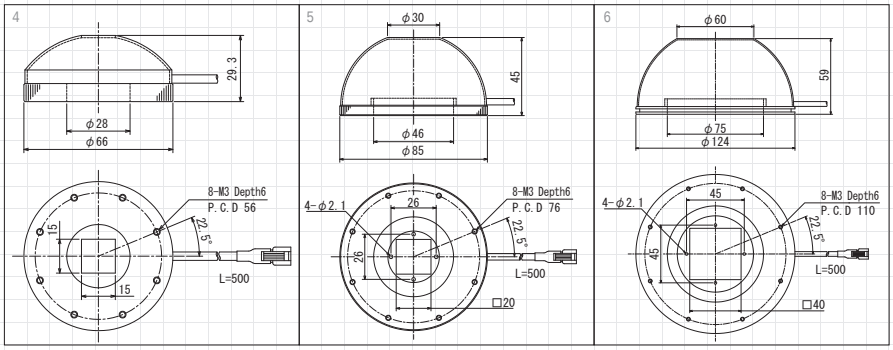


*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

Dome type : ISDDA series



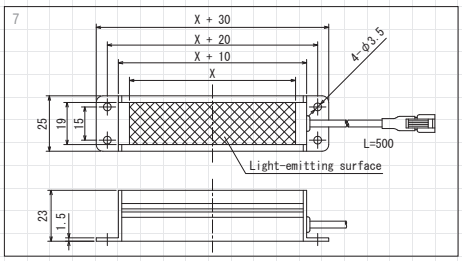
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Drawing
ISDDA-KH60W	W	10	DC36V	FF	4
ISDDA-KH80W	W	10		FF	5
ISDDA-KH120W	W	15		FF	6



*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

Bar type:ISDBA-CP series

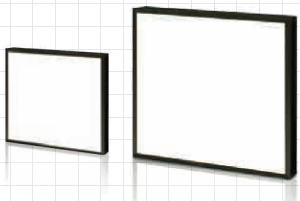
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Drawing
ISDBA-CP50WS	W	10	DC36V	FF	7
ISDBA-CP100WS	W	10		FF	
ISDBA-CP150WS	W	15		FF	
ISDBA-CP200WS	W	15		FF	



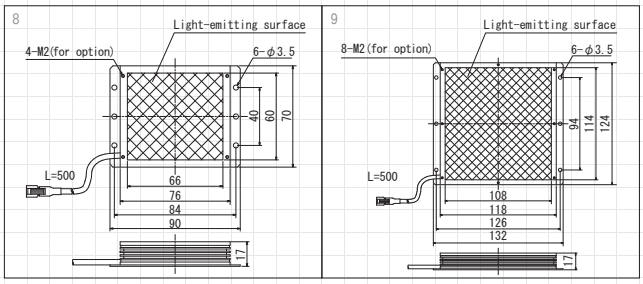
X means light emission surface size.
50, 100, 150 or 200.

*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

Back light type:ISHM series



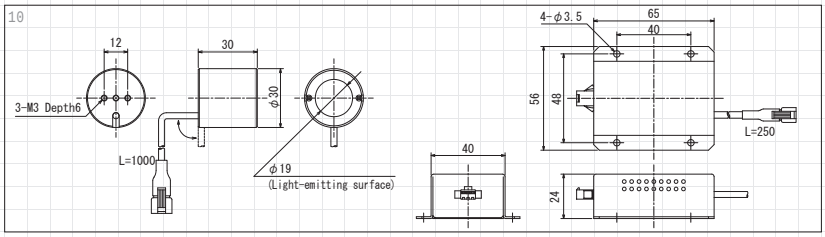
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Drawing
ISHM-66/60W	W	10	DC36V	FF	8
ISHM-108/114W	W	10		FF	9



*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

Spot type:ISHVA-SP series

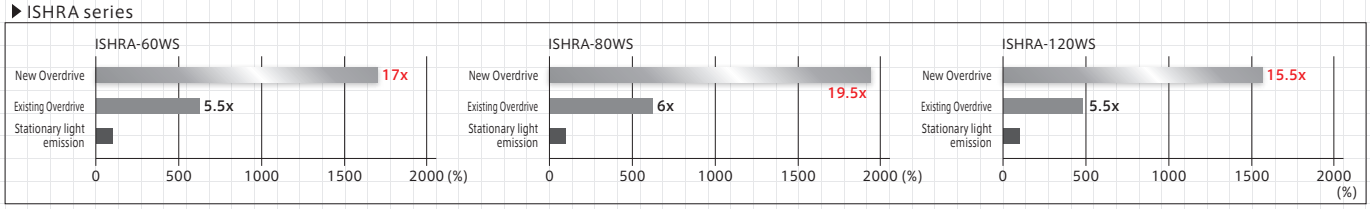
Model	Light Color	Power Consumption (W)	Input Voltage	SAG (*)	Drawing
ISHVA-SP30L-W	W	10	DC36V	FF	10



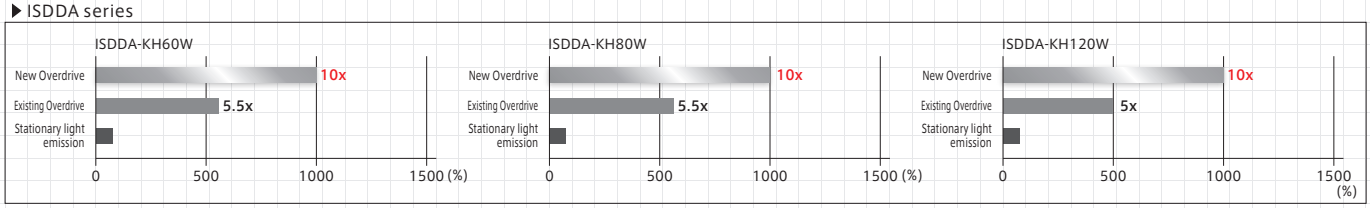
*The SAG value means the maximum voltage setting for SAG power supplies. For details, see P91.

Brightness Comparison (Reference Values)

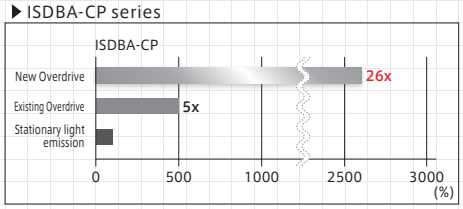
▶ ISHRA series



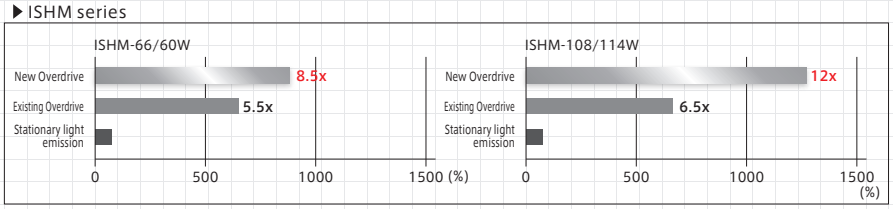
▶ ISDDA series



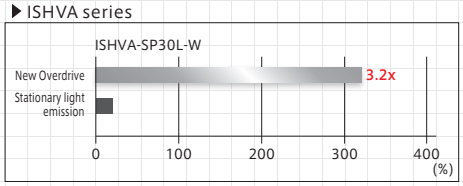
▶ ISDBA-CP series



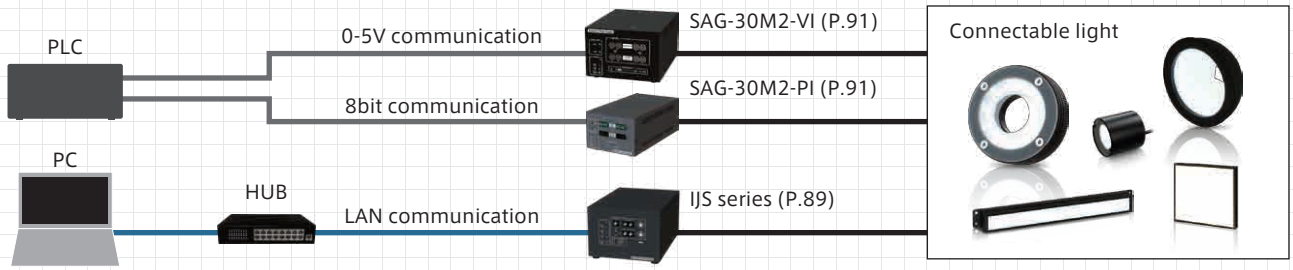
▶ ISHM series



▶ ISHVA series



Connection example with light, power supply, and equipment

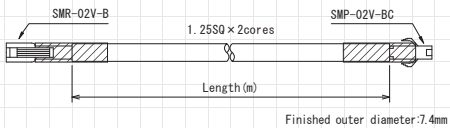


Models	Channels	Capacity/CH	External Control	Output Voltage	Pulse width	Output mode	Input Voltage	Peculiarity
SAG-30M2-VI	2	30W	0-5V	DC6~36V	10~999μs	Level/Edge	AC100~240V	Analog Control
SAG-30M2-PI	2	15W	8bit	DC12~36V		Edge		Digital Control
IJS-30M2-TP	2	15W	LAN	DC6~36V		Edge		·LAN control (256 levels variable output voltage) ·Multi-channel connection ·Connection Ports:4 ports
IJS-30M3-TP	3	10W						
IJS-30M4-TP	4	10W or 5W						
IJS-30M6-TP	6	5W						
IJS-40M4-TP	4	10W						
IJS-40M8-TP	8	5W						

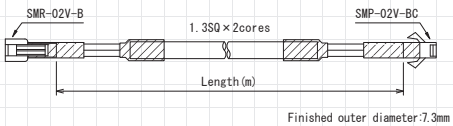
Extension Cable

Model(Standard Cable)	Model(Robot Cable)	Length(m)
I-CB-S1-NVD	I-CB-S1R-NVD	1
I-CB-S2-NVD	I-CB-S2R-NVD	2
I-CB-S3-NVD	I-CB-S3R-NVD	3
I-CB-S4-NVD	I-CB-S4R-NVD	4
I-CB-S5-NVD	I-CB-S5R-NVD	5
I-CB-S10-NVD	I-CB-S10R-NVD	10

Standard Cable



Robot Cable

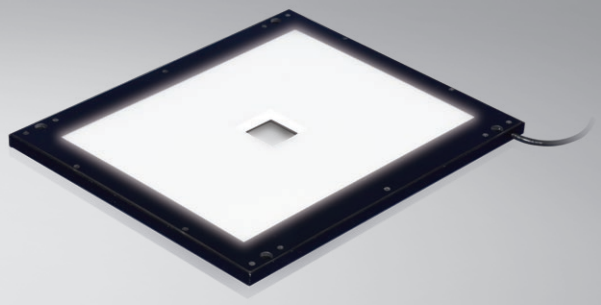
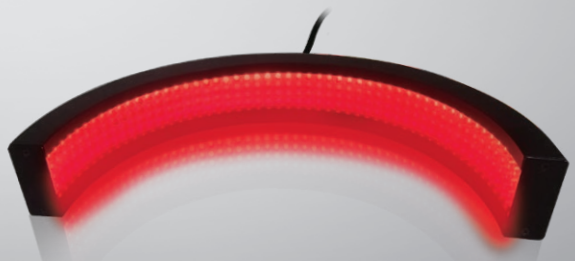


Example of custom products

Introduction of customization

IMAC manufactures custom products to suit your unique applications.

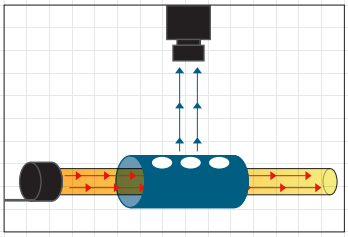
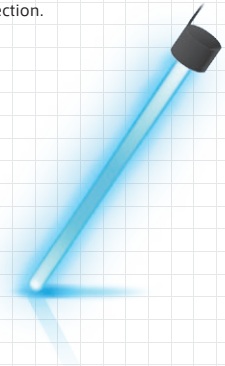


Custom segmented lighting products | **Custom-sized lighting products** | **Custom-shaped lighting products** | **Custom optical simulation lighting product**

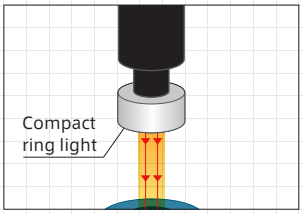
Cylindrical transmissive light

Best suited for cylindrical hole diameter or burr inspection.

Ultra-compact ring light

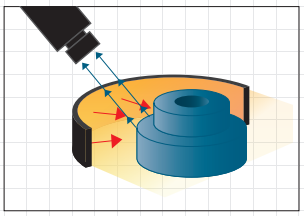
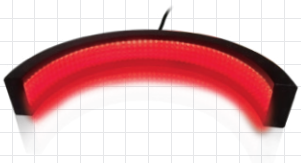
We have experience manufacturing ultra-compact ring lights with an outer diameter of 15 mm and inner diameter of 10 mm that can be used for endoscopic lighting as well as other applications.
We can manufacture similar models in sizes of one-millimeter increments to suit the system and the workpiece.



Example) Hole internal inspection for automobile parts

Arc-shaped ring light

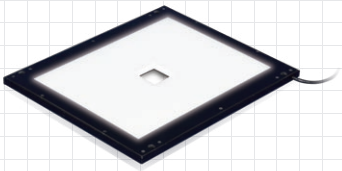
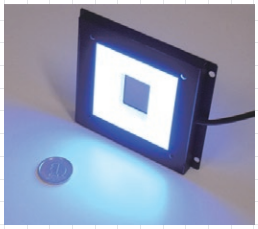
The shape of arc facilitates side inspection of cylindrical workpiece.

Example) Inspection of engraved markings on the side of cylindrical workpiece

Lighting with camera hole

It is a space-saving reflected lighting that provides uniform illumination of a wide area by means of a camera hole in a backlighting light unit.

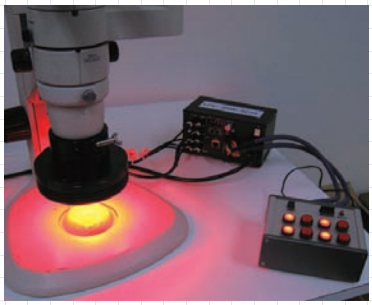



Yellow Light

It' not include wavelength of under the 500nm by the yellow light.
It's suitable the inspection of the exposure.


This 8CH lighting is corresponded to the stereoscopic microscope.

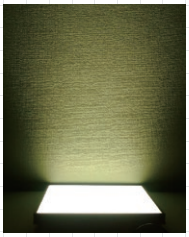
It's easy to attached to the stereoscopic microscope, and also easy to control by switch.
It's suitable to sampling inspection like a visual inspection and defect inspection.



Narrow-angle directional backlight illumination

IHM-V

Narrow-angle light distribution makes restrain the light wraparound,and it suited for the edge detection.

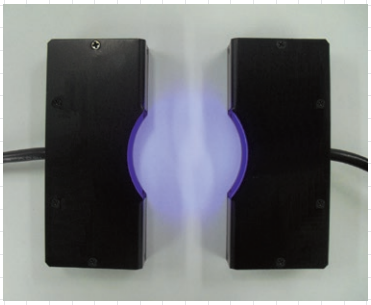


Wide type

Multi-function ring light of ultra-space-saving

IDR-CT24

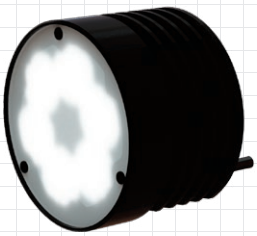
Fan-shaped small low-angle light. It is suited for sharp edge ditection of lead frame, and alignment of semiconductor bare chips.



Mini Spot Light

IHSL-SP50

It's mini spot LED light for the long and middle distance. It's suitable for the inspection in case of the long distance from the object like a robot picking.

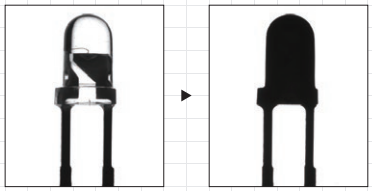


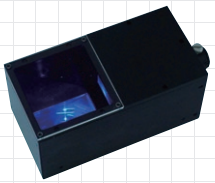
Wide type Narrow type

Collimate Coaxial Light

IFFV

It's able to high accuracy dimensional meaurement by restrain the light wraparound.





Huge flat-surface light

IFD-1900/900W-UNIT

The huge flat-surface the size of 1,900 × 900.
It's separate the 2 channel from top and bottom.
We also possible to design the frame.

The model list of comparison with previous red lighting.

Series	High brightness Model	Previous model			Page
		Conventional red Model	Power Consumption(W)	SAG (＊)	
Flat Direct Ring Light IDR-F series	IDR-F32/10DR	IDR-F32/10R	0.8	6D	P.25
	IDR-F43/15DR	IDR-F43/15R	1.5	6E	
	IDR-F50/15DR	IDR-F50/15R	2.2	6F	
	IDR-F60/32DR	IDR-F60/32R	2.4	6F	
	IDR-F70/37DR	IDR-F70/37R	4.4	70	
	IDR-F90/50DR	IDR-F90/50R	8.2	73	
	IDR-F100/50DR	IDR-F100/50R	8.7	73	
	IDR-F110/60DR	IDR-F110/60R	9.6	74	
Direct Ring Light IDR series	IDR-32/10DR	IDR-32/10R	1.2	6E	P.27
	IDR-38/15DR	IDR-38/15R	1.5	6E	
	IDR-40/25DR	IDR-40/25R	1	6E	
	IDR-42/18DR	IDR-42/18R	1.7	6F	
	IDR-50/28DR	IDR-50/28R	2.2	6F	
	IDR-66/36DR	IDR-66/36R	4.6	70	
	IDR-70/39DR	IDR-70/39R	4.8	71	
	IDR-90/50DR	IDR-90/50R	8.7	73	
	IDR-110/60DR	IDR-110/60R	10.1	75	
	IDR-140/95DR	IDR-140/95R	14.4	78	
Low-angle Direct Ring Light IDR-LA series	IDR-LA40/15DR-2	IDR-LA40/15R-2	1.5	6E	P.28
	IDR-LA50/24DR-2-C01	IDR-LA50/24R-2-C01	2	6E	
	IDR-LA74/48DR	IDR-LA74/48R	3.6	70	
	IDR-LA100/68DR-3	IDR-LA100/68R-3	7.2	72	
	IDR-LA120/70DR-3	IDR-LA120/70R-3	9.2	74	
	IDR-LA140/108DR-3	IDR-LA140/108R-3	10.6	75	
	IDR-LA200/170DR-3	IDR-LA200/170R-3	15.9	79	
Horizontal Opposed Ring Light IDRA-T series	IDRA-T78/46DR-1	IDRA-T78/46R-1	2	6E	P.29
	IDRA-T84/54DR-1	IDRA-T84/54R-1	2	6E	
	IDRA-T96/60DR-1	IDRA-T96/60R-1	2.4	6F	
	IDRA-T122/92DR-1	IDRA-T122/92R-1	3.2	6F	
Direct Bar Light IDBA-C series	IDBA-C11/14DR	IDBA-C11/14R	0.3	6D	P.36
	IDBA-C11/14DRS-H21	IDBA-C11/14RS-H21	0.3	6D	
	IDBA-C15/26DRS	IDBA-C15/26RS	0.8	6D	
	IDBA-C27/34DR	IDBA-C27/34R	2	6E	
	IDBA-C50/15DR	IDBA-C50/15R	1.5	6E	
	IDBA-C100/11DR	IDBA-C100/11R	2	6E	
	IDBA-C100/15DR	IDBA-C100/15R	2.9	6F	
	IDBA-C140/11DR	IDBA-C140/11R	2.9	6F	
	IDBA-C132/15DR	IDBA-C132/15R	3.9	70	
	IDBA-C72/24DR	IDBA-C72/24R	4.4	73	
	IDBA-C25/25DRS	IDBA-C25/25RS	1.5	6E	
	IDBA-C50/50DRS	IDBA-C50/50RS	5.8	71	
	IDBA-C70/75DRS	IDBA-C70/75RS	6.8	72	
	IDBA-C100/100DRS	IDBA-C100/100RS	13.7	77	
	IDBA-C15/200DRS	IDBA-C15/200RS	6	71	
	IDBA-C185/30DRS	IDBA-C185/30RS	8.7	73	
	IDBA-C300/24DRS	IDBA-C300/24RS	17.1	7A	
Pseudo-coaxial Light IFV series	IFV-C13DR-HM	IFV-C13R-HM	0.8	6D	P.58
	IFV-C20DR	IFV-C20R	1.2	6D	
	IFV-C32DR	IFV-C32R	1.7	6F	
	IFV-C40DR	IFV-C40R	2.7	6F	
	IFV-C50DR	IFV-C50R	4.8	71	
	IFV-C70DR	IFV-C70R	6.8	72	
	IFV-C100DR	IFV-C100R	13	77	
	IFV-C18DR-BS-C01	IFV-C18R-BS-C01	1	86	
	IFV-C28DR-BS-C01	IFV-C28R-BS-C01	3.4	AD	
	IFV-C32DR-C01	IFV-C32R-C01	1.7	6F	
	IFV-C40DR-C01	IFV-C40R-C01	2.7	6F	
	IFV-C50DR-C01	IFV-C50R-C01	4.8	71	

＊The SAG value indicates the maximum voltage setting for SAG power supplies. For details, see page 91.

The DR specification goes up brightness significantly

By adopting a new LED, it has been achieved the max 15 times brighter than conventional model.

List of 24V DC Models

In some products, it's able to make DC24V specification. There are other models except model list.
If there is no model you requested, please feel free to contact us.

＜For example＞

Series	12V Model	24V Model	Light Color	Power Consumption (W)	Power Supply
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	ILP-60M2-24
			IR850	10.5	
Flat Direct Ring Light IDR-F series	IDR-F60/32□	IDR-F60□HV	DR	3.6	
			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-24V 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	
Chip LED Surface Light 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	R	1.8	
			DW B G	2.2	
	IDBA-C72/24□	IDBA-C7224□HV	R	5.4	
			DW B G	5.1	
Square Dome Light IFHA series	IFHA-100□	IFHA-100□HV	R	T.B.D	
			W		
			B		
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	
Pseudo-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. See product pages for available light colors.
*See page 97 to 98 for cables for 24 V DC lights.
The brightness doesn´t change due to the difference of the input voltage.

Extensive lineup of power supplies to suit any application

Features	Model	Standards	Channel	Capacity	Output control Method	External ON/OFF Control	External Output control	Input Voltage	Output Voltage	Page
Constant voltage power supply •Since it controls the output of lighting by varying the voltage, it is effective when LED light is used with ultra-high-speed camera, and high-speed clock line-sensor camera.	IWDV-300S-48	CE PSE	1	300W	10-bit digital (1000 levels)	○	LAN 10bit	AC100~240V	DC48V	P.77
	IWDV-600S-48		1	600W		○				
	IWDV-300SL-48		1	300W	Analog (0%-100%)	○	0-5v	AC100~240V	DC48V	P.78
	IWDV-600SL-48		1	600W		○				
	IWDV-100S-24		1	100W	10-bit digital (1000 levels)	○	LAN 10bit	AC100~240V	DC24V	P.80
	IWDV-300S-24		1	300W		○				
	IWDV-600M2-24		2	600W (300W/CH)		○				
	IWDV-300M1-24		1	300W		○				
	IWDV-10S-V		1	10W	Analog (0%-100%)	—	—	AC100~240V	DC12V	P.86
Constant-current Power Supply for IDBB-LSRH •It is more effective than contant current power supplywhen you use ultra-high-speed shutter camera or line-censer camera of high-speed clock and LED.	IMC-300M10-TP	CE PSE	10	300W (30W/CH)	10-bit digital (1000 levels)	○	LAN	AC100~240V	—	P.79
	IMC-600M20-TP		20	600W (30W/CH)		○				
	IMC-1000M30-TP		30	1000W (30W/CH)		○				
Digital PWM Power Supply •PWM power supply that can control lightings by external control. •Diverse lineup of 63 models combining an input voltage/outputvoltage/capacities/channel numbers/-methods of external control. •The various selections give you the best choice of power supply depending on the use environment. •It has no lighting fluctuation because the PWM cycle synchronizes with the external ON/OFF signal. •Input voltage of 100 to 240V AC.(Power cable supplied as standard is for 100V AC.) •PWM frequency of approximately 125kHz.	IDGB-30M2-../..	CE PSE	2	30W	8-bit digital (256 levels)	○	LAN 8bit	AC100~240V	DC12V	P.81
	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			
	IDGB-50M2-24-../..-T	CE	2	46W		○		DC24V		
	IDGB-150M4-24-../..-T		4	144W		○				
	IDGB-150M8-24-../..-T		8	144W		○				
Programable digital PWM power supply •PWM power supply that can control output of lightings by LAN communication. •Diverse lineup of 21 models (combination of their input voltage/output voltage/capacities/channel number). •It has no lighting fluctuation because the PWM cycle synchronizes with the external ON/OFF signal. •Input voltage of 100 to 240V AC. (Power cable supplied as standard is for 100V AC.) •PWM frequency of approximately 125kHz. <Programming Mode> •It can set the number of output and order controlled by 1 ON signal. •Lighting mode: you can choose from Level or Edge mode. •At the most, it can set and save 8CH ×4 patterns of lighting order, output and lighting time.	IDGB-30M2PG-TP	CE PSE	2	30W	8-bit digital (256 levels)	○	LAN	AC100~240V	DC12V	P.83
	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		○				
	IDGB-30M2PG-24-TP		2	30W		○			DC24V	
	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	100W		○				
	IDGB-100M4PG-24-TP		4	100W		○				

List of Power Supply series for LED Lights

Features	Model	Standards	Channel	Capacity	Output control Method	External ON/OFF Control	External Output control	Input Voltage	Output Voltage	Page
Its programming mode function can make switching of lightings easy depending on application and objects: it can reduce time of line coordination. Sample application for supporting setting is available in our website	IDGB-100M8PG-24-TP	CE PS	8	100W	8-bit digital (256 levels)	○	LAN	AC100~240V	DC24V	P.83
	IDGB-50M2PG-24-TP-T	CE	2	46W		○		DC24V		
	IDGB-150M4PG-24-TP-T		4	144W		○				
	IDGB-150M8PG-24-TP-T		8	144W		○				
1000 Level Digital Controller •Compact PWM power supply (DC24V input voltage). Suitable for installation inside of machine. •Compact at 1/6 the conventional size. •1000 level digital controller with good visibility display.	ILP-30M2	CE	2	30W	10-bit digital (1000 levels)	○	–	DC24V	DC12V	P.85
	ILP-60M2-24			60W		○			DC24V	
Analog PWM power supply •External on/off control terminals as standard. •Compact design allows installation in small spaces. •It can control output within the range of 0 to 100% with approximately 80kHz PWM. •Available with semi-fixed volume (H models).	IDPA-30M2	CE	2	30W	Analog (0%-100%)	○	–	AC100~240V	DC12V	P.86
	IDPA-50M6		6	50W		○				
	IDPA-100M6			100W		○				
Multi-channel Constant-current Power Supply •Constant-current power supply that can be connected to IHV, IHVD and IHVE series, etc. without resistance box. •As the maximum output current can be set independently for each channel in the range of 200 to 1,000mA, it is possible to simultaneously run the IHV series at 350mA and the IHVD/IHVE/IBF series at 700mA. •Lineup includes a variety of external output control models. (Analog 0 to 5V/8-bit digital/serial communication 232C/485/LAN) •Compatible with 35mm DIN rails and can be easily installed in and removed from various systems and machines. •Includes 12V DC output connector, allowing connection of 12V DC lighting. (Restrictions apply to power consumption)	IDCA-1000M4-VI	CE PS	4	–	8-bit digital (256 levels)	○	0~5V	AC100~240V	100~1000mA	P.87
	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			○				
Compact Controller •Ultra-compact, lightweight, constant-current power supply. •Single-channel type constant-current analog power supply for IHV, IHVD, IHVE, and IBF series. •Controller's compact design allows installation in small spaces. •Super lightweight model weighing only 74 g. •Can be used in conjunction with high-speed camera or high-speed line sensor camera thanks to constant-current control system. •ILC series comes with AC adapter as standard.	ILC-24-350	–	1	–	Analog (0%-100%)	–	–	DC24V	350mA	P.88
	ILC-24-700					–			700mA	
	IRC-24-350					○	0~5V アナログ		350mA	
	IRC-24-700					○			700mA	
Compact Constant-Current Controller •The optimal input voltage 24 V DC of constant-current output control power for device installation. •The IHV series can be connected directly to the ILC-350M2-VI, and the IHVD, IHVE, and IBF series can be connected directly to the ILC-700M2-VI without a resistance box.	ILC-350M2-VI	CE	2	–	Analog (0%-100%)	○	0~5V	DC24V	350mA	P.88
	ILC-700M2-VI					○			700mA	
Small Multi Channel Overdrive Power Supply with LAN Control •A larger current than regular lighting flows instantaneously. It can be used at up to approximately four times the current. •It is more compact than the conventional SAG power supply. •Dimming in 256 levels of 6V to set SAG value •There are four connection ports which can each be controlled with four computers	IJS-30M2-TP	CE	2	30W	Synchronized light emission by external trigger	–	LAN	AC100~240V	DC6~36V	P.89
	IJS-30M3-TP		3			–				
	IJS-30M4-TP		4			–				
	IJS-30M6-TP		6			–				
	IJS-40M4-TP		4	40W		–				
	IJS-40M8-TP		8			–				
Overdrive Power Supply •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. •Accepts almost all standard lights. •Light intensity: SAG overdrive lights are approximately 4 times brighter than normal lights.	SAG-30M2-VI	CE	2	30W	Synchronized light emission by external trigger	–	0~5V アナログ	AC100~240V	DC6V~36V	P.91
	SAG-30M2-PI	–				–	8bit		DC12~36V	
High-capacity overdrive power supply •Lineup features high-capacity models of 75 to 600 W. •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. •Outputs larger instantaneous current than normal lights, offering maximum capacity approximately 4 times greater than that of normal lights. *Set values differ from SAG values. Contact IMAC for more information about set values.	SAG-HP75M1	–	1	75W	Synchronized light emission by external trigger	–	8bit	AC100~240V	DC12~36V	P.92
	SAG-HP150M2		2	150W		–				
	SAG-HP300M4		4	300W		–				
	SAG-HP150M1		1	150W		–				
	SAG-HP300M2		2	300W		–				
	SAG-HP600M4		4	600W		–				
PoE-capable Control Unit •Does not require power supply. •Employs PoE power supply system. •Requires no wiring due to integrated communication and power supply.	IPSA-7M2	CE	2	30W	Synchronized light emission by external trigger	–	LAN	PoE power supply	DC12~36V	P.93
	IPSA-7M4		4			–				
	IPPA-7M2		2			○	LAN		DC12V	
	IPPA-7M4		4			○				

DC 48V Constant voltage power supply LAN 10bit

300W・600W high-capacity Constant voltage power supply

IWDV(S)-48 series

It's suitable high-capacity voltage light for line-censer ・large surface light.
Capable of 1,000-level output control

CE PSE

・As it is capable of varying output voltage, the IWDV series is ideal for use with a line-sensor camera or high-speed camera.

・It's able to use until power consumption 600W large light of DC 48V drive. Selectabe to best light control range by output lower limit voltage setting.

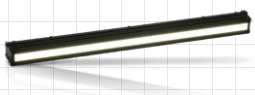
・It is possible to switch between LAN and parallel communication for external light control.

Model	IWDV-300S-48	IWDV-600S-48
Input Voltage	AC100～240V	
Operating Frequency	50/60Hz	
Rated Output	DC48V	
Capacity	300W	600W
Output Channel	1CH (2 connectors, 2 light connection ports per conector)	
Output Control Method	Variable output voltage system	
External Control	External ON/OFF External Output Control(10-bit parallel communication/LAN communication)	

Supported Lights

1,300,000 lx Forced Air Cooling Type Line Light
IDBB-LSRF series (P.11)

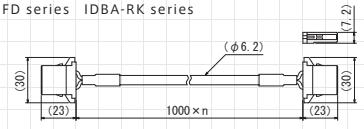
Large Flat-surface Light (White)
IFD series (P.43)



Replacable from fluorescent light
IDBA-RK series (P.15)

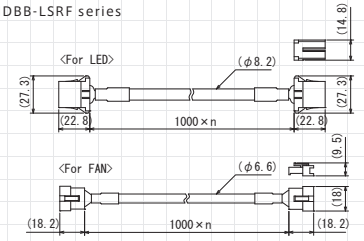
Connection cable

IFD series IDBA-RK series



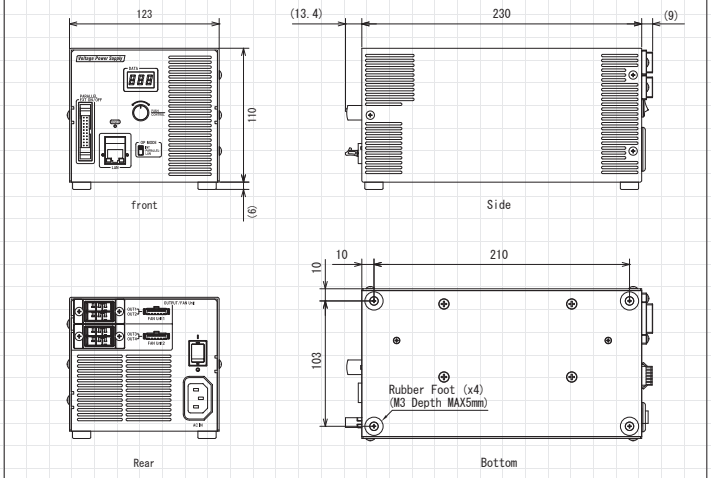
Model	Length (m)
I-CB-S1-DN	1
I-CB-S2-DN	2
I-CB-S3-DN	3
I-CB-S5-DN	5
I-CB-S10-DN	10

IDBB-LSRF series

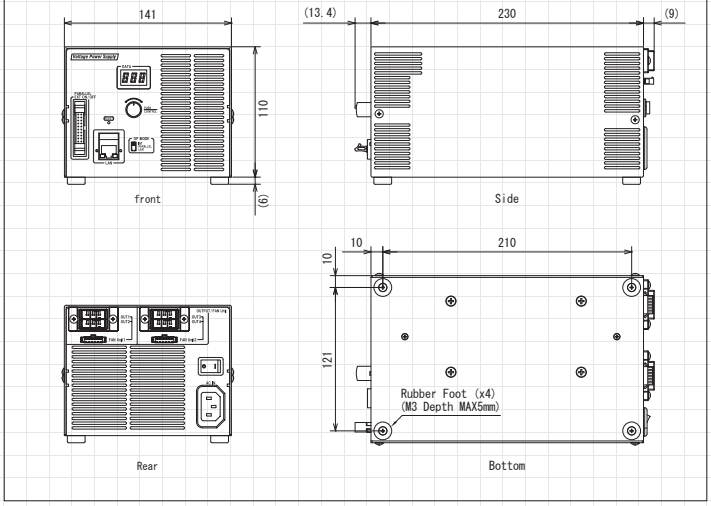


Model	Length (m)
I-CB-S1-FSET	1
I-CB-S2-FSET	2
I-CB-S3-FSET	3
I-CB-S5-FSET	5
I-CB-S7-FSET	7
I-CB-S10-FSET	10

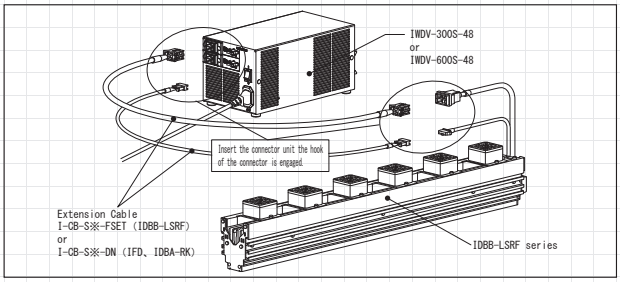
IWDV-300S-48



IWDV-600S-48



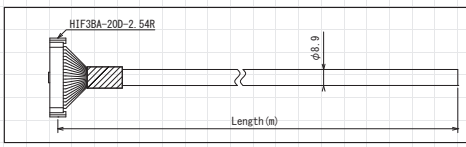
Configuration exapmle



10bit parallel signal external ON/OFFcontrol cable

IC-MIL-20 series

Control cable for inputing external ON/OFF signal and external output control signal (10bit parallel communication mode), and outputting 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

DC 48V Constant voltage power supply 0-5V

300W・600W high-capacity Constant voltage power supply

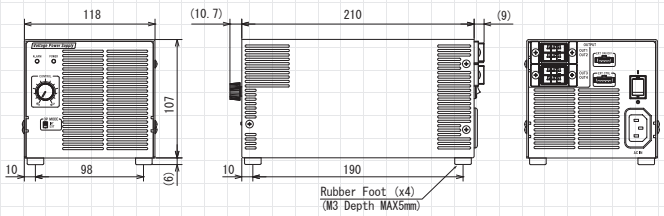
IWDV(SL)-48 series Analog

It's suitable high-capacity voltage light for line-censer ・large surface light.
Simple control・low cost power supply.

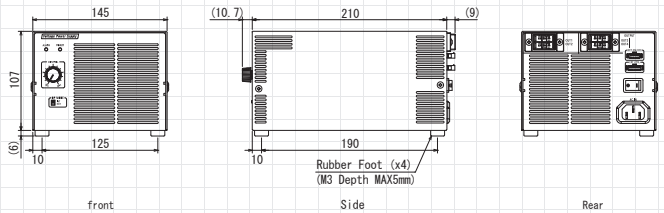
- As it is capable of varying output voltage, the IWDV series is ideal for use with a line-sensor camera or high-speed camera.
- Available until 600W large size light of DC 48V.
- It's able to be simple control by stepless volume. External control is an analog 0-5V

Model	IWDV-300SL-48	IWDV-600SL-48
Input Voltage	AC100~240V	
Operating Frequency	50/60Hz	
Rated Output	DC48V	
Capacity	300W	600W
Output Channel	1CH(2 connectors, 2 light connection ports per conector)	
Output Control Method	Variable output voltage system	
External Control	External ON/OFF External Output Control(Analog 0-5V)	

IWDV-300SL-48

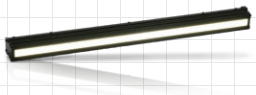


IWDV-600SL-48



Supported Lights

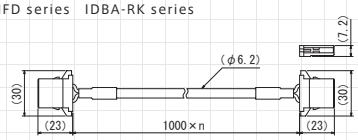
Large Flat-surface Light(White)
IFD series(P.43)



Replacable from fluorescent light
IDBA-RK series(P.15)

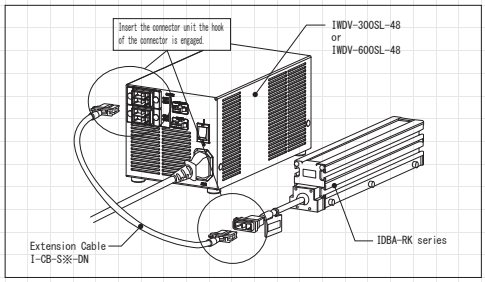
Connection cable

IFD series IDBA-RK series



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

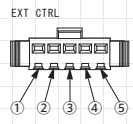
Configuration exapmle



Output connector

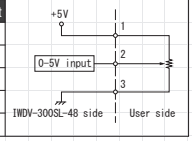
By inputting analog 0-5V signal in EXT CTRL connector on the back of the body, brightness of LED lights can be controled by from 0% to 100%.

EXT CTRL connector specification



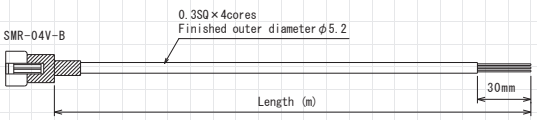
Pin No.	Signal content
1	+5V output
2	0-5V input
3	GND
4	NC
5	NC

Connection example



External ON/OFF control cable

Pin No.	Wire Color
1	White
2	Green
3	Red
4	Black

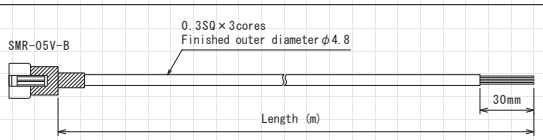


Model	Length (m)
IC-CB-D1	1
IC-CB-D2	2
IC-CB-D3	3
IC-CB-D4	4
IC-CB-D5	5
IC-CB-D10	10

*Cables are also available in lengths other than those indicated above.
*SM connectors are made by JST.

Analog 0-5V dimming control cable

Pin No.	Wire Color
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

*Cables are also available in lengths other than those indicated above.
*SM connectors are made by JST.

Constant-current power supply LAN

Constant-current Power Supply for IDBB-LSRH

IMC series

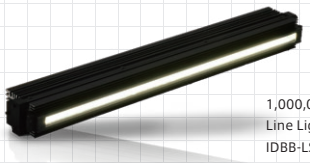
Capable of 1,000-level output control in 100mm increments
You can adjust the uniformity in the lighting side.

CE PSE

・Power supply for IDBB-LSRF line sensor light.
・Since it's a constant current control power supply, it's suited for a line sensor camera and a high-speed shutter camera.

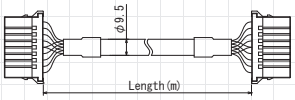
Model	IMC-300M10-TP	IMC-600M20-TP	IMC-1000M30-TP
Input Voltage	AC100～240V		
Operating Frequency	50/60Hz		
Capacity	30W/CH		
Output Channel	10CH	20CH	30CH
Output Control Method	Variable Output Current System		
External Control	External Output Control(LAN communication)		External ON/OFF control
Applicable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

Supported Lights



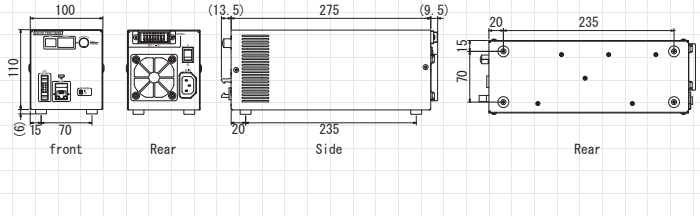
1,000,000 lx Natural Air Cooling Type Line Light
IDBB-LSRH series (P.12)

Connecting cable

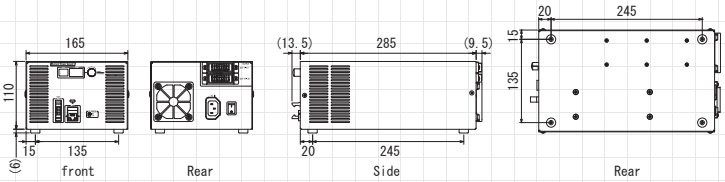


Model	Length (m)
I-CB-S1-HDN	1
I-CB-S2-HDN	2
I-CB-S3-HDN	3
I-CB-S5-HDN	5
I-CB-S7-HDN	7
I-CB-S10-HDN	10

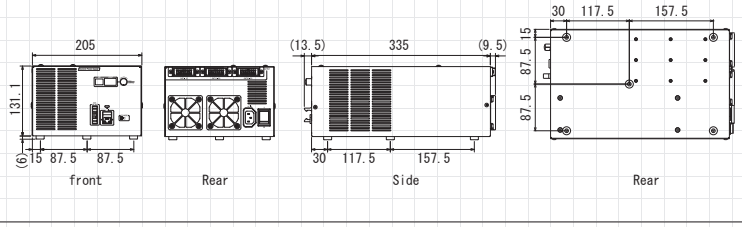
1



2



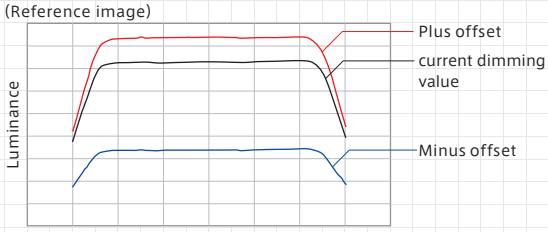
3



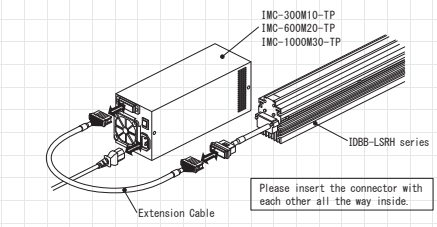
For offset output

Offset means that the increase or decrease the output control value while holding the light control balance with the current setting of each CH.
It's able to output control while holding the light control balance by using this function.

(Reference image)



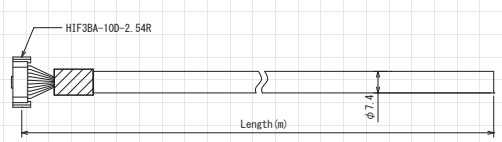
Configuration example



External ON/OFF Cable

Control cable for outputting 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

DC 24V Constant voltage power supply LAN 10bit

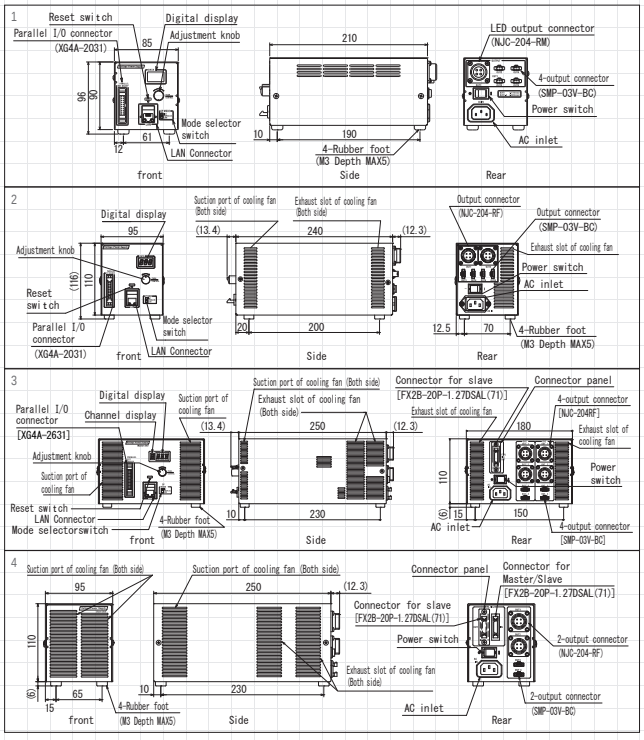
High-function Constant voltage power supply

IWDV-24 series

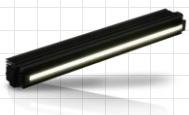
It's suitable high-capacity voltage light for line-censer ・large surface light.
Released a 2ch power supply, it can be used to a maximum of 4ch at slave

- As it is capable of varying output voltage, the IWDV series is ideal for use with a line-sensor camera or high-speed camera.
- Since DC24V driving light which has 100W, 300W or 600W of power comsumption can be coneccted to it, various lights can be used.
- It is possible to switch between LAN and parallel communication for external output control.

Model	IWDV-100S-24	IWDV-300S-24	IWDV-600M2-24(Master)	IWDV-300M1-24(Slave)
Input Voltage	AC100~240V			
Operating Frequency	50/60Hz			
Rated Output	DC24V			
Capacity	100W	300W	Total600W(300W/CH)	300W
Channel numbers	Single split-channel output 5connectors (metal connectors ×1 + SM connectors ×4)	Single split-channel output 6connectors (metal connectors ×2 + SM connectors ×4)	2CH 4connectors/CH (metal connectors ×2 + SM connectors ×2)	1CH 4connectors (metal connectors ×2 + SM connectors ×2)
Output Control Method	Variable output voltage system			
External Control	External ON/OFF External Output Control(10-bit parallel communication/LAN communication)			
Drawing	1	2	3	4

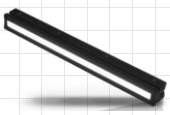


Supported Lights



600,000 lx Natural
Air Cooling Type Line Light
IDBB - LSR series(P.13)

Half-pipe Light
for Line Sensor
IQDH - LSR series(P.17)

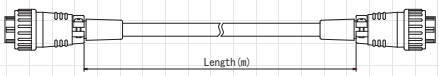


Briback Line Light II
IDBB - RE series(P.16)

Others, such as the IDBA-LEH2 SM connector DC24V light

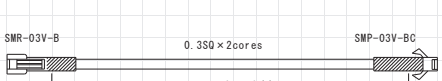
Connection cable

IDBB-LSRseries/IQDH-LSRseries/IDBA-LEH2series ext.



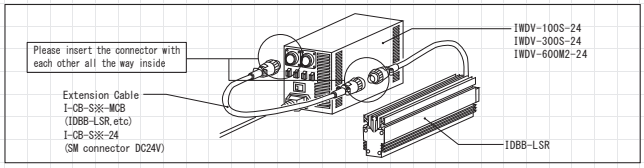
Model	Length (m)
I-CB-S1R-MCB	1
I-CB-S2R-MCB	2
I-CB-S3R-MCB	3
I-CB-S5R-MCB	5
I-CB-S10R-MCB	10

SM connector 24V series

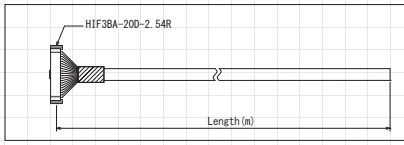


Model	Length (m)
I-CB-S1-24	1
I-CB-S2-24	2
I-CB-S3-24	3
I-CB-S4-24	4
I-CB-S5-24	5
I-CB-S10-24	10

Configuration example



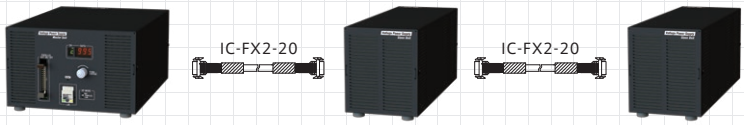
10bit parallel signal external ON/OFF control cable



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

*IWDV-600M2 series use IC-MIL-26-□(cable length). For details, see P96.

2CH~4CH Specifications: IWDV-600M2-24 (master) + IWDV-300M1-24 (slave) connection method



IWDV-600M2-24(Master)
2CH specification

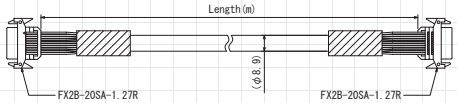
IWDV-300M1-24(Slave)
3CH specification

IWDV-300M1-24(Slave)
4CH specification

*IWDV-600M2 series use IC-MIL-26-□(cable length) for 10bit parallel communication: external ON/OFF control. For details, see P96.

IC-FX2-20

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



Digital Power Supply 0-5v 8bit 232C 485 LAN

Digital PWM power supply

IDGB series

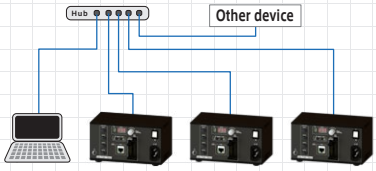
Multi-function power supply with freely selectable interface

Fulfilling external control function

The lineup of "LAN communication/8bit parallel communication" switch, "RS-232C communication/8 bit parallel communication"switch, and "RS-485 communication/Analog 0-5V" switch.

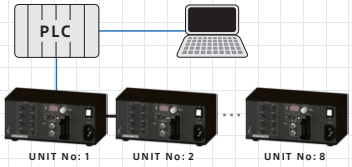
LAN communication (TP)

With an ethernet communication, one computer is enabled to manage the devises on the network. An individual managing several IDGB series can be done by setting the IP address.



RS-485 Communication (S4)

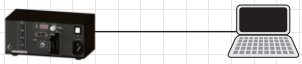
By setting the unit No. of each power supply, up to eight units can be individually controlled. It is also possible to manage up to 64 units in a lump by connecting an 8 channel power supply.



8bit Parallel Communication(PI)

Parallel communication makes switching of setting values high-speed.

RS-232C communication(S2)

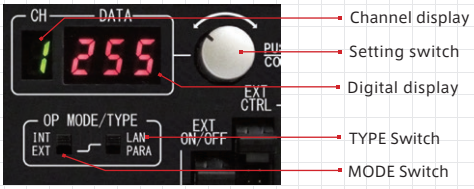


With the RS-232C communication, it is easily to build an external control environment even in an environment susceptible to the noise.

Analog 0-5V(VI)

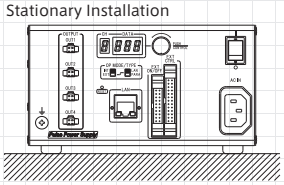
It can be controlled with the analog signal of 0-5V. Because light control can be done only by varying the voltage, it is easily to build an external control environment.

Easy to check the set value with the good visibility display

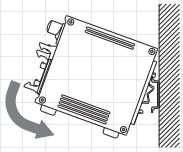


All sizes are adjustable to DIN rail installation

Stationary Installation

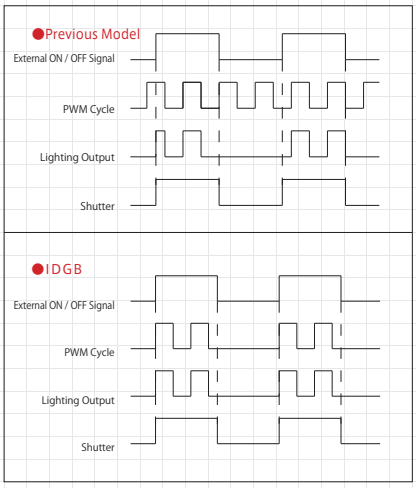


DIN Rail Installation



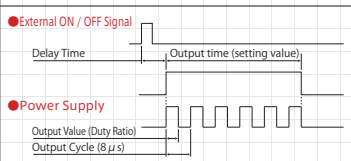
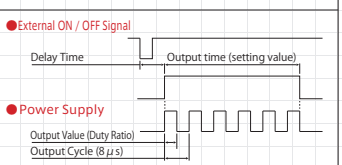
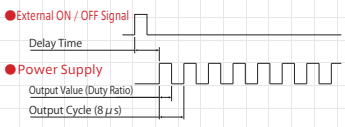
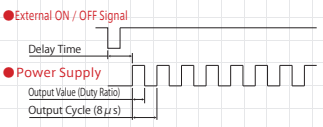
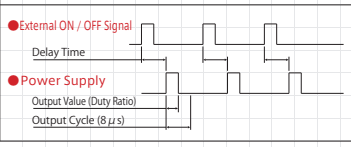
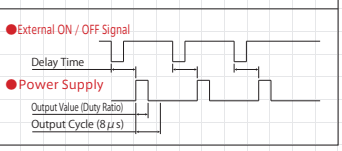
Fully synchronizes the lighting output and external ON/OFF signal

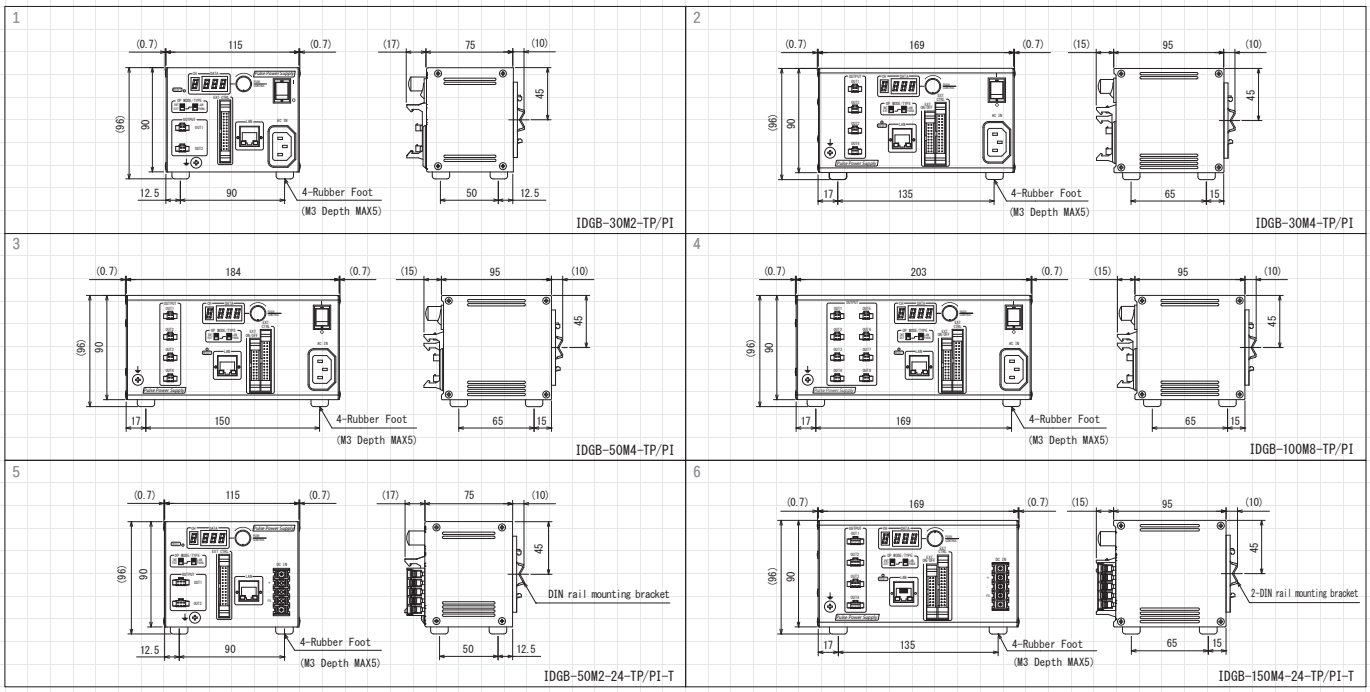
Our conventional products had a lighting fluctuation due to an asynchronism in the external ON/OFF signal and inner PWM cycle. However, the PWM cycle of these products synchronizes with the external ON/OFF signal so it has no lighting fluctuation.



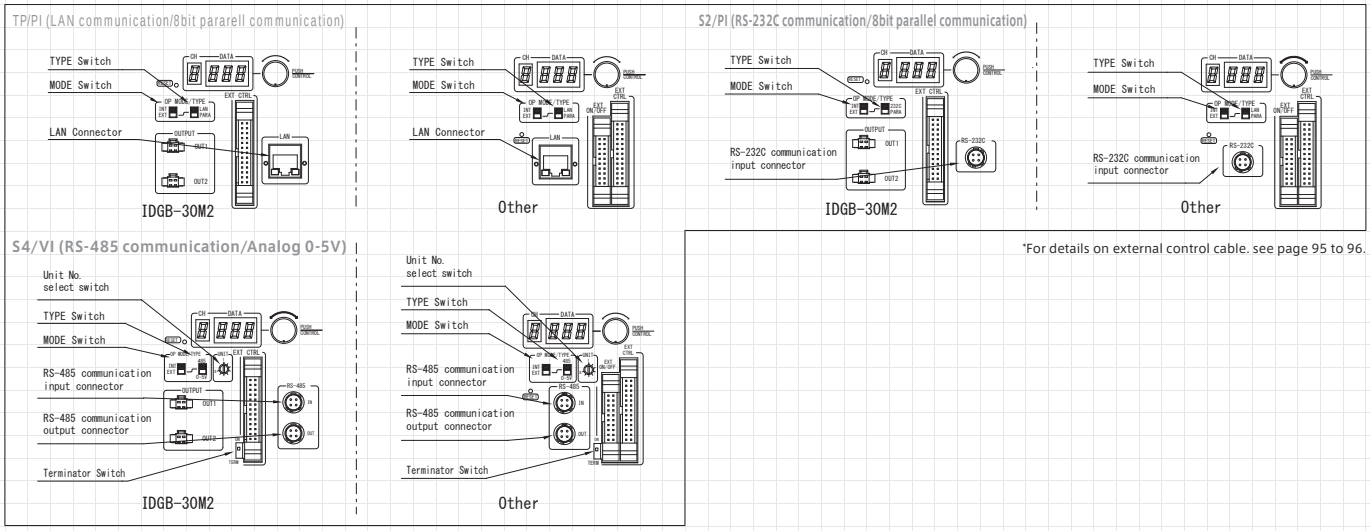
Various External ON/OFF Functions

It is possible to switch between "high mode" in which lighting is operated by signal input and "low mode" operated by signal loss. External ON/OFF type has regular "Normal type", "Repeat type" which keeps lighting with one trigger, and "Single type" which turns the light on for one cycle with one trigger.

External ON / OFF Type \ External ON / OFF Mode	High Mode	Low Mode
Edge Type Outputs the set output time for one external ON signal. The output time is confirmed after completion of the delay processing. Even during output, if output time is exceeded, output is stopped.		
Repeat Type Until either operation below is set by one external light signal, it keeps lighting on. a. Switching external ON/OFF type b. Power off		
Single Type Only one cycle of the lighting cycle lights up for one external ON signal.		



The layout of control part on the front panel



*For details on external control cable. see page 95 to 96.

Total Diverse Lineup of 63 Models

Our diverse lineup of 63 models includes two kinds input voltage of AC100~240V/24V DC, two kinds of output voltage of DC12V/24V, three capacities of 30W/50W/100W, and three channel choices of 2/4/8 each. three external control method of「TP/PI」,「S2/PI」,「S4/VI」. The various selections give you the best choice of the power supply depending on light combination and environment.

Model	Input Voltage	Output Voltage	Capacity (W)	Channel numbers	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-50M2-24-*****-T	DC24V		46	2CH	700	5
IDGB-150M4-24-*****-T			144	4CH	1000	6
IDGB-150M8-24-*****-T				8CH		

* ***** on the model represents a symbol of external control types.
·TP/PI: LAN communication/8bit parallel communication switchable type
·S2/PI: RS-232C communication/8bit parallel communication switchable type
·S4/VI: RS-485 communication/Analog 0-5V switchable type
*The lighting connector number is different from the design depending on the channel number.
*The lighting connector shape for DC24V output specification is different from the design's outline drawing.
*For details on external control cable. see page 95 to 96.

Common Specifications

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

Communication Specification(LAN)

Communication System	TCP/IP
Regulatory Compliance	IEEE802.3(10BASE-T)、IEEE802.3u(100BASE-TX)
Communication Speed	10Mbps(10BASE-T)、100Mbps(100BASE-TX)
Connection Port Number	4 ports
Function	Auto MDI/MDIX、Auto Negotiation

Communication Specification(RS-232C/RS-485)

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

NEW

Digital Power Supply LAN

With multi-channel control function (Corresponding to LAN communication)

Programable digital PWM power supply

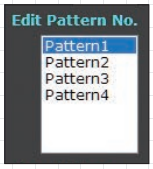
IDGB-PG series

Seamless power supply with programming mode function.
No need of PLC.

It has a new function, "programming mode"

・It can set the number of output and order controlled by one <ON> signal.
・Lighting mode: you can choose from Level or Edge mode.
・At the most, it can set and save 8CH ×4 patterns of lighting order, output and lighting time.

Easy pattern setting with LAN



Pattern switching depending on inspection application

<Configurable items>

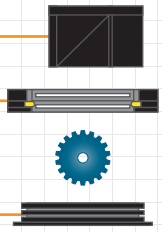
・Lighting order
・Output control
・Lighting time
・Lighting mode (Level/Edge)
・Pattern switching
・Delay

<ON>Signal

Sequentially switching of Multi-channel lighting

<ON>Signal

Sequential switching of plural lights

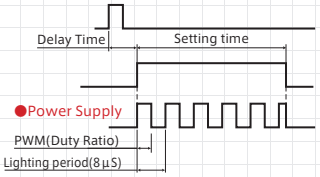


One pattern can set the parameters of 8 channels.

Provide sample applications to support Setting

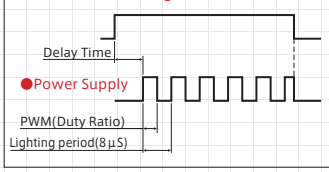
・Edge mode
Lighting time is same as the set time (Set time of the Time section).

●External ON/OFF Signal



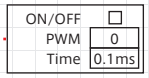
・Level mode
Lighting time is synchronized to input time of <ON> signal

●External ON/OFF Signal

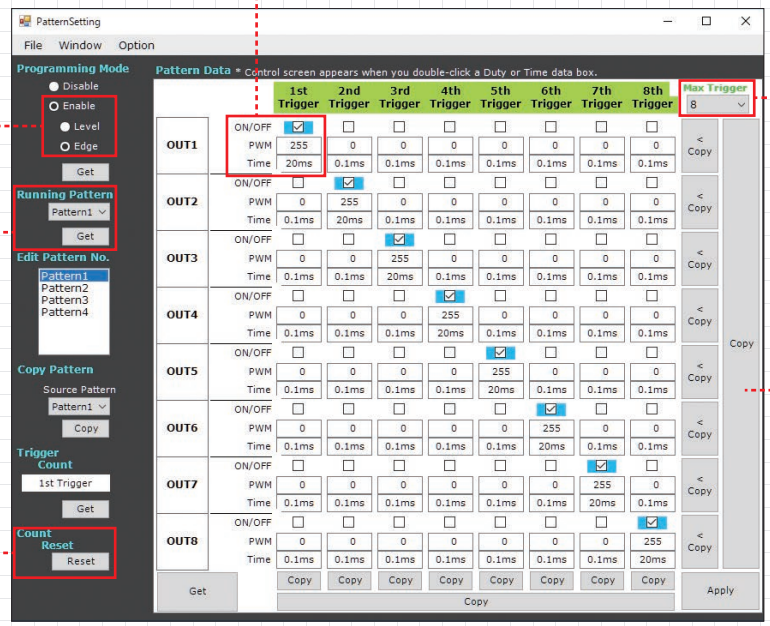


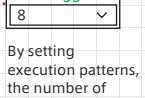
Setting pattern number

Reset function
Restart from the 1st signal

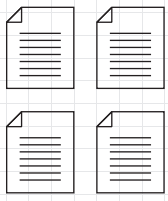


ON/OFF :Setting output of each channel
P W M :Setting output value by 255-level
T i m e :Setting lighting time (Edge mode only)





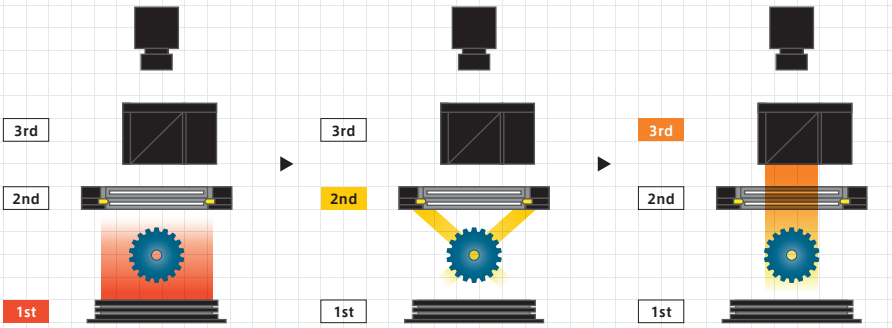
By setting execution patterns, the number of times of ON signals within one sycle can be chosen from 1 to 8.



Up to 4 execution patterns can be saved.
Pattern calling possible from saved file.

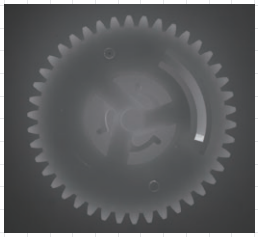
Application programming example: plural lights (backlight → horizontal ringlight → coaxial light)

·No need of technical knowledge of PLC control. You can see the setting with PC.



		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

Defects and dirt measurement

Lineup total 21Models

Our diverse lineup of 21 models includes two kinds input voltage of AC100~240V/DC 24V, two kinds of output voltage of DC12V/24V, three Capacities of 30W/50W/100W, and three channnel choices of 2/4/8 each. The various selections give you the best choice of the power supply depending on light combination and environment.

Model	Input Voltage	Output Voltage	Capacity(W)	Channels	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

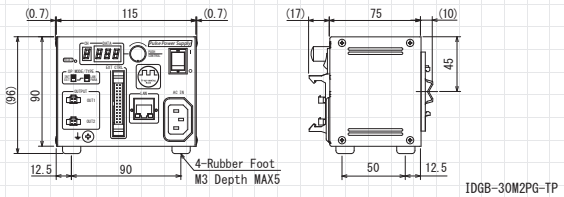
Output Control Method	PWM approx. 125kHz
External Control	External ON/OFF, External Output Control
Protection Function	Overcurrent protection function, FAN error

Communication Specification(LAN)

Communication Protocol	TCP/IP
Regulatory Compliance	IEEE802.3(10BASE-T)、IEEE802.3u(100BASE-TX)
Communication Speed	10Mbps(10BASE-T)、100Mbps(100BASE-TX)
Connection Ports	4ports
Function	Auto MDI/MDIX、Auto Negotiation

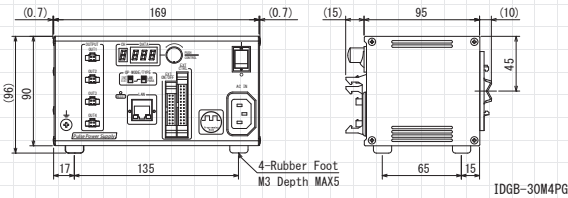
*The lighting connector number is different from the design depending on the channel number.
*The lighting connector shape for DC24V output specification is different from the design's outline drawing.
*For details o f external control cable, see P94,95,96.

1



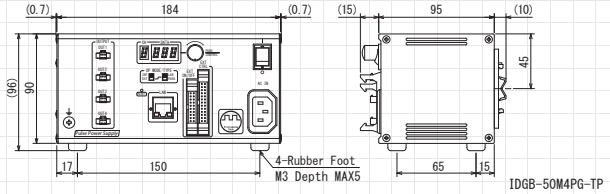
IDGB-30M2PG-TP

2



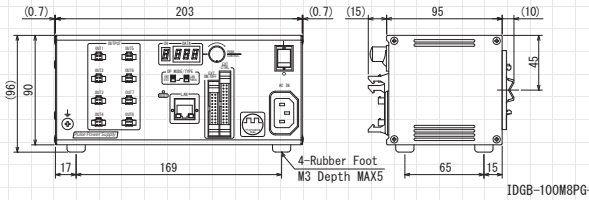
IDGB-30M4PG-TP

3



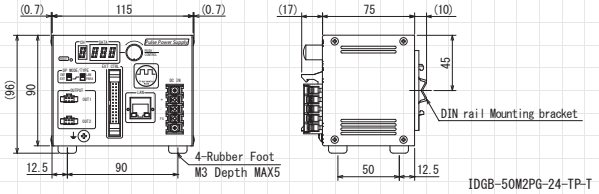
IDGB-50M4PG-TP

4



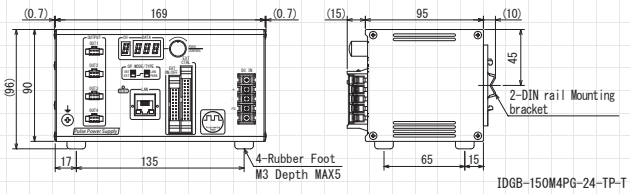
IDGB-100M8PG-TP

5



IDGB-50M2PG-24-TP-T

6



IDGB-150M4PG-24-TP-T

Digital Controller

1000 Level Digital Controller

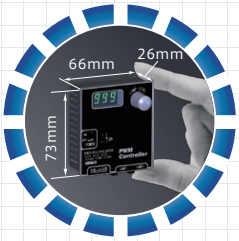
ILP series

Compact and low price digital controller

CE

•It is a compact and low cost PWM power supply.Compared to conventional ones, we succeeded in making it 1/6 of its size 30W 2channel, the smallest in the industry, by densifying the mounted components and optimizing the design. it has a 1000 level digital controller with a good visibility display.

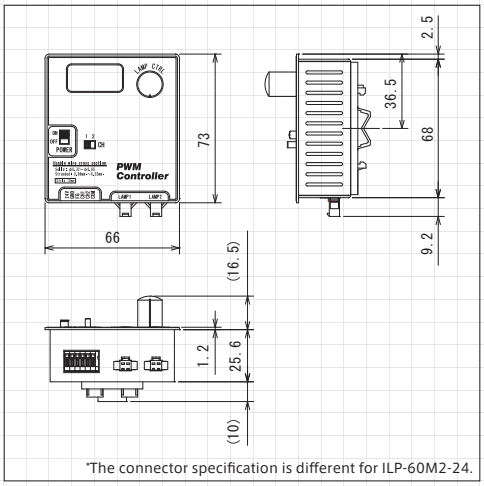
•The input voltage is DC24V, the lineup includes ILP-30M2 of output voltage DC12V/total capacity 30W and IL-60M2-24 of output voltage DC24V/total capacity 60W.



The most compact 30W/2 Channel in the industry *1

The standard price JPY 19,800 (Tax not included)

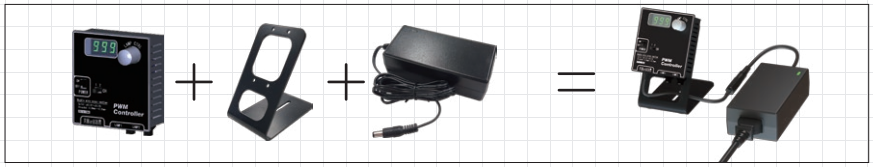
(*1)August 2013 Company research.

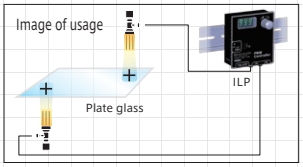


*The connector specification is different for ILP-60M2-24.

Model	ILP-30M2	ILP-60M2-24
Input Voltage	DC24V±10%	
Input Current	1.5A(Max)	3.0A(Max)
Output Voltage	DC12V	DC24V
Channel numbers	2CH	
Capacity	30W(2CH Total)	60W(2CH Total)
Output control method	PWM approx. 80kHz (1000 levels)	
Response Speed	OFF→ON:70μs or less、ON→OFF:20μs or less	

*See page 99 for optional parts.





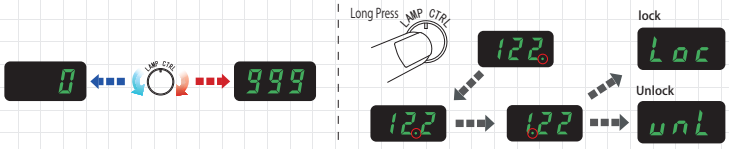
We also sale ILP power supply+ stand + AC adapter + AC cable as a set.

Easy to check the set value with the good visibility display

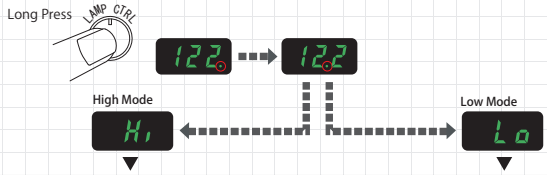
1000 level digital controller with a good visibility display.

Since the variable speed of the output control is changed according to the speed of rotating the output control switch, the output value will be quickly set.

Further, by pressing and holding the output control switch, you can lock each channel.



The external ON / OFF signal and Inverting function of lighting output

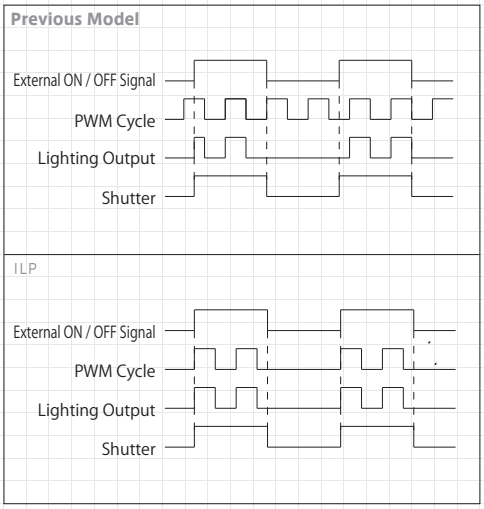


High Mode	Low Mode
●External ON / OFF Signal ●Power Supply Output Value (Duty Ratio) Output Cycle	●External ON / OFF Signal ●Power Supply Output Value (Duty Ratio) Output Cycle

Fully synchronizes the lighting output and external ON/OFF signal

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 these products synchronizes with the external ON/OFF signal so it has no lighting fluctuation.



Analog control power supply

Analog PWM power supply

IDPA series

Simplified analog output control power supply
Release a compact 30W (IDPA-30M2)

Simplified analog pulse PWM power supply

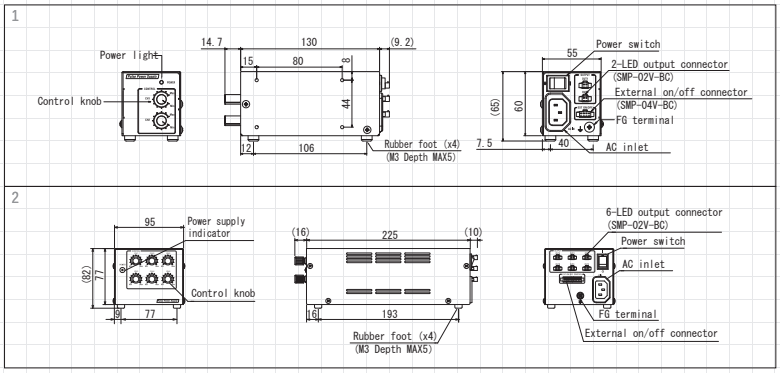
IDPA series

Simple analog PWM power supply

- ON/OFF control terminals as standard.
- An input voltage of 100 to 240V AC.(Power cable supplied as standard is for 100V AC.)
- Capable of controlling light in the range of 0 to 100% with a PWM frequency of approximately 80 kHz. (Available with semi-fixed volume (H models).)

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

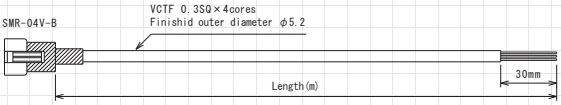
*The models above are knob-controlled volume models. Semi-fixed volume models that are adjusted using a screwdriver are also available. For these models, the end of the model name is H.
*For details on external controls, see page 95.



*The knob shape of -H model is different.

External on/off cable IC-CB-D※(for IDPA-30M2)

Pin No.	Wire Color
1	White
2	Green
3	Red
4	Black

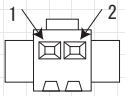


Model	Length(m)
IC-CB-D1	1
IC-CB-D2	2
IC-CB-D3	3
IC-CB-D4	4
IC-CB-D5	5
IC-CB-D10	10

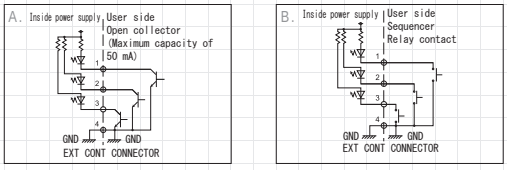
*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

LED output connector SMP-02V-BC

Pin No.	Type of 12 V Output
1	Output + (+12 V)
2	Output -



Example of external on/off connection(IDPA-30M2)



- A current of about 10 mA is applied between connector pins 1, 2, and 3 and pin 4.Use an open-collector circuit with a capacity of about 50 mA to be on the safe side.
- When short-circuiting between pins 3 and 4 in the external on/off control connector, the connector is switched to the external control.(The LED light connected to the 2 channels is turned off.)
- When short-circuiting between pins 1 and 4 in addition to the above, the LED light connected to LAMP 1 is turned on.In the same way, when short-circuiting between pins 2 and 4, the LED light connected to LAMP 2 is turned on.(Switching of the external on/off control is enabled on both channels at the same time.)

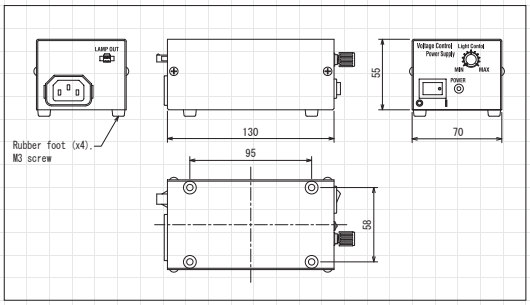
Constant voltage power supply

IWDV-10S-V

Analog PWM power supply compatible with high-speed camera

Model	IWDV-10S-V
Input Voltage	AC100～240V
Operating Frequency	50/60Hz
Rated Output	DC12V
Capacity	10W
Channel numbers	1

- Since it controls the output of lighting by varying the voltage, it is effective when LED light is used with ultra-high-speed camera, and high-speed clock line-sensor camera.



Constant-current Power Supply 0~5v 8bit 232C 485 LAN

Multi-channel Constant-current Power Supply

IDCA series

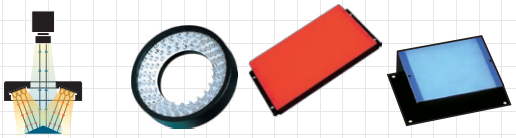
Constant-current Power Supply capable of running a wide range of lights

CE PSE

Allows simultaneous connection of DC 12V lights and spot lights

Applicable Lights

12V DC light (IDR series, etc) *There are limits to lighting that can be connected.



Applicable Lights

·IHV ·IHVD ·IHVE ·IBF series

The upper row of each channel allows direct connection of DC 12V light, while the lower row allows direct connection of current-control lights such as the IHV, IHVD, 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 Power Supply Specifications

Output Control Method	Variable Output Current System
Input Voltage	AC100~240V
Output Voltage	MAX DC12V
Output Current	0mA to maximum output current
Maximum Output Current	100~1000mA(each channel can be changed in 10mA increments)
External ON/OFF Control	Independent for each channel
Protection Function	Output open, short detection, overcurrent, no load, fan error

When extention cable selecting, please check the instruction manual

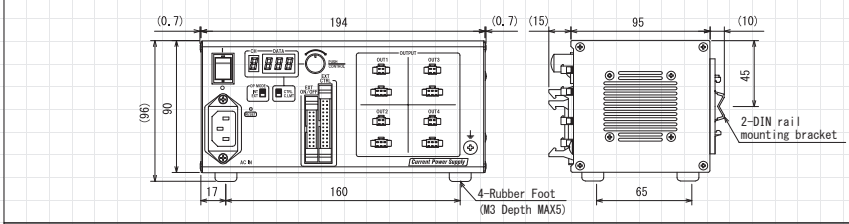
*For details on external controls, see page 95 to 96.

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

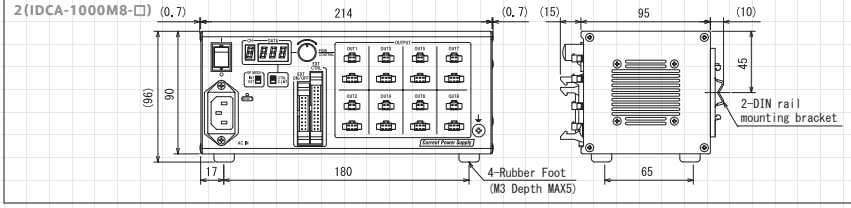
Model	Channel numbers	External Control	Drawing
IDCA-1000M4-VI	4CH	Analog 0-5 V	1
IDCA-1000M4-PI		8-bit parallel	
IDCA-1000M4-S2		RS-232C communication	
IDCA-1000M4-S4		RS-485 communication	
IDCA-1000M4-TP		LAN communication	
IDCA-1000M8-VI	8CH	Analog 0-5 V	2
IDCA-1000M8-PI		8-bit parallel	
IDCA-1000M8-S2		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 is possible to simultaneously run the IHV series at 350mA and the IHVD,IHVE,IBF series at 700mA. The output control range can be varied in 256 levels from 0 mA to the set maximum output current.

1 (IDCA-1000M4-□)

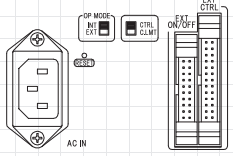


2 (IDCA-1000M8-□)

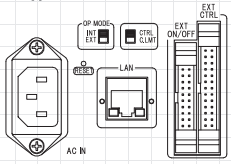


Control Panel Layout

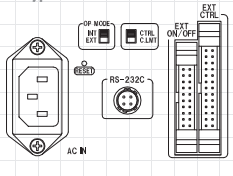
VI/PI Type



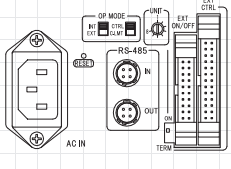
TP Type



S2 Type



S4 Type



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

Constant-current Power Supply 0~5V

Compact Constant-Current Controller

ILC series

Constant-current power supply with external 0 to 5 V control function
Connectable directly with IHV, IHVD, IHVE, and IBF series

CE

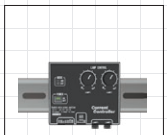
•Constant-current power supporting direct connection of IHV, IHVD, IHVE, and IBF series.

IHV, IHVD, IHVE and IBF series, etc.

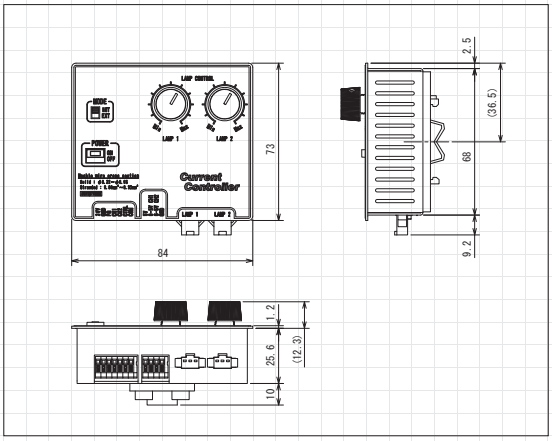
Power Supply Specifications

Model	ILC-700M2-VI	ILC-350M2-VI
Input Voltage	DC24V	
Input Current	0.3A	0.15A
Rated Output	700mA/CH	350mA/CH
Channel numbers	2CH	
Output Control Method	Variable Output Current System	
External Control	Input of 0 to 5V External On/Off Control	
Supported Lights	IHVD·IHVE·IBF-LX(Except for UV)	IHV·IBF(UV-400)

*For optional parts, refer to page 99.
*We also sale ILC power supply+ stand + AC adapter + AC cable as a set.



It can be mounted on DIN rail



Compact design

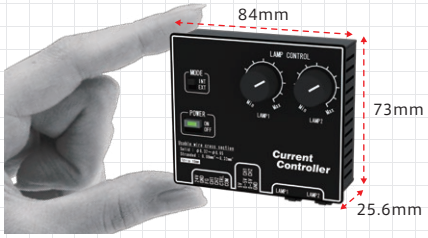
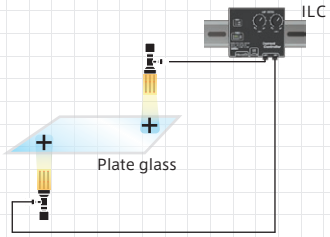
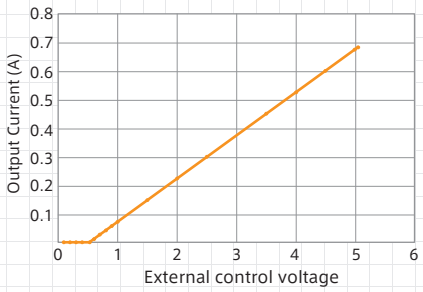


Image of usage



External 0 to 5 V output control linearity

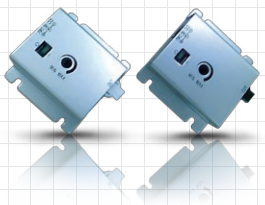
ILC-700M2-VI



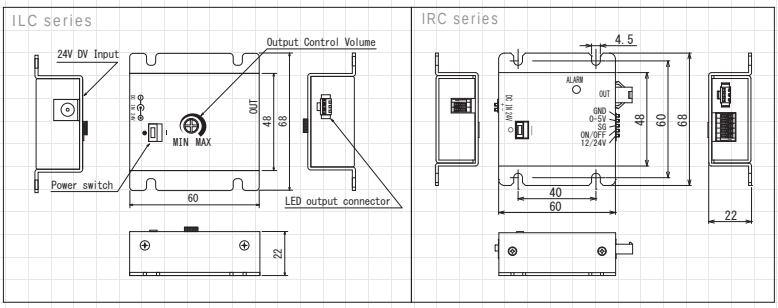
Compact Controller
ILC • IRC series

0 to 5V Analog

*IRC series only



Model	ILC-24-350 IRC-24-350	ILC-24-700 IRC-24-700
Applicable Lights	IHV IBF-LX(UV-400)	IHVD、IHVE IBF-LX(Except UV)



•Single-channel type constant-current analog power supply for IHV, IHVD, IHVE, and IBF series.
•Controller's compact design allows installation in small spaces.
•Super lightweight model weighing only 74 g.
•Can be used in conjunction with high-speed camera or high-speed line sensor camera thanks to constant-current control system.
•ILC series comes with AC adapter as standard.
•IRC is provided with an external control function

Power Supply Specifications

Model	ILC-24-700	ILC-24-350	IRC-24-700	IRC-24-350
Drive System	Constant current MAX700mA	Constant current MAX350mA	Constant current MAX700mA	Constant current MAX350mA
Channel numbers	1CH			
Input Voltage	Supplied AC adapter DC 24V 0.5A		DC24V Over 0.5A	
Operating Temperature	0~40℃			
Operating Humidity	20~70%			
Weight	Approx. 74g		Approx. 70g	
External Control	No external on/off control, No external output control		External on/off control, External output control	

Overdrive power supply LAN

Small Multi Channel OverDrive Power Supply with LAN Control

IJS series

It's able to use at up to approximately 4 times brighter than normal in case of maximum 36V overdrive.

Line up the 6 models which is 30W 2CH up to 40W 8CH.

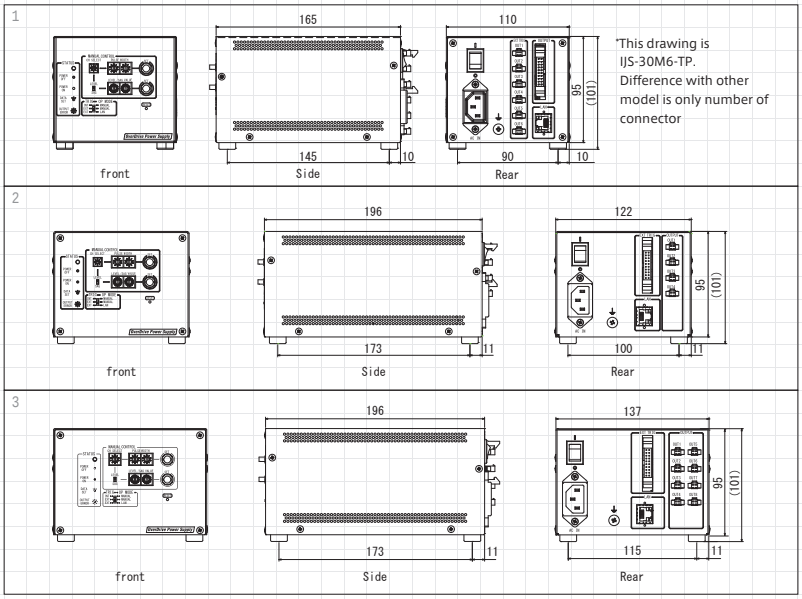
CE

- It is more compact than the conventional SAG power supply.
- Dimming in 256 levels of 6V to set SAG value
- There are four connection ports which can each be controlled with four computers.
- The housing size remains compact even with multiple channels.

Model	Channel numbers	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 30W	2
IJS-40M8-TP	8CH	5W×8 Total 30W	3

Input Voltage	AC100~240V
Operating Frequency	50/60Hz
Output Voltage	12 to 36 V DC (256-level variable output voltage)
Pulse Width Setting	0μsec~990μsec(10μsec step) (Duty:5% or less)
Trigger signal	Synchronized on function (internal/external switch)
Trigger Response Speed	Max. 2.5μs
Trigger Response Speed	"00"→"FF": Max. 200ms, "FF"→"00":Max. 1 sec(※)
Internal Light	Fixed at 50 Hz
External Control	LAN communication
Variable delay	Interval of 1μS in the range of 0~5,000μS(Only for the external control mode)
Other	Interlock function, Overcurrent protection function

※Measure with IJS-30M6-TP connected with rated load (equivalent to 12V / 5W)

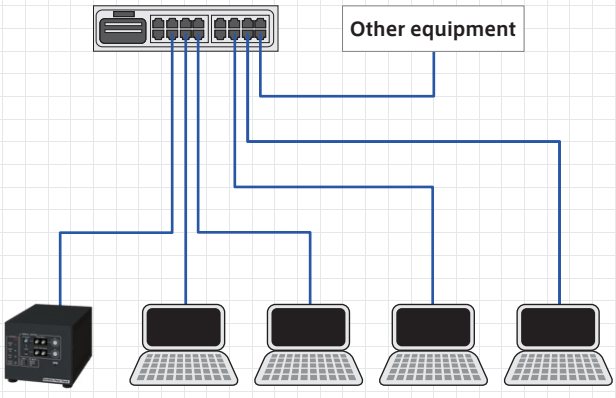


*This drawing is IJS-30M6-TP. Difference with other model is only number of connector

*For details on external control cable, see page 96.

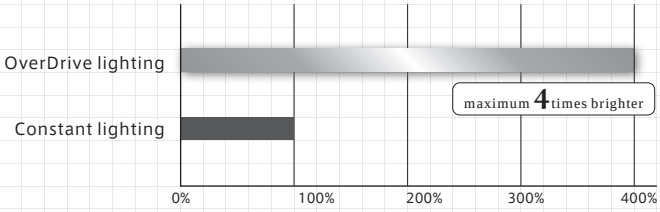
Up to 4 PCs can be controlled

- There are 4 connection ports, and control is possible from a maximum of 4 PCs

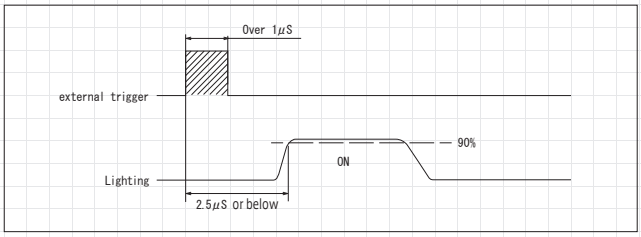


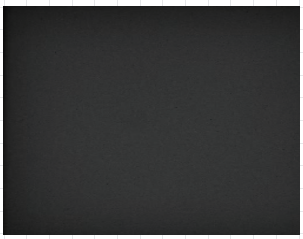
Overdrive effect

- By connecting LED light with 12 VDC driving and driving overdrive at 36 V maximum, it can emit light at more than 4 times brighter than Constant lighting.
- In scene where the work moves at high speed, Imaging can be realized for objects moving at high speed due to an increase in light intensity.
- By increasing the aperture value of the lens the allowance of the depth of field can be widened, and it is possible to cover a minute focus shift easily caused by vibration of the device.



Trigger Response Speed



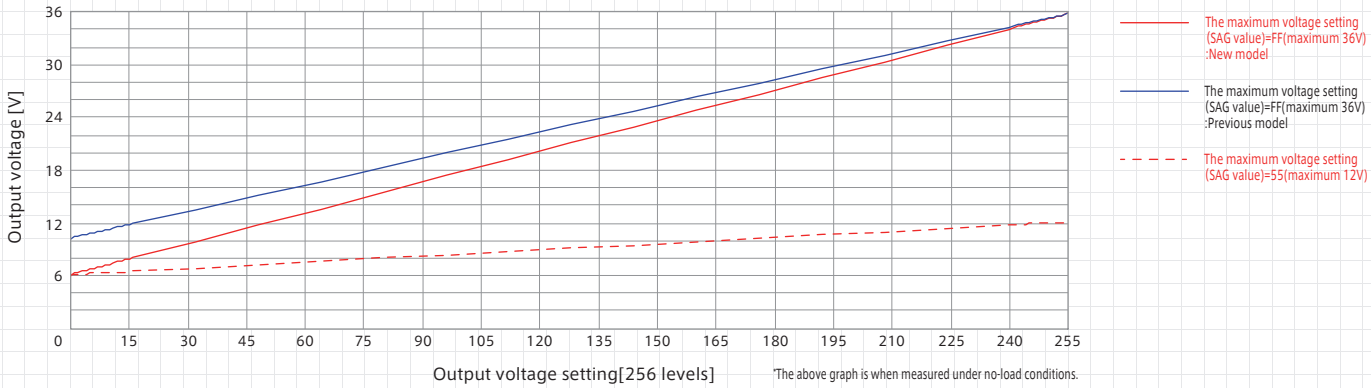


【Constant light】
- Power Supplies:ILP-30M2
- Image gray value:53/255
- Light:IHM-66/60R
- Shutter Speed:1/40,000

【OverDrive emission】
- Power Supplies:IJS-30M2-TP
- Image gray value:230/255
- Light:IHM-66/60R
- Shutter Speed:1/40,000

Output lower limit voltage value is improved than previous model

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

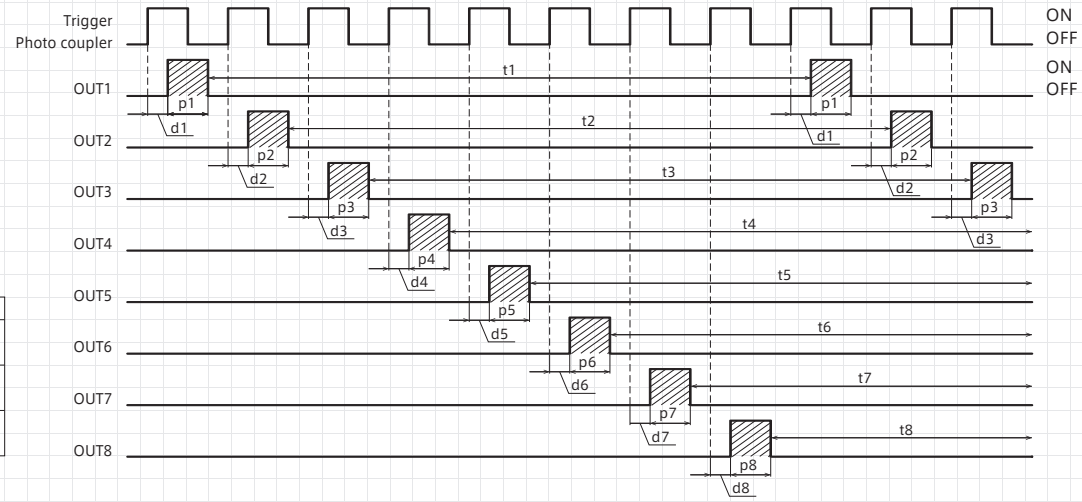


*The above graph is when measured under no-load conditions.

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)

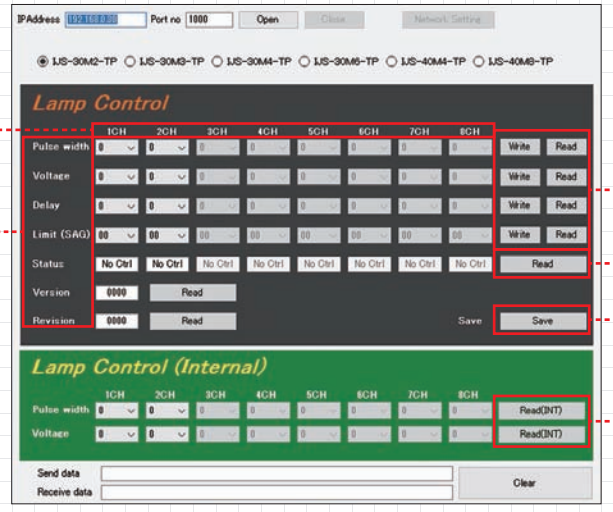


Symbol	Item	Description
d1-8	Delay	Time until trigger output ON
p1-8	Pulse Width	Time output ON
t1-8	Trigger invalid time	Trigger invalid time after trigger output time

Sample software For IJS

Various setting items of the target power supply can be easily set and checked from the PC.
· Reading, changing, and saving of the output control setting (Pulse width/Voltage/Delay/Limit(SAG))
· Network setting (IP address · port number)

* You can download sample software from our Website.



Channel

Various setting items
·Pluse width
·Voltage
·Delay
·Limit(SAG)

Various check items
·status (Normal / short circuited / not subject to control)
·software version

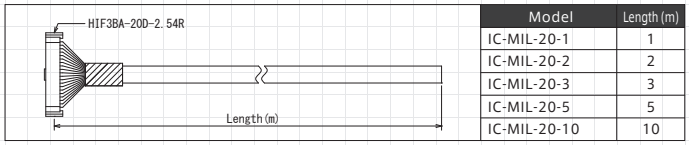
Reading set value. Setting Value.

Reading status

Writing set value

Reading Internal Output Control set value

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

Overdrive power supply 0~5V 8bit

Overdrive power supply

SAG series

Lineup includes everything from general-purpose models to highend multi-function models.

CE *SAG-30M2-VI

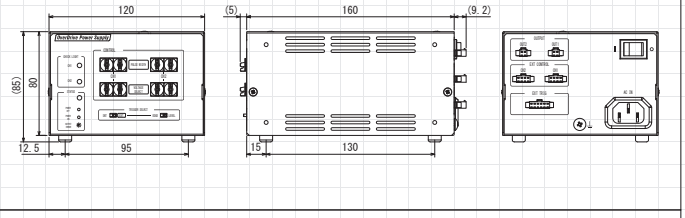
- Allows easy synchronization of LED light emission and camera exposure timing in high-speed moving image applications.
- As the LED elements generate less heat, the amount of light is stabilized and the lifespan will be longer.
- Choose a model to suit your inspection application.
- It accepts almost all standard Lights.
- Light intensity: Overdrive lighting are approximately 4 times brighter than normal lighting

Power Supply Specifications

Model	SAG-30M2-VI	SAG-30M2-PI
Channel numbers	2CH	2CH
Capacity	1CH/30W Total30W	2ch individually/15W Total30W
Input Voltage	AC100～240V	AC100～240V
Output Voltage	DC6～36V (256-level variable output voltage)	DC12～36V (256-level variable output voltage)
Pulse Width Setting	Internal:10μS～990μS(10μs step) External:10μS～1mS (Duty:5% or less)	10μS～990μS(10μs step)
Trigger Response Speed	Approximately 3μS	Approximately 2μs
External Output Control	External analog 0-5V	8bit parallel
Feature	External Trigger: NPN/PNP external power supply 5 to 24 V(external resistor is not necessary) Pilot lamp for pulse output check	Pilot lamp for pulse output check
Drawing	1	2

*For details of external control cable, see P94.

1



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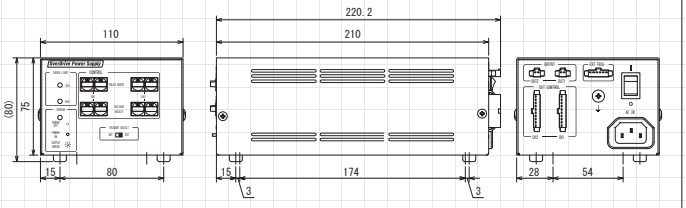
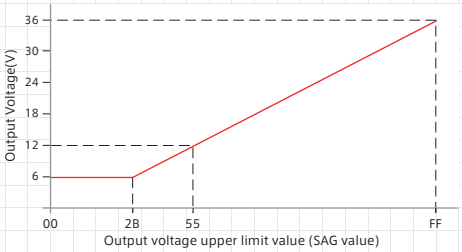


Voltage Characteristics (SAG-30M2-VI)

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.

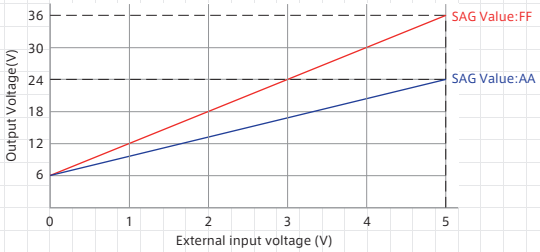
Output voltage variability characteristics



External analog output control linearity(SAG-30M2-VI)

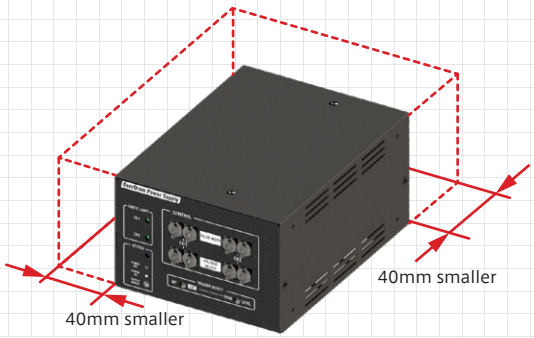
- The range between 6V and the output voltage upper limit value (SAG value) can be changed by the external input voltage(0 to 5V)
- In the whole range of the external input voltage of 0 to 5V, a high linearity is maintained(at 100mV or less, the lighting is turned off when the pulse output is 0).

External analog dimming linearity



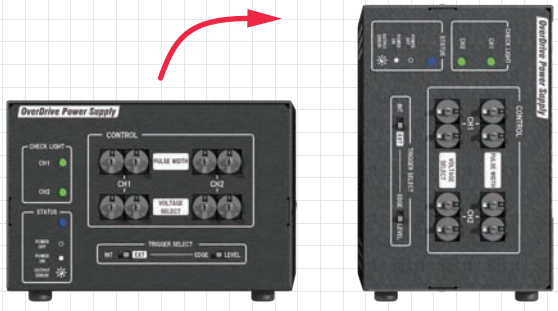
Compact design

Compared to SAG-30DA-PD, significant compactification is achieved. (SAG-30M2-VI: 36% smaller, SAG-30M2-PI: 28% smaller.)



Corresponding to both vertical and horizontal placement

Smooth installation: by changing the mounting position of the rubber feet, you can choose vertical or horizontal placement. (SAG-30M2-VI only)



Overdrive power supply 8bit

High capacity Overdrive power supply

SAG-HP series

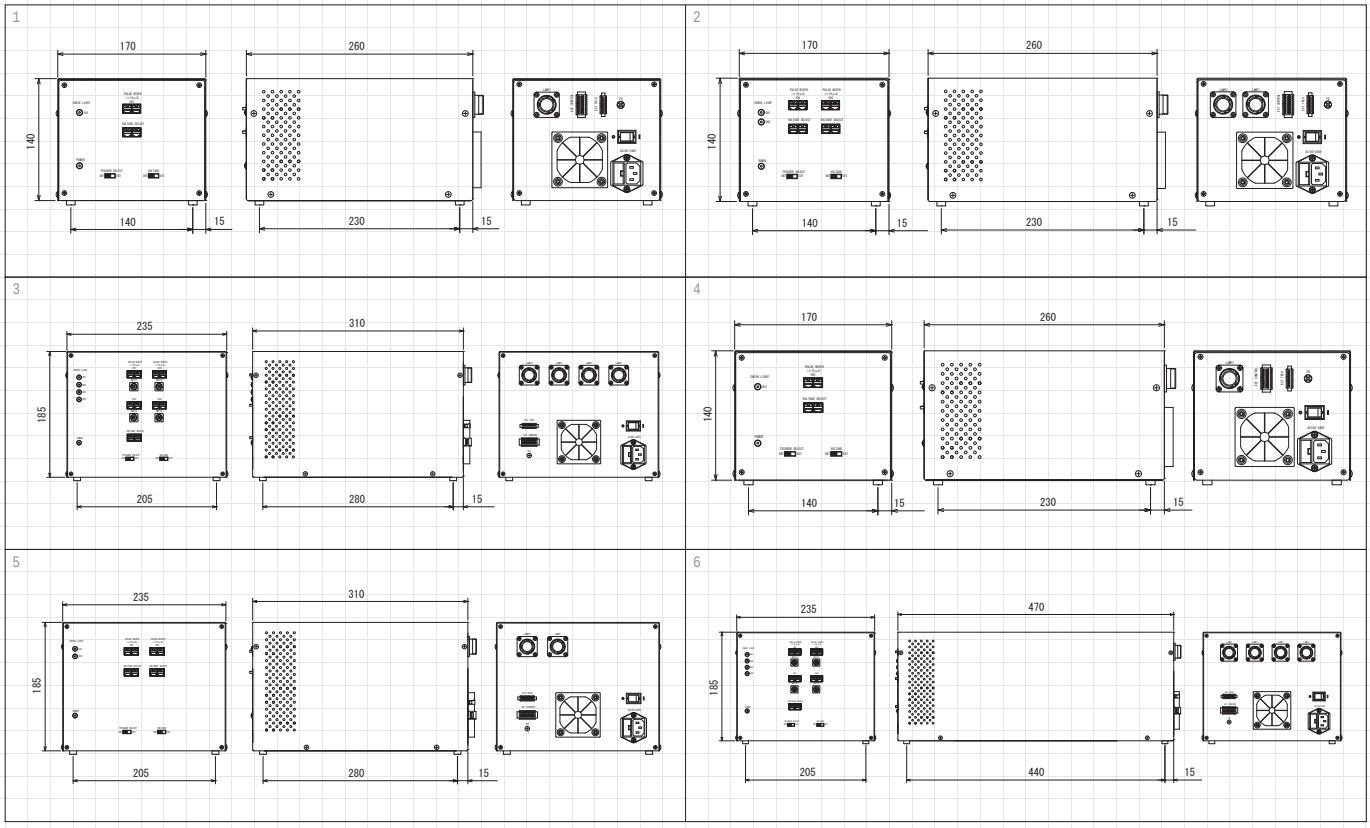
Lineup features high-capacity models of 75 to 600W.

- Allows easy synchronization of LED light emission and camera exposure timing in high-speed moving image applications.
- As the LED elements generate less heat,the amount of light is stabilized and lifespan will be longer.
- A larger current than regular lighting flows instantaneously. It can be used at up to approximately four times the current.

Model	Power consumption	Drawing
SAG-HP75M1	1 channel, 75W (total 75W)	1
SAG-HP150M2	2 channels, 75W each (total 150W)	2
SAG-HP300M4	4channels, 75W each (total 300W)	3
SAG-HP150M1	1 channel, 150W (total 150W)	4
SAG-HP300M2	2 channels, 150W (total 300W)	5
SAG-HP600M4	4 channel, 150W (total 600W)	6

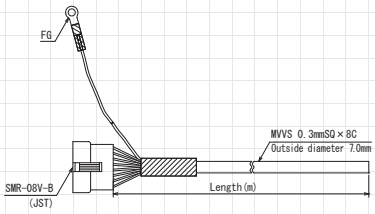
Power Supply Specifications

Input Voltage	AC100～240V
Operating Frequency	50/60Hz
Output Voltage	12 to 36 V DC (256-level variable output voltage)
Pulse Width Setting	10μsec～990μsec
Trigger signal	Synchronized on function (internal/external switch)
Trigger Response Speed	Approximately 1 μs
Internal Light	Fixed at 50 Hz
External output control	8-bit digital signal, 256 level
Other	Interlock function, Overcurrent protection function



External trigger cable (IC-SA-TR-※)

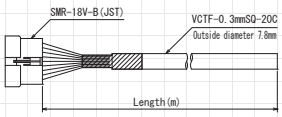
Pin No.	Wire Color
1	White
2	Red
3	Green
4	Yellow
5	Brown
6	Blue
7	Gray
8	Black



Model	Length (m)
IC-SA-TR1	1
IC-SA-TR2	2
IC-SA-TR3	3
IC-SA-TR4	4
IC-SA-TR5	5
IC-SA-TR10	10
IC-SA-TR15	15

External Output Control Cable (IC-DG-※)

Pin No.	Wire Color	Pin No.	Wire Color
1	White	10	Pink
2	Red	11	Light Green
3	Green	12	White/Black
4	Yellow	13	Red/Black
5	Brown	14	Green/Black
6	Blue	15	Yellow/Black
7	Gray	16	Brown/Black
8	Orange	17	Black
9	Sky blue	18	Gray/Black



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

Digital Controller LAN

PoE-capable Control Unit

IPSA・IPPA series

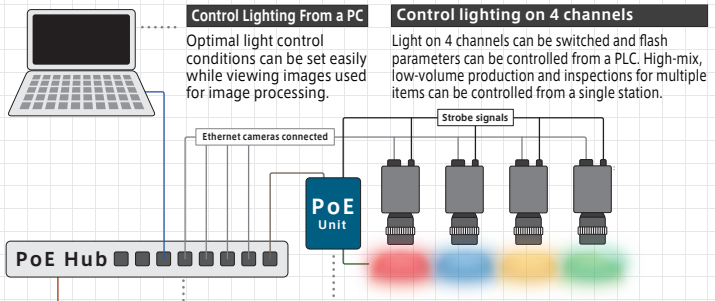
Reduce overall system costs

CE

Intelligent lighting With Power over Ethernet(PoE)

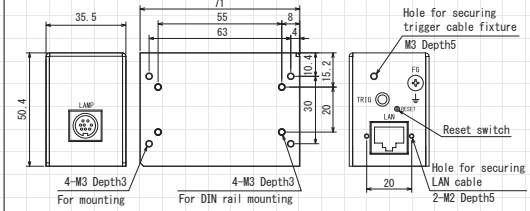
IMAC has created a more sophisticated lighting system by integrating controls using Ethernet. This not only increases the degree of flexibility of control, but also helps reduce total system costs through advanced image processing applications; high-mix, low-volume manufacturing; and labor-saving initiatives in system development and manufacturing.

Example Connection (Conceptual Diagram)

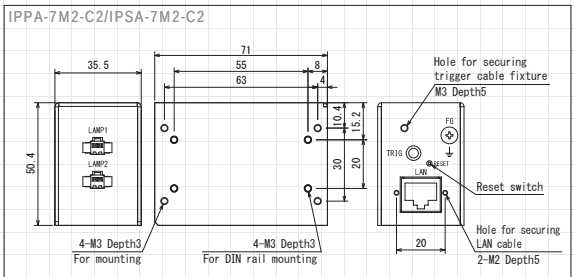


Drawing

IPPA-7M4-C2/IPSA-7M4-C2

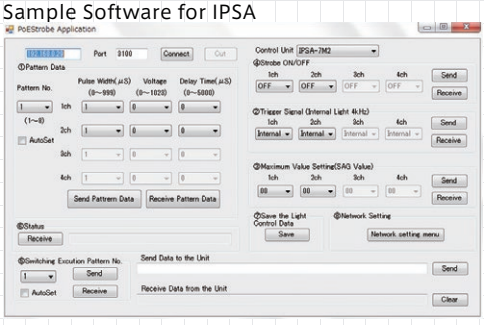


IPPA-7M2-C2/IPSA-7M2-C2

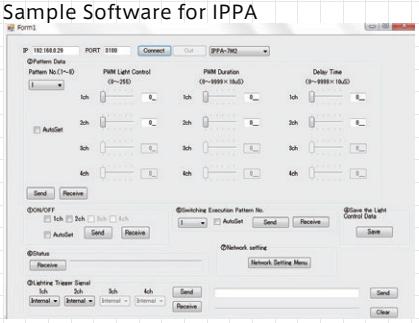


Sample Software Examples

Sample Software for IPSA



Sample Software for IPPA



Power Supply Specifications

Over drive specifications IPSA-7M4-C2/IPSA-7M2-C2

Communication System	TCP/IP protocol (100M/10Mbps)
Input	Power supply from PoE injector (PoE standard: IEEE 802.3af)
Output	Voltage: 12 to 36 V (Variable)
	Capacity: Connected light/30W or below *1
	Current: 4 A or below (Peak current)
	DUTY:5% or below (With interlock protection circuit function)
	Pulse width: 1 ms or less (0 to 999 μs)
	Output Control:10 bit (1,024 levels)
Trigger Response Speed	1μS
Voltage Variation Response Speed	max. Approximately 70ms
Delay Time	0 to max. 5ms (with variable function)
Internal Light	Frequency: 4 kHz / Width: 12.5 μs (fixed)

PWM normal light specifications IPPA-7M4-C2/IPPA-7M2-C2

Communication System	TCP/IP protocol (100M/10Mbps)
Input	Power supply from PoE injector (PoE standard: IEEE 802.3af)
Output	Voltage: 12 V (fixed)
	Capacity: Connected light/30W or below *2
	Current: 650mA
	PWM approx. 80 kHz
	Output Control:8 bit (256 levels)
Trigger Response Speed	1μS

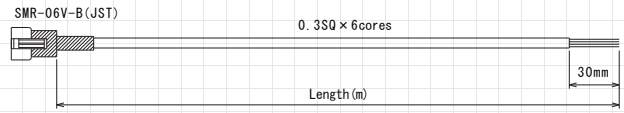
*1 There are limits on light emission width and trigger frequency when using light with a total of 7.8 W or more on 4 channels.
*2 Output voltage drops when using light with a total of 7.8 W or more on 4 channels.

External Control Cable

Trigger Cable for SAG / IC-SA-D series

Power Supply:SAG-30M2-VI/ SAG-30M2-PI

Pin No.	Wire Color
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-D10	10

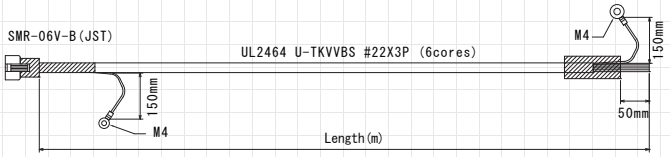
Pin No.	Name of Signal
1	+5V OUT
2	+5～24V IN
3	CH1 TRIGGER IN
4	+5～24V IN
5	CH2 TRIGGER IN
6	GND

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

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

Power Supply:SAG-30M2-VI/ SAG-30M2-PI

Pin No.	Wire Color
1	Black
2	Black/White
3	Red
4	Red/White
5	Green
6	Green/White



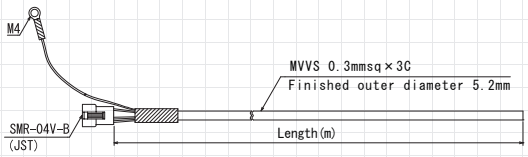
Model	Length (m)
IC-S-SA-D1	1
IC-S-SA-D2	2
IC-S-SA-D3	3
IC-S-SA-D4	4
IC-S-SA-D5	5
IC-S-SA-D10	10

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

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

Power Supply:SAG-30M2-VI

Pin No.	Wire Color
1	White
2	Red
3	NC
4	Black



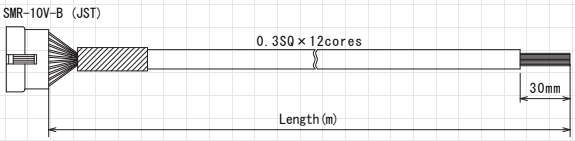
Model	Length (m)
IC-SA-EV1	1
IC-SA-EV2	2
IC-SA-EV3	3
IC-SA-EV4	4
IC-SA-EV5	5
IC-SA-EV10	10

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

8bit Digital Output Control Cable for SAG / IC-ET series

Power Supply:SAG-30M2-PI

Pin No.	Wire Color
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 No.	Name of Signal
1	External power supply and Input Voltage(+12V～+24V)
2	B0(LSB)
3	B1
4	B2
5	B3
6	B4
7	B5
8	B6
9	B7(MSB)
10	Switch internal/external control

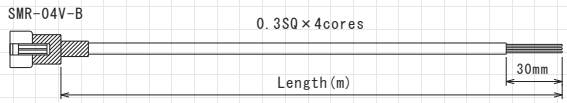
*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

External Control Cable

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

Power Supply:IDPA-30M2 (H) / IWDV-300SL-48

Pin No.	Wire Color
1	White
2	Green
3	Red
4	Black

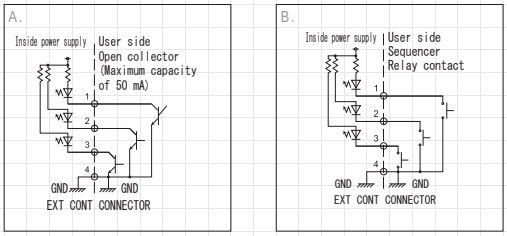


Model	Length (m)
IC-CB-D1	1
IC-CB-D2	2
IC-CB-D3	3
IC-CB-D4	4
IC-CB-D5	5
IC-CB-D10	10

Pin No.	Name of Signal
1	LAMP1 ON/OFF
2	LAMP2 ON/OFF
3	External Control Switch
4	GND

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

Example of External On/Off Connection (2-channel Power Supply Unit)



A current of about 10mA is applied between connector pins 1, 2, and 3 and pin 4.
Use an open-collector circuit with a capacity of about 50mA to be on the safe side.

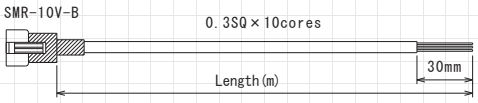
When short-circuiting between pins 3 and 4 in the external on/off control connector, the connector is switched to the external control. (The LED lighting connected to the 2 channels is turned off.)

When short-circuiting between pins 1 and 4 in addition to the above, the LED light connected to LAMP 1 is turned on. In the same way, when short-circuiting between pins 2 and 4, the LED light connected to LAMP 2 is turned on. (Switching of the external ON/OFF control is enabled on both channels at the same time.)

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

Power Supply:IDPA-50M6(H)/ IDPA-100M6(H)

Pin No.	Wire Color	Pin No.	Wire Color
1	White	6	Gray
2	Yellow	7	Orange
3	Brown	8	Water
4	Green	9	Red
5	Blue	10	Black



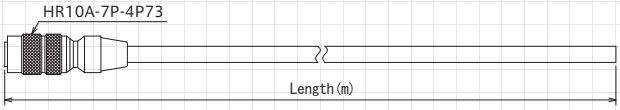
Model	Length (m)
IC-CB-8CH-1	1
IC-CB-8CH-2	2
IC-CB-8CH-3	3
IC-CB-8CH-4	4
IC-CB-8CH-5	5
IC-CB-8CH-10	10

Pin No.	Name of Signal	Pin No.	Name of Signal
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

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

Output Control Cable (For S2/S4 Models) / IC-MCS2 series

Power Supply:IDGB series(S2/PI、S4/VI)/ IDCA series (S2/PI、S4/VI)

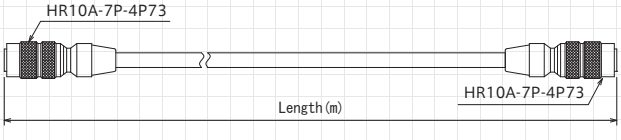


Model	Length (m)
IC-MCS2-1	1
IC-MCS2-2	2
IC-MCS2-3	3
IC-MCS2-5	5
IC-MCS2-10	10

*Is the RS-232C communication as well as the communication cable to be used in the RS-485 communication.

Crossover Cable For S4 Model / IC-MCS4 series

Power Supply: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 to be used for cooperation of the RS-485 communication.

External Control Cable

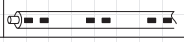
ON/OFF Cable / Output Control Cable / IC-MIL-20 series

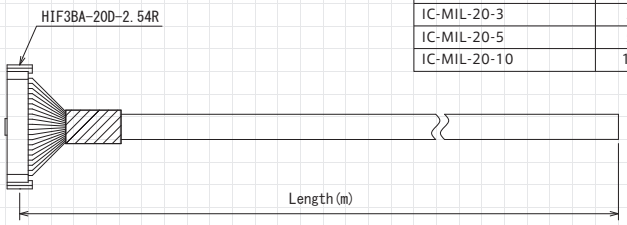
Power Supply (External ON/OFF Control) : IWDV-300S-24/ IWDV-300S-48/ IWDV-600S-48/ IDGB series(Except for IDGB-30M2)/ IDCA series/ IJS series
(External Output Control) : IWDV-300S-24/ IWDV-300S-48/ IWDV-600S-48

Pin No.	Wire Color	Dot Markings	Dot Color	Pin No.	Wire Color	Dot Markings	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

Example of core wire pattern

Example of core wire pattern





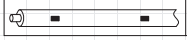
Model	Length(m)
IC-MIL-20-1	1
IC-MIL-20-2	2
IC-MIL-20-3	3
IC-MIL-20-5	5
IC-MIL-20-10	10

Output Control Cable (For VI/PI Models) / IC-MIL-26 series

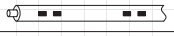
Power Supply (External On/Off Control) : IWDV-600M2-24/ IDGB-30M2 series
(External Output Control) : IWDV-600M2-24/ IDGB series/ IDCA series

Pin No.	Wire Color	Dot Markings	Dot Color	Pin No.	Wire Color	Dot Markings	Dot Color	Pin No.	Wire Color	Dot Markings	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				

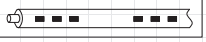
Example of core wire pattern

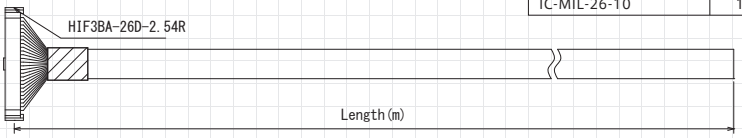


Example of core wire pattern



Example of core wire pattern





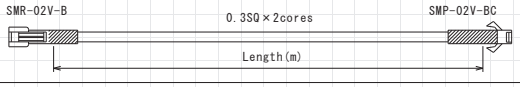
Model	Length(m)
IC-MIL-26-1	1
IC-MIL-26-2	2
IC-MIL-26-3	3
IC-MIL-26-5	5
IC-MIL-26-10	10

*Also used as external ON / OFF control for IDGB-30M2

Extension Cable for Light

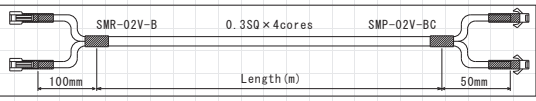
Extension Cable for Light (For DC12V, DC24V)

1-channel Cable (single)



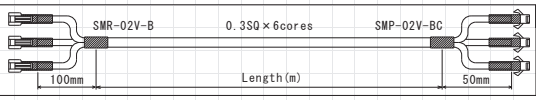
Model(12V)	Model(24V)	Length(m)	Model(12V)	Model(24V)	Length(m)
I-CB-S1	I-CB-S1-24	1	I-CB-S4	I-CB-S4-24	4
I-CB-S2	I-CB-S2-24	2	I-CB-S5	I-CB-S5-24	5
I-CB-S3	I-CB-S3-24	3	I-CB-S10	I-CB-S10-24	10

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)

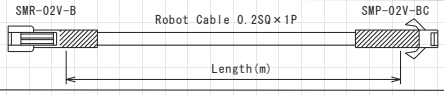


Model(12V)	Model(24V)	Length(m)	Model(12V)	Model(24V)	Length(m)
I-CB-T1	I-CB-T1-24	1	I-CB-T4	I-CB-T4-24	4
I-CB-T2	I-CB-T2-24	2	I-CB-T5	I-CB-T5-24	5
I-CB-T3	I-CB-T3-24	3	I-CB-T10	I-CB-T10-24	10

*For 24 V DC models, the power-supply-side connector is SMP-03V-B, while the lighting-unit-side connector is SMP-03V-BC. *Cables are also available in lengths other than those indicated above.

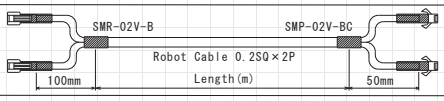
Extension Robot Cable for Light (For 12V DC, 24V DC)

1-channel Robot Cable (single)



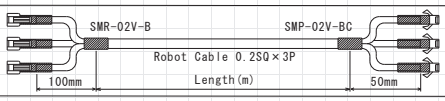
Model(12V)	Model(24V)	Length(m)	Model(12V)	Model(24V)	Length(m)
I-CB-S1R-C02	I-CB-S1R-24-C02	1	I-CB-S4R-C02	I-CB-S4R-24-C02	4
I-CB-S2R-C02	I-CB-S2R-24-C02	2	I-CB-S5R-C02	I-CB-S5R-24-C02	5
I-CB-S3R-C02	I-CB-S3R-24-C02	3	I-CB-S10R-C02	I-CB-S10R-24-C02	10

2-channel Robot Cable (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 Cable (triple)

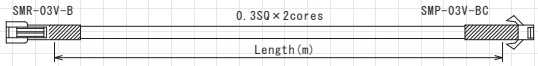


Model(12V)	Model(24V)	Length(m)	Model(12V)	Model(24V)	Length(m)
I-CB-T1R-C02	I-CB-T1R-24-C02	1	I-CB-T4R-C02	I-CB-T4R-24-C02	4
I-CB-T2R-C02	I-CB-T2R-24-C02	2	I-CB-T5R-C02	I-CB-T5R-24-C02	5
I-CB-T3R-C02	I-CB-T3R-24-C02	3	I-CB-T10R-C02	I-CB-T10R-24-C02	10

*For 24 V DC models, the power-supply-side connector is SMP-03V-B, while the lighting-unit-side connector is SMP-03V-BC. *Cables are also available in lengths other than those indicated above.

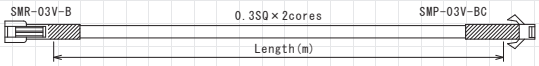
Extension Cable for Coaxial Spot Light (IHV, IHVD, IHVE, IBF, IHV-FX)

For IHV



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

For IHVD/IHVE/IBF/IHV-FX

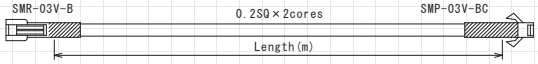


Model	Length(m)	Model	Length(m)
I-CB-S1-HV3W	1	I-CB-S4-HV3W	4
I-CB-S2-HV3W	2	I-CB-S5-HV3W	5
I-CB-S3-HV3W	3	I-CB-S10-HV3W	10

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

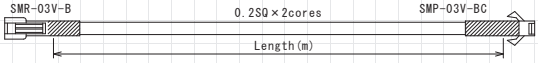
Extension Robot Cable for Coaxial Spot Light (IHV, IHVD, IHVE, IBF, IHV-FX)

For IHV



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

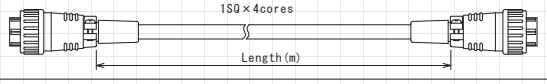
For IHVD/IHVE/IBF/IHV-FX



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

*Cables are also available in lengths other than those indicated above. *SM connectors are made by JST.

Extension Cable for DC24V models (IDBB-LSR, IDBB-LSRC, IQDH-LSR, IDBB-RE, IDBA-LEH2, IDBA-LEH, IFPA, IFPA-D, IFD-IR)



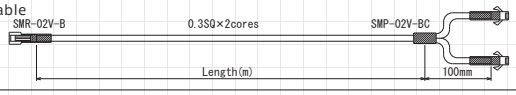
Model	Length(m)	Model	Length(m)
I-CB-S1R-MCB	1	I-CB-S5R-MCB	5
I-CB-S2R-MCB	2	I-CB-S7R-MCB	7
I-CB-S3R-MCB	3	I-CB-S10R-MCB	10

*Cables are also available in lengths other than those indicated above. *Metal connecters are made by Nanaboshi Electric Mfg.Co., Ltd.

Extension Cable for Light

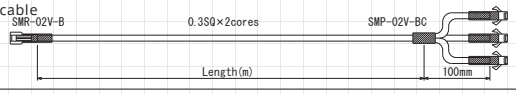
Extension Two-forked, Three-forked, Four-forked Cable for Light (For DC12V, DC24V)

Two-forked cable



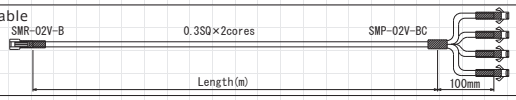
Model (12V)	Model (24V)	Length(m)	Model (12V)	Model (24V)	Length(m)
I-2M-1-100	I-2M-1-100-24	1	I-2M-4-100	I-2M-4-100-24	4
I-2M-2-100	I-2M-2-100-24	2	I-2M-5-100	I-2M-5-100-24	5
I-2M-3-100	I-2M-3-100-24	3	I-2M-10-100	I-2M-10-100-24	10

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

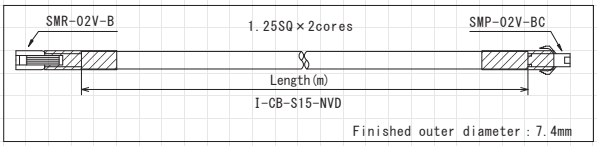
Four-forked cable

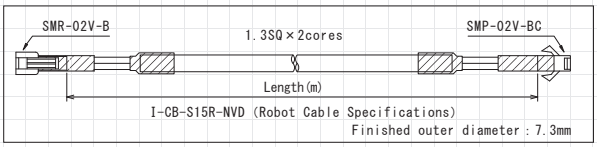


Model (12V)	Model (24V)	Length(m)	Model (12V)	Model (24V)	Length(m)
I-4M-1-100	I-4M-1-100-24	1	I-4M-4-100	I-4M-4-100-24	4
I-4M-2-100	I-4M-2-100-24	2	I-4M-5-100	I-4M-5-100-24	5
I-4M-3-100	I-4M-3-100-24	3	I-4M-10-100	I-4M-10-100-24	10

*For 24 V DC models, the power-supply-side connector is SMP-03V-B, while the lighting-unit-side connector is SMP-03V-BC.
*Cables are also available in lengths other than those indicated above.
*Branch cable, in the case of DC12V lighting, less power consumption total 30W, the case of DC24V lighting, please connect to less power consumption total 70W.

Voltage Drop Prevention Cable





Extending the cable between the power supply and light to more than 10m may decrease light output due to cable resistance.Using voltage drop prevention cables will reduce voltage drop in long-distance extensions.

Light : 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 cable	15	I-CB-S15R-NVD	5

*Values for reference purposes only.

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 finishing outer diameter/minimum bend radius

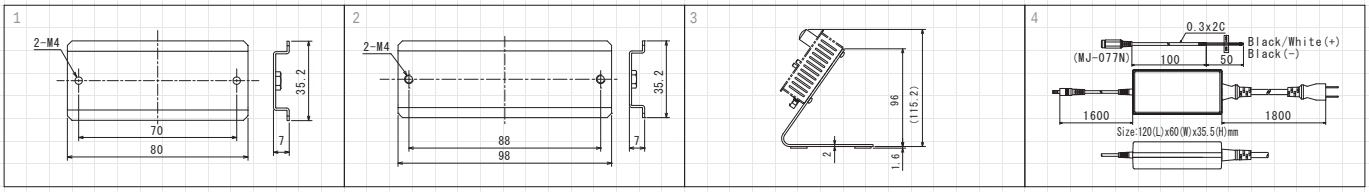
Model	Finished outer diameter (mm)	Fixed Part (mm)	Moving Part (mm)
Cables attached to lighting units	3.1	12.4	–
Cables attached to IPQC series, and IHR-LE series.	3.5	21	28
I-CB-S∗	4.6	18.4	–
I-2M-∗-100			
I-3M-∗-100			
I-4M-∗-100			
I-CB-S∗-HV			
I-CB-S∗-HV3W			

Model	Finished outer diameter (mm)	Fixed Part (mm)	Moving Part (mm)
I-CB-D∗	5.3	21.2	–
I-CB-T∗	6.5	26	–
I-CB-S∗R-C02	4	16	30
I-CB-D∗R-C02	6.2	24.8	46.5
I-CB-T∗R-C02			50.25
I-CB-S∗R-MCN	8.2	50	
I-CB-S∗R-MCB		50	

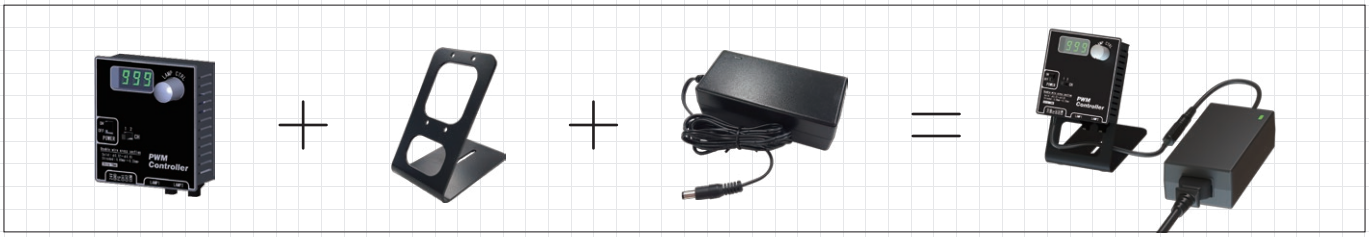
*∗represent cable length in meters. *Use a robot cable if using cable on a moving part. Other cables cannot be used on moving parts.

Optional Parts

Options for ILP-30M2/ ILP-60M2-24/ ILC-700 (350) M2-VI series

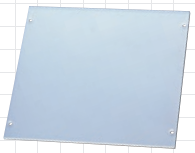


Model	Drawing	Overview
IBK-ILP	1	Panel Attachment for ILP series
IBK-ILC	2	Panel Attachment for ILP/ILC-700M2-VI/ILC-300M2-VI series
IHA-IL	3	The stand for ILP/ILC-700M2-VI/ILC-300M2-VI series
IC-ADJK-0.15	4	AC Adaptor (AC100V→DC24V)



Diffusing Plate for Bar Light/IKBA, IKBA-LE, IKBA-LEH, IKBA-LEHW

Selectable the transmissivity



■This diffusing plate is specially designed for use with bar lights.
It diffuses light and can reduce shadows on workpieces due to LED elements.

■Controls transmissivity (degree of diffusion).
The standard model has transmissivity of 80%. Models with transmissivity of 60% and 30% with the same thickness are also available.
*The standard diffusing plate of the DR series will have a transmissivity of 60%.
*Standard transmissivity of IDBA-LEH2, IDBA-LEH, IDBA-LE is 90%.

■Special custom sizes are also available.
Bar lights are manufactured in different ways depending on whether or not a diffusing plate is used.

Model	Light Used
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	Light Used
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	Light Used
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

(Thickness : 2mm)

Model	Light Used
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	Light Used
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	Light Used
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□-■

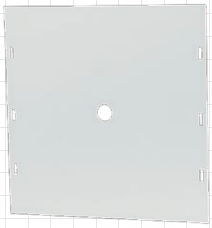
Model	Light Used
IKBA-LEHW75-80	IDBA-LEH75□2-■
IKBA-LEHW150-80	IDBA-LEH150□2-■
IKBA-LEHW225-80	IDBA-LEH225□2-■
IKBA-LEHW300-80	IDBA-LEH300□2-■
IKBA-LEHW450-80	IDBA-LEH450□2-■
IKBA-LEHW600-80	IDBA-LEH600□2-■
IKBA-LEHW750-80	IDBA-LEH750□2-■

Model	Light Used
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 model is 80% transmittance.In the case of transmittance of 90% will be the end -90,
in the case of transmittnce of 60% will be the end -60, in the case of transmittance of 30% will be the end -30

Optional Parts

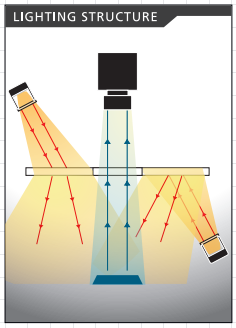
Perforated Diffusing Plate / IKBA



■It is a deffusing plate for camera imaging.
By installing the diffusing plate in combination with wide distribution model bar light, it can diffuse and reflect the irradiation light and can be used as a substitute for large Flat-surface light.
By providing a camera hole, you can irradiate without disturbing imaging.

■Mounts and detaches easily using screws.

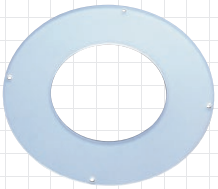
■Customable opening diameter / opening position / screw hole position etc.



Model	Specifications
IKBA-500/500-50T5-CO40	Size : 500mm x 500mm, Opening : ϕ40mm,Transmittance : 50%

Diffusing Plate for Ring Light / IKR, IKR-F

Selectable the transmissivity



■This diffusing plate is specially designed for use with ring lights.
It diffuses light and reduces shadows on workpieces due to LED elements.

■Controls transmissivity (degree of diffusion).
The standard model has transmissivity of 80%. Models with transmissivity of 60% and 30% with the same thickness are also available at the same price.
*The standard diffusing plate of the DR series will have a transmissivity of 60%.

■Mounts and detaches easily using screws.

(Thickness:2mm)

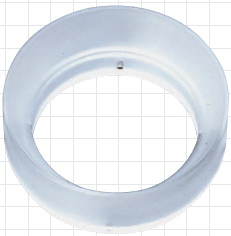
Model	Light Used
IKR-32/10-80	IDR-32/10
IKR-38/15-80	IDR-38/15
IKR-38/12-80	IDR-38/15
IKR-40/25-80	IDR-40/25
IKR-40/21-80	IDR-40/25
IKR-42/18-80	IDR-42/18
IKR-50/28-80	IDR-50/28
IKR-50/24-80	IDR-50/28
IKR-66/36-80	IDR-66/36

Model	Light Used
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	Light Used
IKR-F32/10-80	IDR-F32/10
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 models above have the standard transmissivity of 80%. Models with transmissivity of 90% have model names ending in -90, those with transmissivity of 60% have model names ending in -60, and those with transmissivity of 30% have model names ending in -30.

Diffusing Ring for Low-angle Ring Light / IKR-LA



■This diffusing ring is specially designed for use with low-angle ring lights.
It diffuses light and reduces shadows on workpieces due to LED elements.

■It forms a uniform light-condensing area at close distances by means of a specially processed acrylic plate.

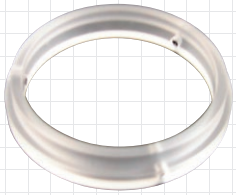
■There is no diffusion ring for IDR-LA40/15□-2.

■Shape for IKR-LA50/24-C01 is different to that pictured.

Model	Light Used
IKR-LA50/24-C01	IDR-LA50/24□-2-C01
IKR-LA74/48	IDR-LA74/48
IKR-LA100/68	IDR-LA100/68

Model	Light Used
IKR-LA120/70-3	IDR-LA120/70□-3
IKR-LA140/108-3	IDR-LA140/108□-3
IKR-LA200/170-3	IDR-LA200/170□-3

Diffusing Ring for Horizontal Opposed Ring Light / IKR-T



■This diffusing ring is specially designed for use with horizontal opposed ring lights.
It diffuses light and can reduce shadows on workpieces due to LED elements.

■It enables uniform lighting at close distances by means of a specially processed acrylic plate.

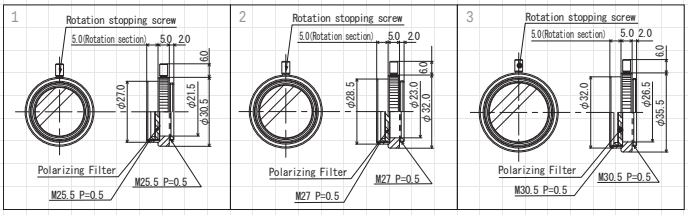
Model	Light Used
IKR-T78/46-1	IDRA-T78/46□-1
IKR-T84/54-1	IDRA-T84/54□-1
IKR-T96/60-1	IDRA-T96/60□-1
IKR-T122/92-1	IDRA-T122/92□-1

Model	Light Used
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

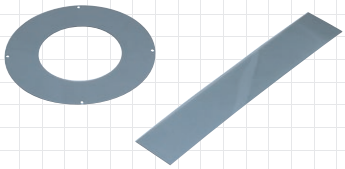
Optional Parts

Lens-side Polarizing 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



Polarizing Plate (PL Plate) / IKBA-PL IKR-PL IKR-F PL



■This PL plate or PL filter is attached to a lighting device and a camera lens to remove glare and surface reflections on workpieces.

■It can be mounted using screws in the same was as a diffusing 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 so that the temperature does not exceed the heatproof limit (74°C).Otherwise, the product may not be able to deliver the original performance. Periodically check the use environment.

For Bar Light/IKBA-PL

Model		Light Used
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

Model		Light Used
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
IKBA-15/200-A-PL ※	IKBA-15/200-B-PL ※	IDBA-C15/200
IKBA-185/30-A-PL ※	IKBA-185/30-B-PL ※	IDBA-C185/30
IKBA-300/24-A-PL ※	IKBA-300/24-B-PL ※	IDBA-C300/24

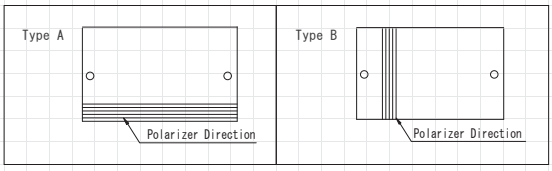
*It doesn't attached after your order. Please specify when you request.

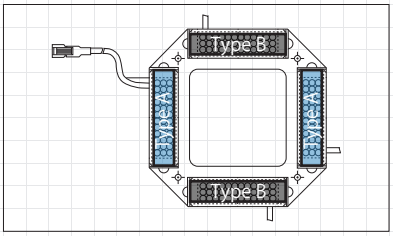
Model		Light Used
IKBA-LE75-A-PL	IKBA-LE75-B-PL	IDBA-LE75□-■
IKBA-LE150-A-PL	IKBA-LE150-B-PL	IDBA-LE150□-■
IKBA-LE225-A-PL	IKBA-LE225-B-PL	IDBA-LE225□-■
IKBA-LE300-A-PL	IKBA-LE300-B-PL	IDBA-LE300□-■
IKBA-LE375-A-PL	IKBA-LE375-B-PL	IDBA-LE375□-■
—	IKBA-LE450-B-PL	IDBA-LE450□-■
—	IKBA-LE600-B-PL	IDBA-LE600□-■
—	IKBA-LE750-B-PL	IDBA-LE750□-■

Model		Light Used
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		Light Used
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-■

Polarizer Direction





If you want to irradiate the bar illuminated from four directions, please align the direction of the polarizer using the A·B type.

For Ring Light/IKR-PL IKR-F PL

Model	Light Used
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	Light Used
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	Light Used
IKR-140/91-PL	IDR-140/95
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
IKR-F110/60-PL	IDR-F110/60

Model	Light Used
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		Light Used
IKHM-25/30-A-PL	IKHM-25/30-B-PL	IHM-25/30
IKHM-66/60-A-PL	IKHM-66/60-B-PL	IHM-66/60
IKHM-108/114-A-PL	IKHM-108/114-B-PL	IHM-108/114
IKHM-150/142-A-PL	IKHM-150/142-B-PL	IHM-150/142
IKHM-214/226-A-PL	IKHM-214/226-B-PL	IHM-214/226

Optional Parts

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.

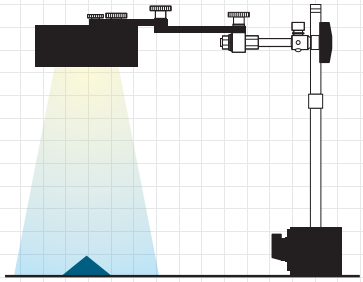
Model		Light Used
IKHM-25/30-LC-A	IKHM-25/30-LC-B	IHM-25/30
IKHM-66/60-LC-A	IKHM-66/60-LC-B	IHM-66/60
IKHM-108/114-LC-A	IKHM-108/114-LC-B	IHM-108/114
IKHM-150/142-LC-A	IKHM-150/142-LC-B	IHM-150/142
IKHM-214/226-LC-A	IKHM-214/226-LC-B	IHM-214/226

Model	Light Used
IKFVH-40-LC	IFVH-40
IKFVH-50-LC	IFVH-50
IKFVH-70-LC	IFVH-70

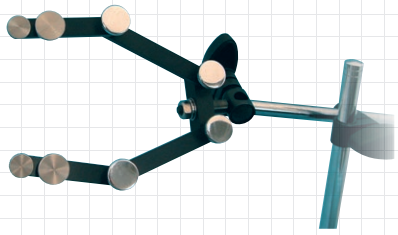
Lighting Arm Set / IHA-150

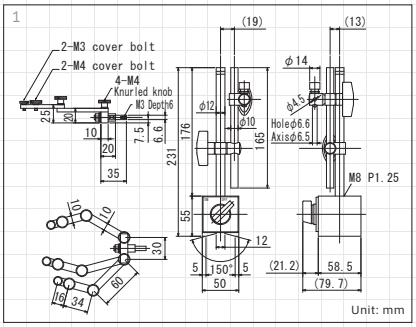
■This portable arm is ideal for installing a ring light as well as for temporary setup, experimentation, and other applications.

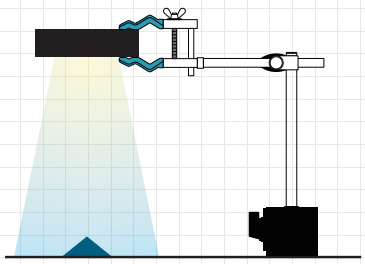
Example Application



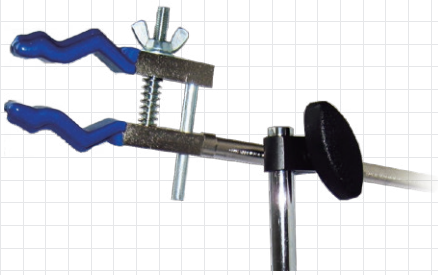
IHA-150A／MB-B

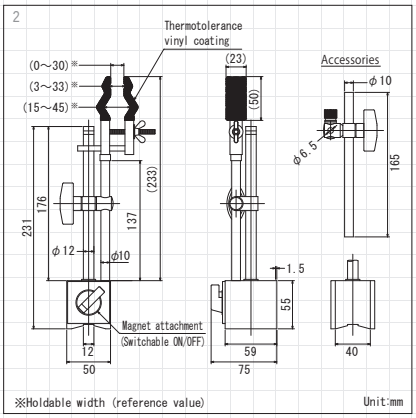






IHA-MB-B-C1



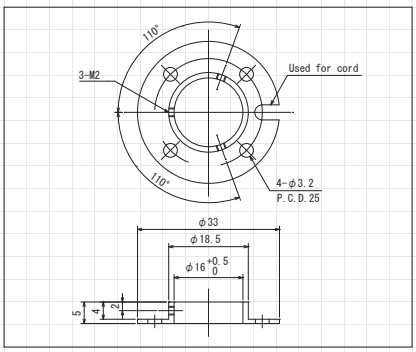


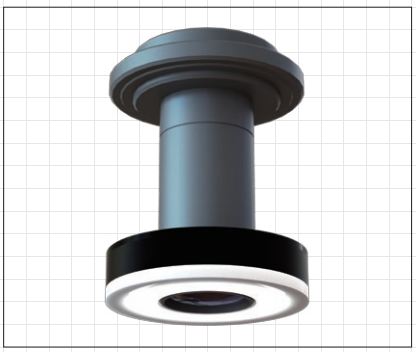
Model	Specifications	Drawing
IHA-150A／MB-B	Supports lighting units with mounting pitch of 30 to 150mm	1
IHA-MB-B-C1	Supports Unit with holding part thickness up to 30mm	2

Flat Ring Lighting Mounted Holder for Telecentric Lens

■IDR-F33 / 16 □ S (□ represents light color) is available to the fixation of the ϕ16 telecentric lens.

Model	Light Used
IHL-33/16-5	IDR-F33/16RS
	IDR-F33/16WS

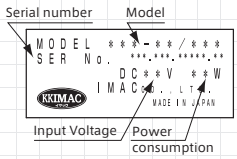




Product Labels

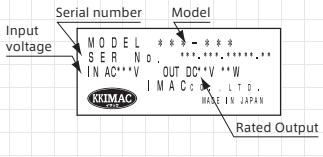
Labels like the ones below are affixed to IMAC products. These labels describe information including product model, serial number, power consumption, input voltage,and product group.

Lighting Unit Label (Example)



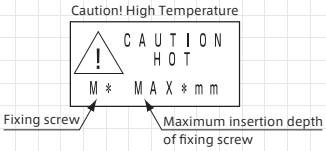
Describes model name, serial number, input voltage, and power consumption of the lighting unit.

Power Supply Unit Label (Example)



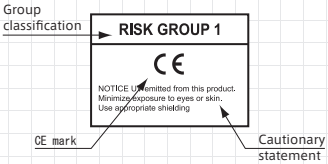
Describes model name, serial number, input voltage, output voltage, and capacity of the power supply.

Screw Depth Instruction Label (Example)



Describes the size and depth of the fixing screw hole.

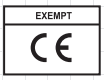
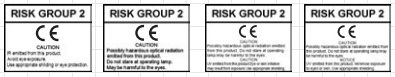
Group Classification Label (Example)



For details on group classification, see the section below titled "International Safety Standards for LEDs".

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 limitation	
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	Does not apply to any IMAC products.

LED Lighting CE Marking

CE markings (risk group classification labels) will be attached to products featured in this catalog starting from orders received from April 1, 2013.
*This does not apply to all products. For more details, contact the IMAC Sales Department.

For LED Lighting Power Supply, Electrical Appliance and Material Safety Law.

Products with a PSE (Electrical Appliance and Material Safety Law) mark in this catalogue meets the technical criteria of Specified Electrical Appliances and Materials (CV power supply).

UL standard

Our LED lights and extension cables are regareded not to meet American stafty standard, because they are only used under DC48V and it is lower than the voltage level that American safety standard requires . (Reffering to UL61010-1 6.3.1 a) section of Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use)
Although power supply of LED lighting is applicable model to safety standards, we don't have a plan to acquire it, because it's not compulsory certification stndards.

Operating Environment

Lighting

·Ambient temperature : 0~+40℃
·Ambient humidity : 35~85%RH(No condensation)

Power Supplies

·Ambient temperature : 0~+40℃
·Ambient humidity : 20~70%RH(No condensation)

Cables

·Ambient temperature : 0~+40℃
·Ambient humidity : 35~70%RH(No condensation)

*The above values are typical values and do not apply to all products. Read the instruction manual carefully before use.

Storage Environment

Lighting

·Ambient temperature : -20~+65℃
·Ambient humidity : 20~85%RH(No condensation)

Power Supplies

·Ambient temperature : -20~+65℃
·Ambient humidity : 20~85%RH(No condensation)

Cables

·Ambient temperature : -20~+65℃
·Ambient humidity : 20~85%RH(No condensation)

*The above values are typical values and do not apply to all products. Read the instruction manual carefully before use.

Warranty

Warranty period: 2 years after factory shipment*

In the event that an IMAC product malfunctions during the period stipulated above or in the event that the illumination output of lighting equipment decreases to 50%, IMAC shall repair the product free of charge or provide a replacement product as stipulated under Scope of Warranty. Consult IMAC and present the product in question. *Warranty period for time to half-illumination-output shall be one year from factory shipment.

Scope of Warranty

When used in accordance with the instruction manual under usage conditions specified by IMAC, in the event of a product malfunction within the warranty period, IMAC shall repair the product free of charge or provide a replacement product.
However, even if a claim is made within the warranty period, you will be charged in the following situations:

✓ Malfunction or damage resulting from connecting the product to lighting equipment or a power supply made by another company

✓ Malfunction or damage resulting from incorrect usage or from improper repair, alteration, or disassembly

✓ Malfunction or damage resulting from vibration, dropping, or other shock or from inappropriate handling

✓ Malfunction or damage resulting from the occurrence of fire, po llution, riot, or a similar phenomenon or from external causes such as earthquake, lightning, flood, or other natural disasters or from use in a unique environment (abnormal voltage, high-temperature and humidity, and the like).

✓ Other cases in which liability is not attributable to IMAC.

Limitation of Liability

Secondary disasters (damage to equipment, lost opportunity, lost profit, and similar) incurred by the customer as a result of the malfunction of or damage to an IMAC product and any damages whatsoever shall not be subject to compensation.

Limitations of Warranty

This product warranty promises the aforementioned warranty details under the clearly indicated warranty period and conditions.
Accordingly, it does not undertake any other guarantees, whether express or implied.
IMAC 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

Precautions for Use

- Do not look directly at the light source.
- Do not disassemble or remodel the light or power supply unit.
- Do not operate the product with wet hands.
- In an environment with high temperature and high humidity, do not use a product that is not suitable for such an environment.
- Do not install the product in a dusty place.
- Take appropriate measures for heat dissipation, cooling, and smilar.
- Try to use the light at minimum output or in flashing mode as much as possible.
- Do not use a power supply unit made by another company to power IMAC lighting products.
- Make sure that all lighting and power supply units comply with input voltage requirements.
- Make sure that the power supply capacity is larger than the lighting power consumption.
- Do not use AC input from a power supply that is used for motive power, solenoid valves, or similar applications.
- Be careful of surges and electrical noise in the vicinity of the installation site.
- Lighting and power supply units may generate electrical noise.
- Be sure to ground power supply units that have a grounding terminal.
- Be sure to follow the instructions on the screw depth instruction label when installing a lighting unit.

Our product is an industrial product based on an assumption of use for built-in equipment, during the manufacturing-process, or in the manufacturing plant.
In the case of the use in the educational use and general consumer applications, university / vocational school, please contact your sales representative.

Company Profile

Company Name: IMAC Co., Ltd.

CEO: Mamoru Tanaka

Date of Establishment: May 1993

Capital: 20,000,000 yen

Employees: 117

Address:

Head Office
1551 Sazukawa-cho, Moriyama, Shiga 524-0215, JAPAN
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Fax: +81-3-6206-4575

Nagoya testingroom
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3rd floor No.2 Mutsumi Building

Direct line to LED Light Equipment Department
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E-mail:fa@kkimac.jp

Direct line to Healthcare Group
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E-mail:optera@kkimac.jp

Head Office


Tokyo Office


Nagoya testingroom

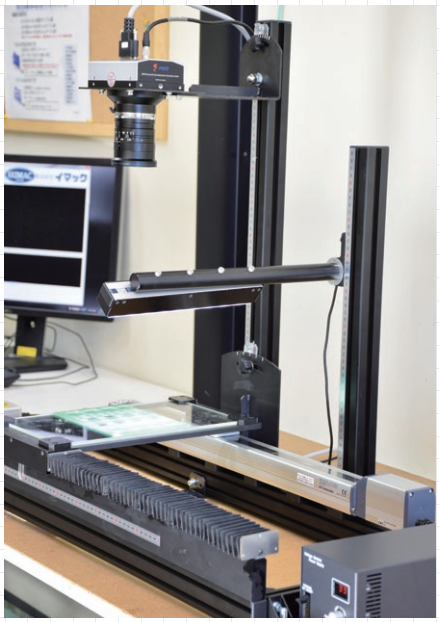
History

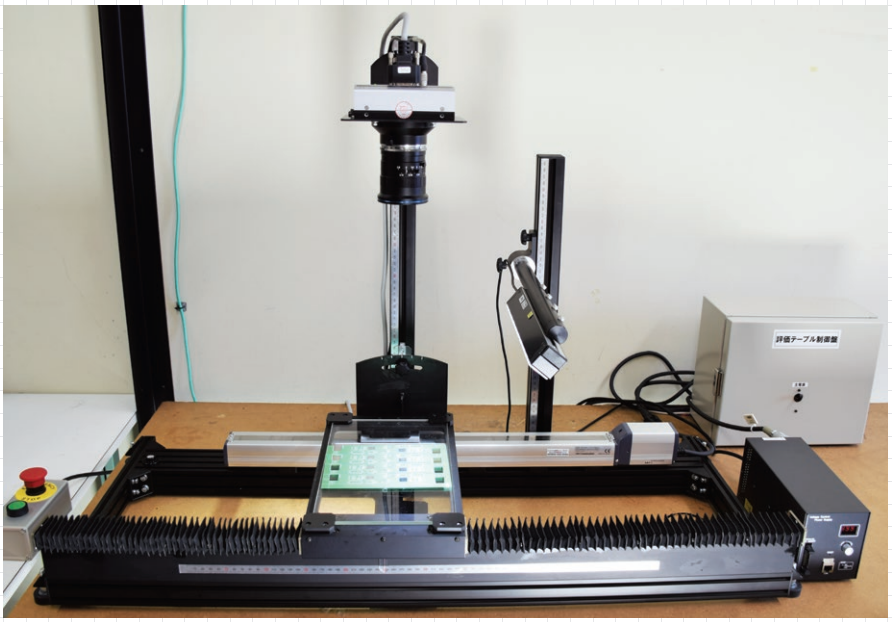
May	1993	IMAC founded as private limited company in Imahama-cho, Moriyama, Shiga
August	1994	Re-registered as stock company
August	1995	Initiated development of full-automatic electric-wire processing machine
February	1996	Began sales of LED light equipment for image processing
October	1997	Initiated development of heat-source monitoring control system
March	1998	Advanced full-automatic electric-wire processing machine certified under the Shiga Prefectural Government Act on the Promotion of Creative Business Activities
March		LED light source for image processing certified under the Shiga Prefecture Government Act on the Promotion of Creative Business Activities
September		Headquarters moved to Sazukawa-cho, Moriyama
October	2000	Strain gauge monitoring system certified as A-rank by the Shiga Prefecture Business Potential Evaluation Committee
January	2001	Acquired ISO 9001:2000 Certification (FA equipment department and LED light equipment department)
June		Acquired CE marking compliance certification for LED light equipment
September	2002	Established No. 1 Factory
December	2004	Established No. 2 Factory
January	2005	Authorized as a medical device manufacturer
February		Acquired ISO 14001:2004 Certification (FA equipment department and LED light equipment department)
April		Authorized as a Class 3 Medical Device Manufacturer
April	2006	Authorized as highly controlled medical device manufacturer and rental service company
April		Joined Japan Industrial Imaging Association as supporting member
April	2008	Gained full membership of Japan Industrial Imaging Association
December		Established No. 3 Factory
September	2010	Received approval for plan for business utilizing local industrial resources in relation to fluorometric detectors
December		Received approval for Supporting Industry plan for nanofibers
June	2011	Received approval for new technology development plan for Step Aid
July	2012	Established Tokyo office
December		Authorized as Class 1 Medical Device Manufacturer
November	2015	Established No. 4 Factory
December		Established Nagoya testingroom

Testing room

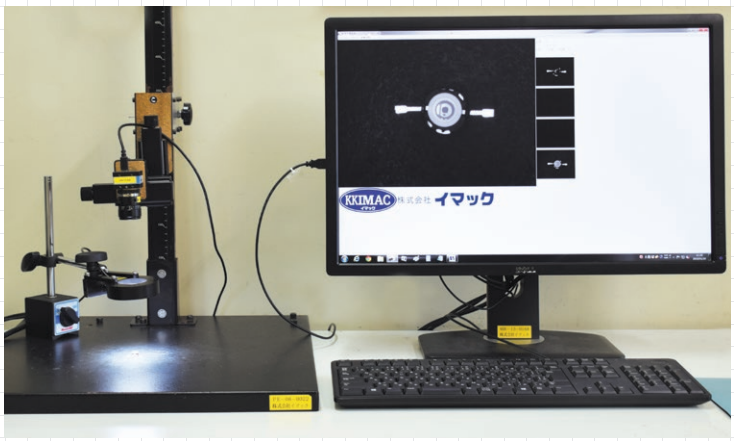
We have testingroom at Headquarter, Tokyo and Nagoya.
We will propose the best plan for choice of optimum lighting and use conditions individually whenever you send us the workpiece or bring it to our offices directly.
Our service staff will help you choose the lighting that best suits your needs. When you visit our offices, we can also accept a request for lending our demo machines.

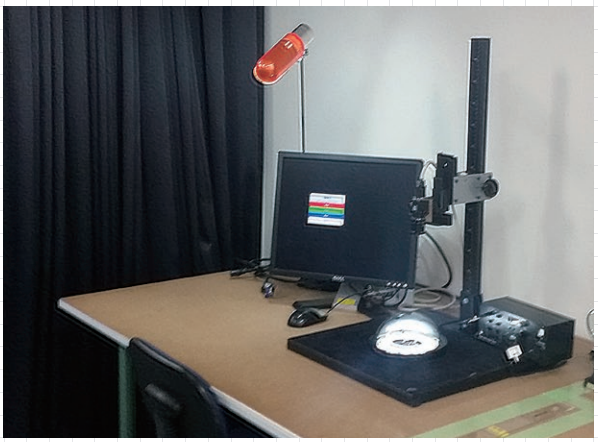
Line camera: Image capture equipment for evaluation【Head Office･Tokyo Office】





Area camera: Image capture equipment for evaluation【Head Office･Tokyo Office･Nagoya testingroom】





Check out our Website!

We are updating showing our new products that are not even in our catalogue yet.

You can find more about our product lineup on our website.
We are also constantly updating our latest information.
We will continue developing products that help our customers and submitting that information online.

Full of new product information

http://www.kkimac.jp/en

Join us to be IMAC LED members!

Upon registering our membership, you can download PDF/DXF data of diagrams, sample software, and sample sourcecode easily. If you wish, we can deliver our email magazine which has new product and up-to-date information so we can provide a better service for all our members. Please join us.

Easy! Search Products

Searchable by category, "LED lighting", "Power Supplies", "Option", or by keyword.

Product Lineup Variety

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

IMAC Co., Ltd. URL http://www.kkimac.jp/en

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ISO14001:2004 certified

ISO9001:2008 certified

VEGETABLE OIL INK

Retailer :

2017.6.2000 (ACC)