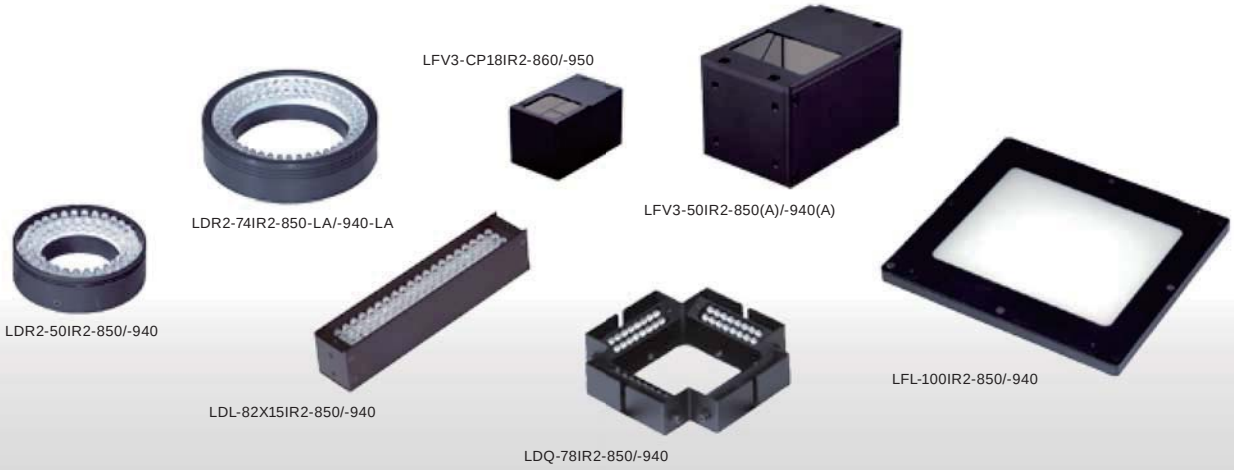
Infrared Lighting

Infrared Lights
IR2 Series

Varied Light Unit lineup using IR-LEDs



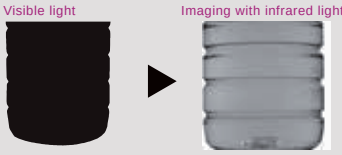
Applications Visual inspection that cancels the surface pattern, inspection penetrating liquid for foreign material inside, inspections using differences in spectral reflectivity, inspection for the inside of packaged food, etc.

What Is Infrared Light?

Infrared light is light that has a wavelength longer than that of visible red light and cannot be seen by the human eye. Compared to visible red light, infrared light has a low scattering rate and high transmission, and therefore is used in imaging which penetrates printed patterns or liquids.

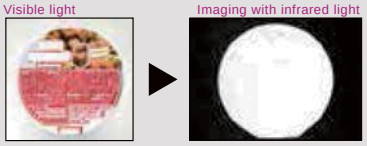
Imaging example using visible and infrared light

Features (1)
Penetration



Infrared irradiation penetrates the liquid to make inside visible.

Features (2)
Cancellation



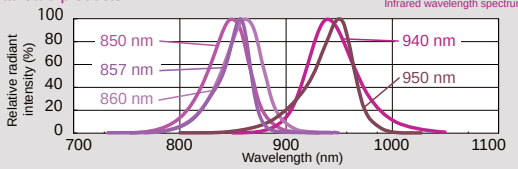
Infrared irradiation cancels out the printing to image the surface evenly.

Merits

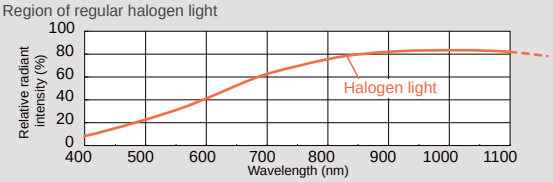
Irradiation of the Infrared LED includes only the energy of specific region of wavelength, so that the irradiation heat is extremely low compared to the halogen lights and gives less damage on the workpiece.

	Infrared LED	Regular halogen light
Irradiation heat	Extremely low	Heat-generating
Influence on the workpiece	Small heat damage	Huge heat damage

Standard products



Region of regular halogen light



Custom Orders

Please contact your sales representative.

E.g.: Different wavelength

Wavelength

Equipped with LEDs that are 1,000 nm and higher

Customizable items

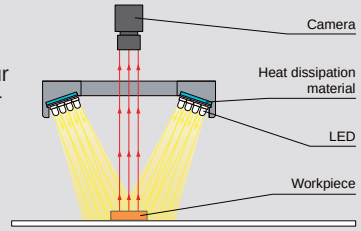
- External/internal diameter
- Wavelength/ color
- Increase output
- Cable length
- Illuminating angle
- Format/ material
- Connector format
- Installation/ mounting

Etc.

Example Configuration

Ring Lights that use infrared LEDs. Bar types and coaxial types are also available. Select your format to match your needs.

LDR2-90IR2-850/940

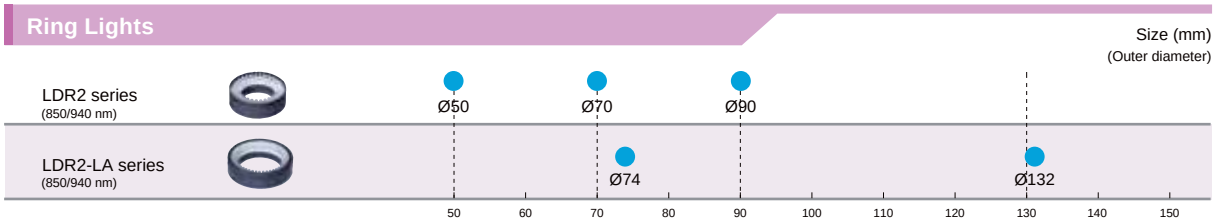


Various technical documents available.

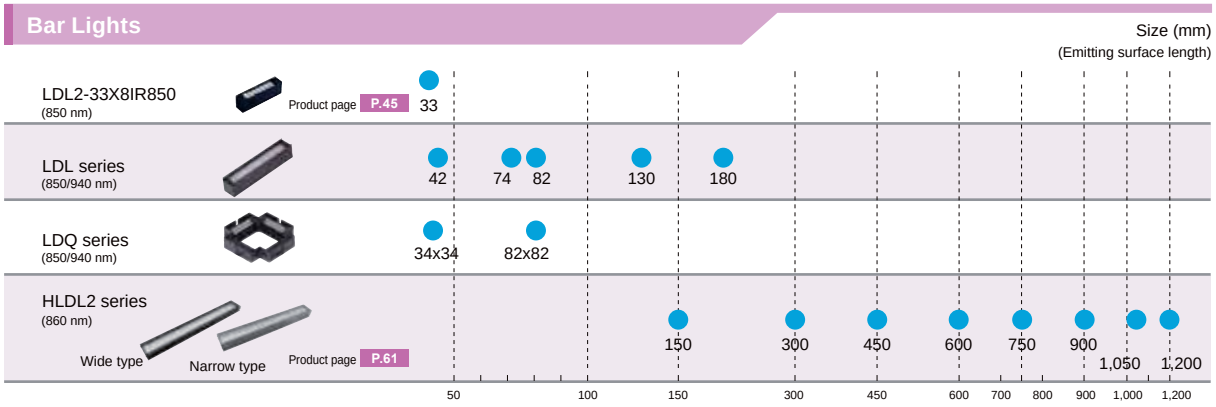
PDF Drawings | DXF Drawings | Product Brochures | Instruction Guides | 3D CAD | Data Sheets | Imaging Examples | Digital Catalogs

Extensive Lineup of Infrared Lights

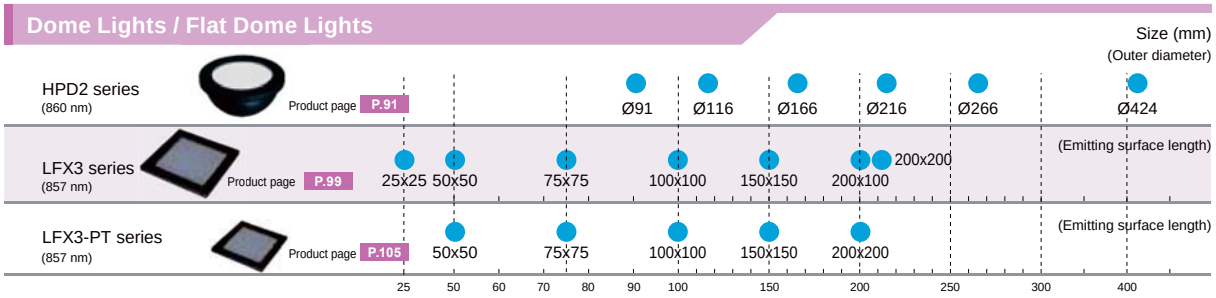
Ring Lights



Bar Lights

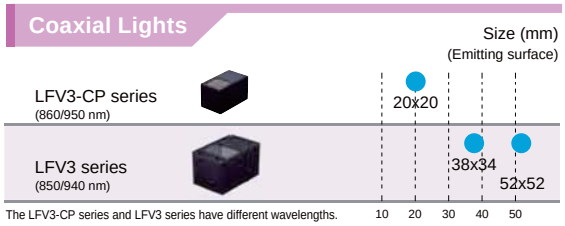


Dome Lights / Flat Dome Lights



Flat Lights

Coaxial Lights



Custom products with a wavelength of 1,000 nm or more are available, please contact your sales representative for details.

Near-Infrared Cameras in the Testing Rooms

Ready for the test with infrared light over 1,000 nm wavelength

Is deploying infrared-sensitive cameras in the testing rooms where you can perform workpiece tests directly for yourself using our LED Lights. Please feel free to make an appointment. We are looking forward to helping you.

Near-infrared camera

Optimal for infrared imaging

Specifications
ABA-003IR-GE (manufactured by AVALDATA)

- InGaAs sensor
- Wavelength: 950 to 1,700 nm
- 640 × 512 pixels
- Gig-E vision
- C mount

Our personalized staff will be happy to suggest the lighting solution for getting optimal images.

IR2 Series

Imaging Example: Imaging for Foreign Materials in Disinfectant Products

Description	Foreign materials inspection
Workpiece	Disinfectant products
Conventional lighting	LED visible light lighting
New lighting	LFL-100IR2-940
Result	Infrared lighting penetrates the liquid

■ Workpiece image

Disinfectant products

■ LED visible light lighting

It is difficult to check the inside with visible light imaging.

■ LFL-100IR2-940

Imaging with infrared light penetrates the liquid and captures the foreign materials.

This workpiece was processed by for sample imaging.

Imaging Example: Imaging the Appearance of Leatherware

Description	Visual inspection
Workpiece	Leatherware
Conventional lighting	LED visible light lighting
New lighting	LDR2-132IR2-850-LA
Result	Infrared lighting penetrates the dye on the threads

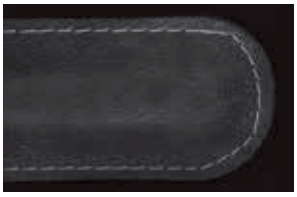
■ Workpiece image

Leatherware

■ LED visible light lighting

The leather and the threads are of the same color, so that it is difficult to capture the stitching.

■ LDR2-132IR2-850-LA



Infrared light penetrates the dye to highlight the threads and captures the stitching.

Cautionary Information regarding Infrared Products

- This product uses infrared LEDs. You cannot visually sense the brightness, but infrared radiation comes out of the LEDs when they are on.
- The peak wavelength range corresponds to IR-A (780 to 1,400 nm).
- Infrared radiation in the IR-A range can damage your eyes. Never look at the infrared radiation directly.
- Inform all persons in the area around this product of the dangers of infrared LED.

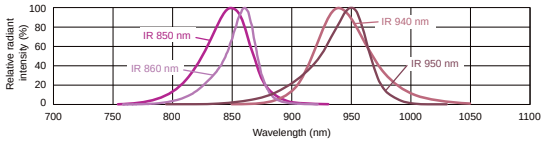
Lineup

Series	Model name	LED color	Power consumption	Peak wavelength	Options	Extension cables	Recommended Control Units	Weight
LDR2	LDR2-50IR2-850	Infrared	24 V / 3.8 W	850 nm	—	FCB*4 Straight Cable FCB-W*5 2-branch Cable FCB-F 4-branch Cable FRCB Robot Cable *4 The cables with a model name that ends with "-ME7", "-EL2", "-PF", or "-PF-EL9" are not included. *5 The cables with a model name that ends with "-EL2" are not included.	PD3 PSB POD*2	50 g
	LDR2-50IR2-940			940 nm				
	LDR2-70IR2-850		24 V / 7.6 W	850 nm				130 g
	LDR2-70IR2-940			940 nm				
	LDR2-90IR2-850		24 V / 14 W	850 nm				170 g
	LDR2-90IR2-940			940 nm				
LDR2-LA	LDR2-74IR2-850-LA	Infrared	24 V / 6.9 W	850 nm				90 g
	LDR2-74IR2-940-LA			940 nm				
	LDR2-132IR2-850-LA		24 V / 16 W	850 nm				270 g
	LDR2-132IR2-940-LA			940 nm				
LDL	LDL-42X15IR2-850	Infrared	24 V / 2.3 W	850 nm				40 g
	LDL-42X15IR2-940			940 nm				
	LDL-74X27IR2-850		24 V / 6.9 W	850 nm				80 g
	LDL-74X27IR2-940			940 nm				
	LDL-82X15IR2-850		24 V / 3.8 W	850 nm				60 g
	LDL-82X15IR2-940			940 nm				
	LDL-130X15IR2-850		24 V / 6.1 W	850 nm				90 g
	LDL-130X15IR2-940			940 nm				
	LDL-180X15IR2-850		24 V / 8.4 W	850 nm				110 g
	LDL-180X15IR2-940			940 nm				
LDQ	LDQ-78IR2-850	Infrared	24 V / 6.1 W	850 nm			PD3*1 PSB*1 POD*2	110 g
	LDQ-78IR2-940			940 nm				
	LDQ-150IR2-850		24 V / 16 W	850 nm				530 g
	LDQ-150IR2-940			940 nm				
LDL	LDL-60X60IR2-850	Infrared	24 V / 7.6 W	850 nm				140 g
	LDL-60X60IR2-940			940 nm				
	LDL-100X100IR2-850		24 V / 21 W	850 nm				650 g
	LDL-100X100IR2-940			940 nm				
LFL	LFL-100IR2-850	Infrared	24 V / 7.6 W	850 nm			PD3 PSB POD*2	220 g
	LFL-100IR2-940			940 nm				
LFV3-CP	LFV3-CP18IR2-860	Infrared	24 V / 2.6 W	860 nm				70 g
	LFV3-CP18IR2-950			950 nm				
LFV3	LFV3-35IR2-850(A)*3	Infrared	24 V / 3.1 W	850 nm				175 g
	LFV3-35IR2-940(A)*3			940 nm				
	LFV3-50IR2-850(A)*3		24 V / 9.1 W	850 nm				335 g
	LFV3-50IR2-940(A)*3			940 nm				

Extension Cables ▶ P.308 | Control Unit Selection Guide ▶ P.251 | List of Control Unit Specifications ▶ P.253

LED Properties

Spectral distribution



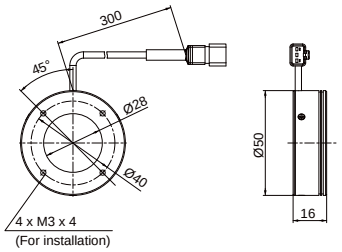
Offers you the most suitable lens filter for each wavelength. For details about the lens filter, refer to P.299.

Be sure to read the "Instruction Guide" included with the product before use and follow the safety precautions upon use.
The data included is for reference only. Actual values may vary.

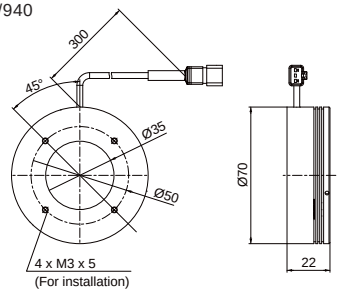
IR2 Series

Dimensions (mm)

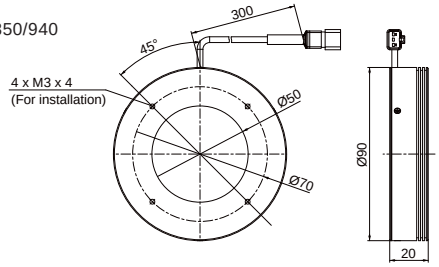
LDR2-50IR2-850/940



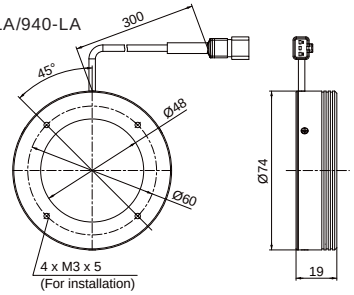
LDR2-70IR2-850/940



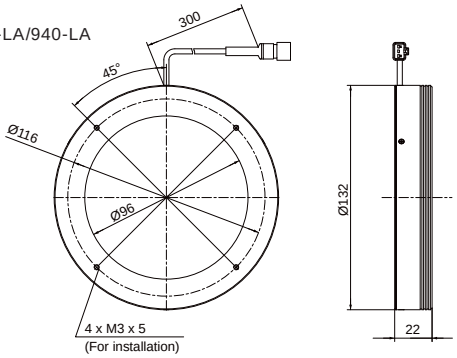
LDR2-90IR2-850/940



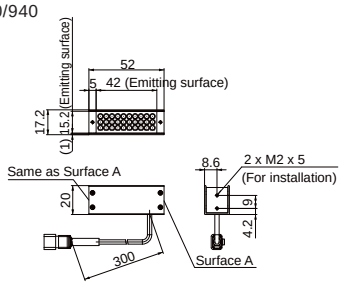
LDR2-74IR2-850-LA/940-LA



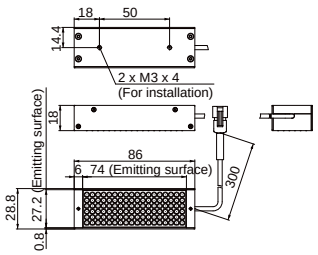
LDR2-132IR2-850-LA/940-LA



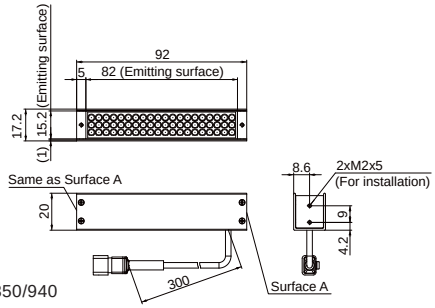
LDL-42X15IR2-850/940



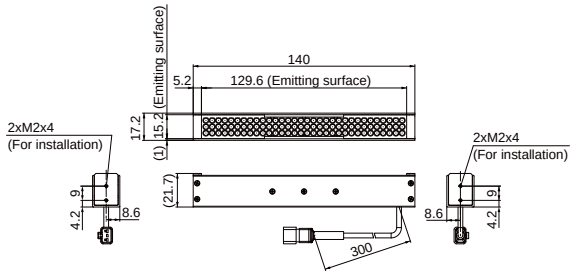
LDL-74X27IR2-850/940



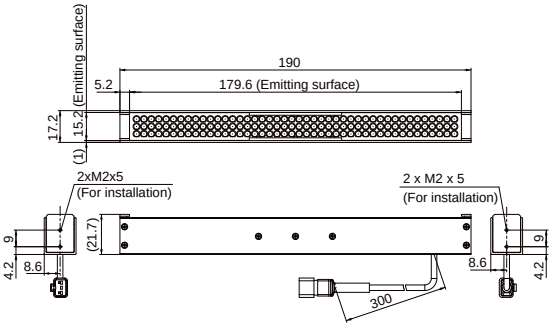
LDL-82X15IR2-850/940



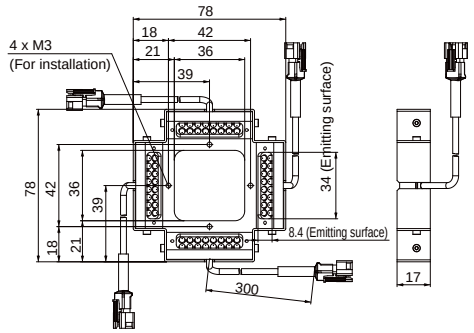
LDL-130X15IR2-850/940



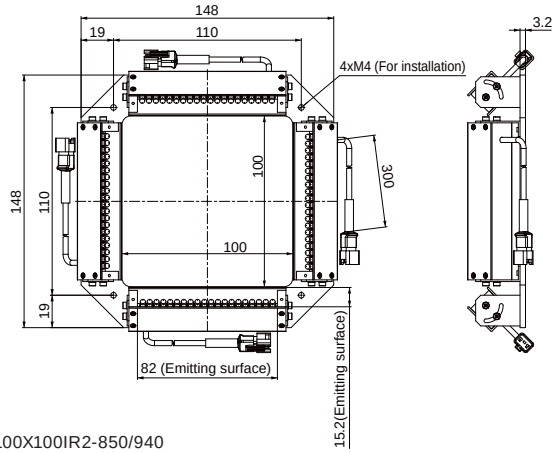
LDL-180X15IR2-850/940



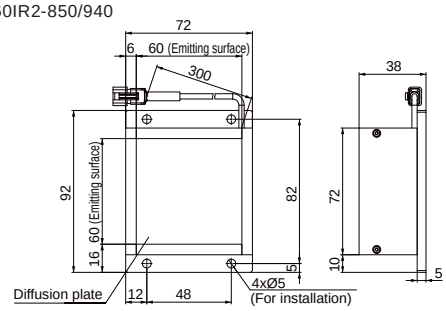
LDQ-78IR2-850/940



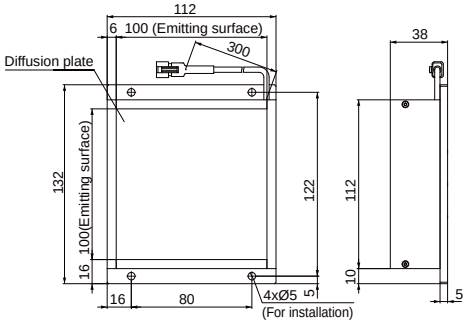
LDQ-150IR2-850/940



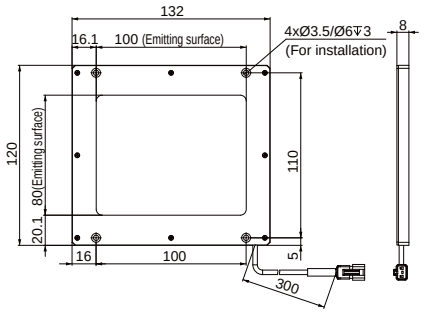
LDL-60X60IR2-850/940



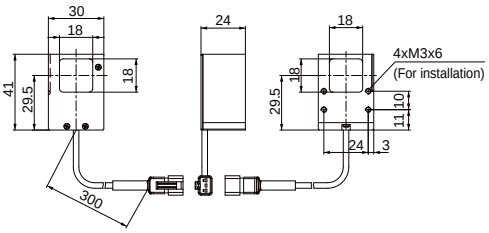
LDL-100X100IR2-850/940



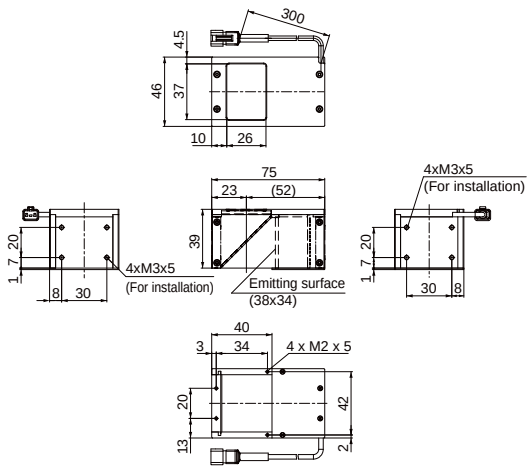
LFL-100IR2-850/940



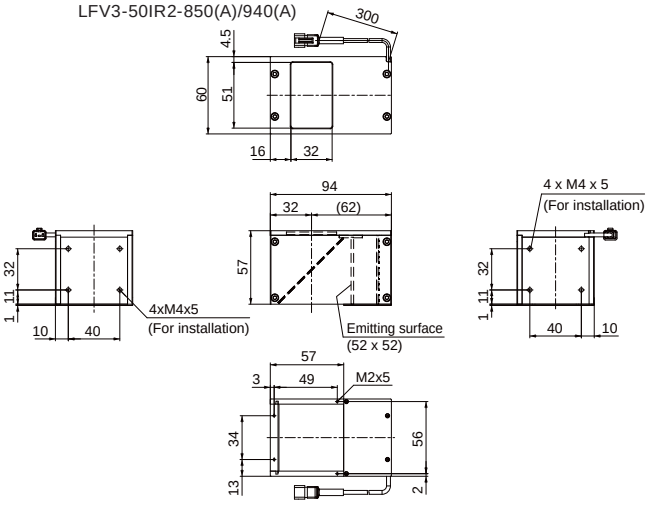
LFV3-CP18IR2-860/950



LFV3-35IR2-850(A)/940(A)



LFV3-50IR2-850(A)/940(A)



You can change the connectors of the Light Unit cable. Choose between M12 connectors and flying leads. Refer to P.5 for details.