

OMRON

Model **FLV-DB** □

Direct BackLighting

INSTRUCTION SHEET

Thank you for selecting OMRON product. This sheet primarily describes precautions required in installing and operating the product.

Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

TRACEABILITY INFORMATION:

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 Ayabe Factory
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The following notice applies only to products that carry the CE mark:
 Notice:
 This is a class A product. In residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.



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PRECAUTIONS ON SAFETY

● **Meanings of Signal Words**

	WARNING	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally, there may be significant property damage.
	CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

● **Alert Statements in This Sheet**

	WARNING	This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.
		Do not disassemble the product. Doing so may cause electric shock due to the high voltage portion. Burn also may result due to high temperature. Do not attempt to disassemble, deform by pressure, incinerate, repair, or modify this product.
		Looking into the LED light continuously may cause visual impairment. Do not look directly into the LED light.
	CAUTION	Do not use it exceeding the rated voltage. There is a possibility of failure and fire.
		Do not connect amplifier units to AC power supply. Risk of explosion.
		Beware of danger of burns. Do not touch the case while the Lighting is ON or immediately after the power is turned OFF, since it is extremely hot.

PRECAUTIONS FOR SAFE USE

Please observe the following precautions for safe use of the products.

- Installation Environment**
 - Do not use the product in environments where it can be exposed to inflammable/explosive gas.
 - To secure the safety of operation and maintenance, do not install the product close to high-voltage devices and power devices.
 - Tighten the screws with the specified torque in this document.
- Power Supply and Wiring**
 - For details on power supply and wiring, refer to PRECAUTIONS FOR SAFE USE on the INSTRUCTION SHEET of the dedicated controller (FLV-TCC4□/TCC1□/TCC3HB□, FLV-ATC□1024□).
 - When connecting or disconnecting the lighting connector, be sure to turn off the power of the unit. Not doing so may result in malfunction.
 - The temperature may reach 70°C while power is being supplied under thermally neutral environment. Do not touch the product directly. Be sure to wear heat-resistant gloves.
 - High-Voltage lines and power lines must be wired separately from this product. Wiring them together or placing them in the same duct may cause induction, resulting in malfunction or damage.
 - Take sufficient safety measures such as fail-safe circuit to use the product.
- Others**
 - Do not use in safety circuits for atomic energy or that are critical for human life.
 - Do not attempt to disassemble, deform by pressure, incinerate, repair, or modify this product.
 - When disposing of the product, treat as industrial waste.
 - Be sure to connect a dedicated lighting controller (FLV-TCC4□/TCC1□/TCC3HB□, FLV-ATC□1024□). Use of other devices may result in fire, explosion, malfunction or failure.
 - If you notice an abnormal condition such as a strange odor, extreme heating of the unit, or smoke, immediately stop using the product, turn off the power, and consult your dealer.
 - Do not drop or impose excessive vibration or shock on the product. It may cause breakdown of the product.
 - Ensure that all components which have locking mechanisms are locked before using the product.
 - Make sure not to drop the product when unpacking or moving it.
- Regulations and standards**
 - This lighting complied with the EN standard (EN61326) with a EMC directive (No.2004/108/EC).

PRECAUTIONS FOR CORRECT USE

Observe the following to prevent failure, malfunctioning, and adverse effects on performance and the device.

- Installation site**

Do not install in the following locations:

 - Locations where the ambient temperature exceeds the rated temperature range.
 - Locations subject to sudden temperature changes (where condensation will form).
 - Locations where the relative humidity is below or above 35 to 85% RH.
 - Locations where there are corrosive or flammable gases.
 - Locations where there is dust, salt, or iron powder.
 - Locations where the device will be subject to direct vibration or shock.
 - Locations where there is strong scattered light (laser light, arc welding light, ultraviolet light, etc.)
 - Locations exposed to direct sunlight or next to a heater.
 - Locations where there is splashing or spraying of water, oil, or chemicals.
 - Locations where there is a strong electrical or magnetic field.
- Maintenance**
 - Do not install the product close to high-voltage devices and/or power devices in order to secure the safety of operations and maintenance.
 - When this product and a cable are attached or removed, be sure to turn OFF the power of the Controller first before operation.
 - Never use paint thinner, benzen, acetone, or kerosene to clean the product. Wipe the contamination with a soft cloth included a small amount of alcohol.
- Power and cable connections**
 - When using a commercially available switching regulator, make sure that the Frame ground terminal is grounded.
 - If there are surges on your power line, connect a surge absorber as appropriate for your conditions of use.
 - Before turning on the power after the wiring is completed, verify that the power is correct, that there are no incorrect connections such as a shorted load circuit, and that the load current is suitable. Incorrect wiring may cause damage and failures.
 - Use the product with the specified voltage. Applying a voltage or AC voltage that exceed the rating may result in burning or explosion of circuit components.
 - For cable extension between the lighting and lighting controller, use an optional extension cable (FLV-XC□/XC□R) or branch cable (FLV-XC□S2). Only one extension cable and branch cable can be used.
 - The bending radius at cable wiring must be at least 20 mm.
- Warning Up**

After turning on the power supply, allow the controller to stand for at least 30 minutes before use. As the circuits are unstable immediately after power on, brightness may gradually change.
- Lighting electricity**

Lighting electricity for lighting equipment to be connected to the Lighting Controller is limited. Be sure to check the lighting electricity written on the plate of the product, label of the packaging box or this manual to connect a lighting within the specified value.
- Static Electricity**

LEDs are easily damaged by static electricity. A grounded wrist strap should thus be used when installing or conducting maintenance on the Diffusion Board.

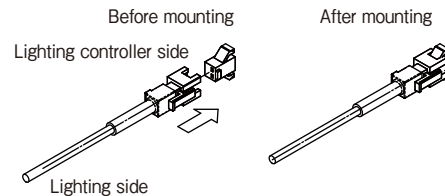
Specifications

Item	Model	FLV-DB3729W FLV-DB3729R FLV-DB3729B	FLV-DB10181W FLV-DB10181R FLV-DB10181B	FLV-DB130130W FLV-DB130130R FLV-DB130130B	FLV-DB212152W FLV-DB212152R FLV-DB212152B
Applicable Controllers		FLV-TCC4□/TCC1□/TCC3HB□, FLV-ATC□1024□			
Lighting color(peak wavelength)		W:White, R:Red(Typ.625nm), B:Blue(Typ.460nm)			
Light source		LED			
LED Safety		Risk Group1 (IEC62471)			
Electricity	White	0.9W	8.1W	13.0W	29.4W
	Red	0.9W	4.7W	11.5W	20.2W
	Blue	0.9W	8.1W	13.0W	29.4W
Insulation Resistance		20 MΩ (250VDC)			
Ambient Temperature		Operating: 0 to +50°C, Storage: -15 to +60°C (with no icing or condensation)			
Ambient Humidity		Operating and storage: 35% to 85% (with no condensation)			
Degree of Protection		IP20 (IEC60529)			
Vibration Resistance(destructive)		10 to 150 Hz, (0.7mm double amplitude) 80 min. each in X, Y, and Z directions			
Shock Resistance (destructive)		150 m/s ² 3 times each in 6 directions(up/down, left/right, forward/backward)			
Materials		Case : Aluminum, PMMA			
Weight		Approx.50g	Approx.160g	Approx.270g	Approx.510g
Accessories		Instruction sheet (this sheet)			

Connection with lighting controller

● **Mounting**

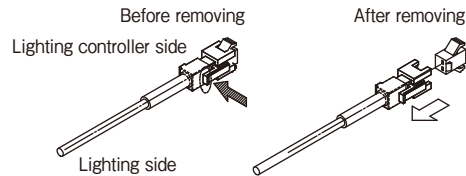
Align the positions of "the tab of the connector at the lighting cable" and "protrusion of the lighting connector at the lighting controller", and then insert it until it clicks.



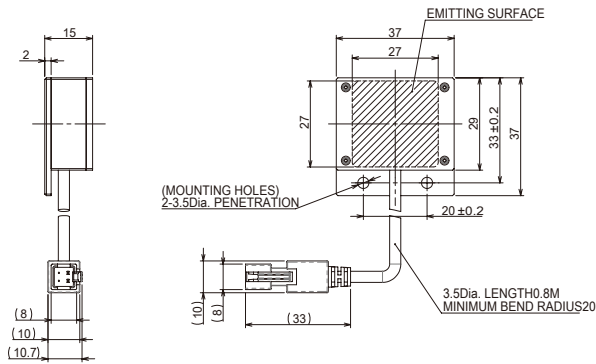
● **Removing**

Hold "the tab of the connector at the lighting cable" in the arrow (←) direction and pull it straight.

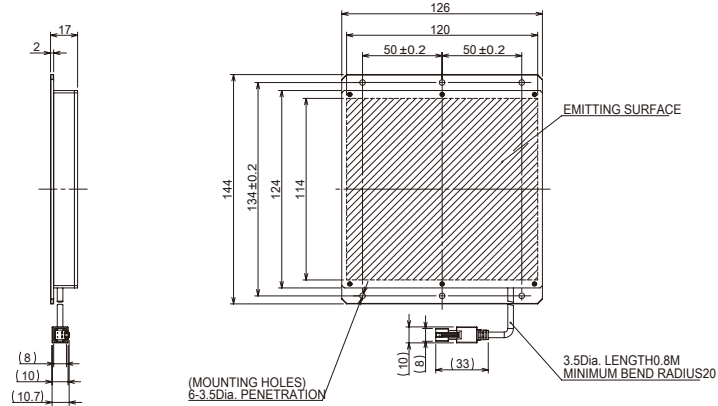
[Note]
Do not pull out with excessive force without pressing the tab.



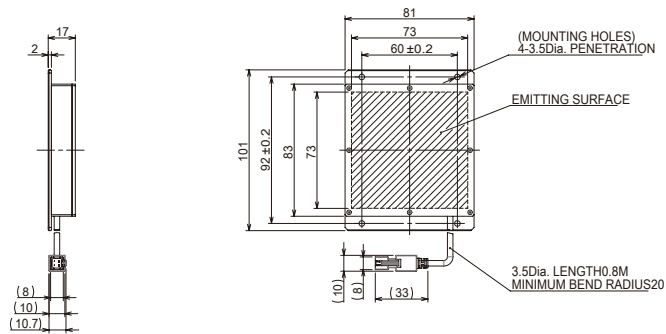
● FLV-DB3729□



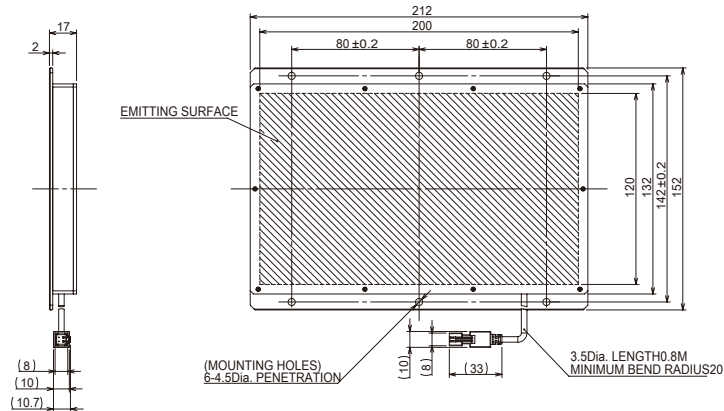
● FLV-DB130130□



● FLV-DB10181□



● FLV-DB212152□



Suitability for Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM. See also Product catalog for Warranty and Limitation of Liability.

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